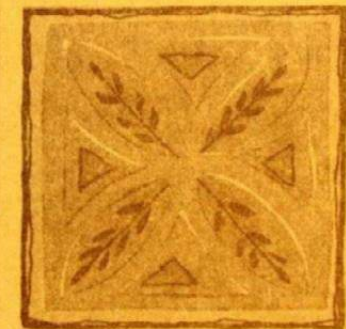




hawaiiana

**ALOHA COUNCIL
Boy Scouts of America**

hawaiiana

A Handbook For Scouts



DEDICATED TO THE PERPETUATION
OF THE SKILLS, CRAFTS, & LEGENDS
OF OLD HAWAII

PUBLISHED & PRINTED BY
ALOHA COUNCIL, BOY SCOUTS OF AMERICA
HONOLULU, HAWAII



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The Aloha Council
BOY SCOUTS OF AMERICA

HAWAIIANA

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Hawaiiiana Requirements

- Write a pre-European history of the Hawaiians, not less than 750 words, including the following:
 - Migration and settlement
 - Dwellings. Various types, functional use, basic construction, materials used, etc.
 - Social structure. Classes, family system
 - Religion. Major and minor Gods and their functions, types of temples and shrines.
 - Clothing. Describe weaving apparel for men and women, materials used to make cloth, how they were made and by whom, identify implements, designs, ornamentations, dyes, etc.
 - Transportation. Various modes, materials used, construction.
 - Warfare. Battle formations, weapons used, military hierarchy, training, military etiquette.
- Do each of the following:
 - With the help of a counselor, visit the areas of Ko Kaha Kai (along shore), Ko Kula Kai (on the seaward slopes), Ko Kula Uka (on the upland slopes), Wao (upland forests).
 - Collect 5 different sample leaves and where possible seeds and flowers of indigenous plants, shrubs and/or trees from each of the above areas.
 - Mount for exhibit in a booklet
 - Identify each leaf by Hawaiian and scientific name.
 - Describe its value and use.
 - Write about 5 native birds whose feathers were used by the ancient Hawaiians in making feather cloaks, capes, leis, helmets, and Kahilis.
 - Illustrate the five birds, note the feather colors.
 - Identify each by Hawaiian and scientific name.
 - Describe how the birds were caught.
 - Describe how each of the above adornments were worn or used by whom, and on what occasion.
- Be prepared to tell the counselor the following:
 - Scout Oath, Scout Law, Motto, and Slogan in Hawaiian and give English translation
- Write one of the following:
 - Twenty-five Hawaiian place names, their origins and meanings, or
 - Twenty-five common Hawaiian terms and their meanings.
- Participate in one game in each of the three categories of Hawaiian games/sports.
 - Individual: Pala'ie, hei (cat's cradle), papa he'e nalu, holua-ki (ti leaf mud slide), hū (top), etc.
 - Dual: hakoko, hakoko noho, kaka la'au, loulou, pa uma, uma, kula kula'i, ihe pahe'e, moa pahe'e, 'ulu maika, kula'i wawae, konane, etc.
 - Team: noa, puhenehene, 'alo-ia, etc.

6. Participate in the Hawaiian cooking methods of each of the following:

- a. Kalua (Iaulau, pua'a, etc.)
- b. Pūlehu
- c. Ko'ala
- d. Hakul
- e. Pūholo
- f. Lāwalu

7. Learn and demonstrate to your counselor a Hawaiian method of preparing uncooked food, such as raw fish (poke, lomi, palu), octopus (he'e), sea urchins (wana), crab (pāpa'i), limpets (opihi), seaweeds (limu), or combinations thereof.

8. Learn and demonstrate to your counselor a Hawaiian method of fishing.

9. Do two of the following:

- a. Make a reasonable replica of one item of Hawaiian clothing and/or personal ornament such as Malo (loin cloth), Ahu La'i (ti leaf cape), Kama'a la'i (ti leaf sandal), Lei Kukui (Kukui nut necklace), Niho Palaoa (hook shaped pendant), Pa'u la'i (hula skirt), etc.
- b. Make one of the following: IAMA (Kukui Nut Torch), HI'A MAKAU (Fish Hooks), ULU MAIKA (Bowling Disk), PU'OLO (Ti Leaf Package), IHE (Spear), OO (Digging Stick), WA'U (Scraper), KO'I (Adze), OHE KAPALA (Tapa Stamp), LOMI LOMI LA'AU (Massage Stick), HINA 'I LAUHALA (Pandanus Basket), HINA 'I NIU (Coconut Frond Basket), HINA (Petroglyph Rubbing), OHE PU' ILI (Bamboo Rattle), OHE KA'EKE'E KE (Bamboo Pipes), etc.
- c. Make one example of a type of lashing used in the framework of a grass hut or in an outrigger canoe; also, make a sample of the thatching technique (pili grass, pandanus or ti leaf).
- d. Exhibit articles to counselor and describe their use.

10. Name five famous Hawaiians living before or during the time Captain James Cook visited the Hawaiian Islands in 1778; identify them and give their relationships to events in history.

11. Learn and demonstrate two ancient hula and accompanying chants.

12. With the help of a counselor, participate in a Hawaiian play with your patrol, troop or post.

13. Visit at least two historical sites on your respective island and learn about them from descriptive legends. Make a report on what you observed and learned.



Ideals of Scouting

TRANSLATED INTO HAWAIIAN
(Courtesy of Mrs. Mary Kawena Pukui)

HO'OHIKI A NA SCOUT (Scout Oath)

"Ke ho'ohiki nei au e hana ma ka mea hiki i ko'u kuleana hana i ke Akua,
(On my honor I will do my best to do my duty to God)

i ko'u aupuni, a e malama i na kanawai o ka Hui Scout;
(and my country, and to obey the Scout Law)

E kokua i ko'u hoa kanaka i na wa a pau;
(To help other people at all times)

E malama pono i ko'u ola kino, e ho'āla i ko'u waihononono'o'o,
a e ho'opono mau."
(To keep myself physically strong, mentally awake and morally straight.)

The literal translation of the above is: "I promise to do all I can in my duty to God, to my country, and to observe the Scout Law; to help my fellow man at all times; to keep myself physically fit, to keep my mind awake and to behave properly always."

KANAWAI O KA HUI SCOUT (Scout Law)

"E hilina'e 'i a, e kūpa'a, e kokua, e laulauna, e waipahē, e 'olu'olu,
(Trustworthy) (loyal) (helpful) (friendly) (courteous) (kind)

e ho'olohe, e hauoli mau, e ho'omakaulii, e koa, e ho'oma'ema'e,
(obedient) (cheerful) (thrifty) (brave) (clean)

e haipule."
(reverent)

KA MAKUA (Motto)

"E ho'omakaukau"
(Be Prepared)

OLELO HO'EUEU (Slogan)

"E hana i hana maika'i i na la apau"
(Do A Good Turn Daily)



The Old Hawaiian Civilization

The old Hawaiians had a stone age civilization, if for no other reason than the absence of workable deposits of metallic ore. However, they made very serviceable stone implements, and their skill along this line approached the limit of the possible. They made excellent cords and ropes, and their fish lines and nets were outstanding. In the Olona they had a fibre of great strength that resisted sea water to a remarkable degree. In the making of their houses they showed considerable skill. Some of their ornaments, notably their feather mantles, were truly extraordinary. Probably the crowning glory of their civilization was their canoes and seamanship which permitted them to cross several thousand miles of open ocean while their European contemporaries rarely ventured beyond sight of land.

Since there were no wild animals to hunt, they were not hunters, but they were master fishermen, and derived a great portion of their food from the sea. They were farmers, and raised taro, sweet potatoes and yams, bananas, as well as pigs and chickens. They made extensive use of breadfruit, although these needed little cultivation. For raising taro in particular, they constructed quite a notable system of irrigation ditches.

Classes of Society

There were three classes in the old Hawaiian society, the Alii or Chiefs who were the temporal leaders, the Kahunas or priests, who were the spiritual leaders, as well as persons of specialized skills, like physicians and canoe builders, whose functions required much prayer, and the common people who were essentially serfs.

Religion*

Their religion was unfortunately one hardly in keeping with a great civilization. The following summary was taken from W.D. Alexander's "Short History of the Hawaiian People"-1899. They worshipped four great gods, "Kane," "Kanaloa," "Ku," and "Lono," in addition to a host of lesser deities. These four existed "mai ka po mai," that is, since the period of primordial chaos or night. The greatest of these was "Kane," God of Sunlight, Fresh Water and Essence of Life. Some of the prayers speak of him as the father of all mankind, and suggest an older, simpler, and grander creed. "Kanaloa" is pictured as travelling, frequently with "Kane," sometimes with a younger brother, "Kaneapua," who was a very much less important deity. "Kanaloa" is credited with introducing bananas and other useful plants. "Ku" was God of the Forest and Fishing. "Lono" had a separate order of priests, and to him human offerings were never made. He was pictured as being a wanderer, and when Capt. Cook came to Hawaii, he was imagined to be "Lono" and worshipped as such. "Lono" was God of Rain, Clouds and Agriculture.

Apparently, as time went on, there was a strong tendency to multiply the divinities and each of the four great gods was worshipped under various attributes or functions. Thus there were "Kane-makua," God of Fishermen, "Kaneapua'a," God of Agriculture, and "Kane nui a kea," God of Prophets. Typical-

ly also there were "Ku-ka-ili-moku," Ku Who Shakes the Islands, the War God, and "Ku a hailo," Ku of the Swarming Maggots, invoked by the "Kahuna ana ana" who specialized in poisoning and in praying people to death.

* See Supplementary Notes by Mrs. Mary Kawena Pukui

There were also many local gods, like "Kanehoalani," God of the Sky, "Poliahu," Goddess of Snows, "Lilinoe," Goddess of Fine Rain and Mist. "Pele" and her family presided over the volcanoes and was much feared in those sections of Hawaii subjected to lava flows. Finally, there were hosts of lesser beings. "Kini o ke akua," "Mano o ke akua," "Lehu o ke akua," the forty thousand, four thousand, and four hundred thousand godlings. It seems that they were always referred to in this order, but it was never known why (J.B. Emerson). In addition, one might mention the "menehunes." Though not worshipped, these mythical dwarfs were supposed to be present in enormous numbers, and to have built certain heiaus and other works of great antiquity.

The Tabu System

As a development of the Polynesian religion was the tabu system which was perhaps most fully developed in Hawaii. It was a most complicated set of regulations and penalties covering the daily lives of the people. They were both laws and religious ordinances, and their violation was both a crime and a sin. The most oppressive of these regulations related to the sexes. It was tabu for men and women to eat together or even have their food cooked in the same oven. Several foods were tabu to women on penalty of death. These included pork, bananas, coconuts, turtle, and several kinds of fish. Two little girls of the highest rank, Kapiolani and Keoua, were caught eating a banana, and their tutor was held responsible and put to death. There were many occasions when a canoe could not be launched, a fire lighted, or any noise made under penalty of death. Even dogs had to be kept muzzled and chickens put under a calabash for hours at a time.

Human sacrifice was the crowning act of the ancient worship, and offered only on special occasions and at heiaus of the highest class. The victims were either prisoners of war or persons accused of violating one of the countless regulations of the tabu. However, whenever a new temple, or a new home of a chief was to be dedicated, or a new war canoe launched, many people fled to the mountains and remained hidden until the danger was passed.

The tabu system was preserved under Kamehameha I who died on May 8, 1819, at the age of about 61. "His work was done. He had consolidated the islands under one government, put an end to feudal anarchy and petty wars, and prepared the way for civilization and Christianity. His faults were those of his time and society, but both mentally and morally he stood far above the other chiefs who were his contemporaries. It is said that during his last illness when some priests proposed human sacrifices to appease the gods and prolong his life, he replied that the men were sacred to the king, meaning his son." - Alexander.

Kamehameha the Great was succeeded by his son Liholiho, but recognizing his weaknesses Kaahumanu was made Regent. She was one of the outstanding women of Hawaiian history. Liholiho had been brought up strictly according to the old tabus, but contact with white men had thoroughly shaken the faith of many others both in the old gods and in the desirability of the tabu system. In fact, on the morning of Kamehameha's death, six chiefs proposed to Kaahumanu that the tabus be abolished, but she did not consider the moment propitious.

However, about ten days after Kamehameha's death, at the occasion of Liholiho's accession, he permitted his younger brother Kauikeouli to eat with the Queen Mother Keopuolani, in complete violation of the tabu. A little later in the summer, Kaahumanu asked Liholiho to renounce idolatry. He there upon spent several days at sea in a drunken orgy during which he committed several violations of the tabu, and on his return, he attended a feast with high chiefs of both sexes sitting together. The people looked on in mingled fear and curiosity. Since no harm resulted from this impious act, they exclaimed, "The Tabus are over, the gods are a lie!" Even Hewahewa joined the people in destroying temples and idols.

However, all did not immediately renounce the old religion and the tabu system. Kekuaokalani, a brave and respected chief, was disgusted with Liholiho in permitting the violations of the tabu, and gathered a strong following in an attempt to preserve the old order. Some of the wisest chiefs, together with the Queen Mother Keopuolani pleased with Kekuaokalani, but in vain, and the issue was decided on the field of battle, about December 20, 1819. Inferior in men and guns, Kekuaokalani realized that his only hope lay in surprise. However, the opponents were led by far too competent soldiers, and the forces of the Old Order were totally defeated. Kekauokalani and his wife Manono died hero's deaths. We might wish that they had fallen for a worthier cause.

Still, the old religion died slowly. At the time of the explosive eruption of Kilauea in May 1924, a Hawaiian working for the National Park told me that Pele would never hurt him because when he had come up there to work, he made an offering of a dollar.

The Missionaries

The first Missionaries for Hawaii embarked at Boston on October 23, 1819, on the brig Thaddeus. The group consisted of two clergymen and five laymen and their wives, beside three Hawaiian youths of noble birth who had been educated at the Cornwall School and were to act as assistants. They arrived off Kohala, Hawaii on March 31, 1820, and their wonderment passed all description when they learned that Kamehameha was dead and Liholiho was new King, and the tabus abolished, and the temples and idols destroyed. There had been war, but there was now peace.

John Young, who had come to Hawaii thirty years before and had risen very high in the service and esteem of Kamehameha and his chiefs, assured them that the new Missionaries came to teach the same religion that the beloved British Captain Vancouver had professed, and for those instruction he had promised to send missionaries. This was of tremendous help to the Hawaiian Mission, whose first pupils were the Chiefs and their favorite attendants. Needless to say, it took some time for the Missionaries to learn enough Hawaiian to be able to talk to the common people.

In August 1821 the first Christian House of Worship was dedicated on the site now occupied by Kawaiahao Church. The first printing press was set up January 1822 and supplied a tremendous incentive for the Chiefs and others to learn to read and write.

"In his younger days Hewahewa had been the dreaded keeper of Kukailimoku, Kamehameha's war god, and later was High Priest of Hawaii. However, he had the supreme integrity to lay aside the vast temporal power of that office when convinced of the undesirability of the old religion. Later he became a

devoted Christian and member of Reverend John S. Emerson's Church at Waiialua. My father, Joseph S. Emerson, often expressed regret that more was not known about that extraordinary personality.

On April 16, 1822 there arrived the British Reverend William Ellis and his associates, including a couple of Tahitian youths who had received some education in England. They immediately became devoted friends, both of the American Mission and the Hawaiian people and were of inestimable service to the cause of Christianity.

The history of Hawaii during the next two decades was definitely not peaceful, and at times was stormy. However, the period closed with three notable events. First was the publication of the Bible in the Hawaiian language, on May 10, 1839. Next was the building of the first large and permanent church in Hawaii, Kawaiahao, in Honolulu, whose corner stone was laid June 8, 1839, and was completed in 1841. Then in 1842, the American Mission founded Punahou School, which opened July 11, of that year under the Rev. Daniel Dole, and which has ever since been a beacon in the education of the youth of Hawaii.

"There in the wilderness bravely she bore thee,
Guarded thee, guided thee, prayed for thee then.
God in the Pillar of Fire be before thee,
Child of New England, be mother of men!
Men who will live in the light of thy vision,
Men who will welcome, at Duty's command,
Riches or poverty, praise of derision,
Men who will work with the head and the hand!
Not the dull heart of the meaningless stoic,
Quick with the fires of unquenchable youth,
Quivering yet calm, like the martyrs heroic,
Living and dying, triumphant in Truth!"

L. B. Briggs

The last sites were built under the Monarchy. Aliiolani Hale, the Government building, had its corner stone laid on March 20, 1872, and was completed two years later at a cost of \$130,000. Then, on December 31, 1879, was laid the corner stone of the Royal Palace, which has the distinction of being the only Royal Palace in the United States.

The last two historic sites resulted from World War II. The first of these was the Battleship Arizona, destroyed at Pearl Harbor on December 7, 1941, with great loss of life and was made a National Shrine. Lastly, in point of time, is the National Memorial Cemetery of the Pacific, in Punchbowl. The site was first offered the Federal Government by Governor I. M. Stainback, with the consent of Hawaiian Legislature in October 1943. The offer was accepted, and construction started in August 1948, and was officially opened on September 2, 1949. There are now about 19,500 graves of World War II dead, plus a memorial to an almost equal number of World War II missing, as well as about 8,200 from the Korean conflict. Since many of the dead were Buddhists, the banyan tree, Ficus religiosa, was planted there because Buddha received his vision while seated under such a tree.

".....That we here highly resolve that these dead shall not have died in vain -- out of an honored past, a better tomorrow ..."

Compiled by O. H. Emerson

Supplementary Notes
on
THE OLD HAWAIIAN CIVILIZATION
by
Mrs. Mary Kawena Pukui
Consultant, Bishop Museum

"Religion"

The writing in this section by O. H. Emerson reflects a missionary's point of view.

According to Hawaiian belief, "KU" was not always malevolent, for he was God of Medicine, of the Forests and of Fishing. Every wife of a "Ku" was a "Hina."

"Ku" means "to stand upright" and "Hina" means "to recline."

Canoe makers appealed to "Ku-moku-hali'i"--"Ku," who spreads the land (with trees); "Ku-'alanwao"--"Ku," who offers the forests, etc.

Medical kahunas appealed to "Ku" and to "Hina" and when gathering herb remedies, plucked the herbs with the right hand with a prayer to "Ku" (the masculine or stronger one), and with the left hand to "Hina" (the fem nine one).

"Ku-'ula" and "Hina-hele" (variant name, "Hina-puku-i'a" or "Hina," attracter-of-fish) were appealed to by fishermen. It was their son, "'Ai'ai" who established the sea "ko'a" (places in the sea where certain fish were found). "'Ai'ai" means "eating of food"; and fish, as well as other sea life, is food.

"KANE" was god of sunlight, fresh water and the essence of life. (See Emerson's Unwritten Literature--"Where is the water of Kane?"

"KANALOA's" domain was the ocean.

"Kane" and "Kanaloa" traveled together making springs in many places on all of the islands. "Wai-kane," on Oahu, was named for the bringing of water up from the foundation of the earth. "Kane" was of a peaceful nature--"Kanaloa" was restless.

"LONO" was god of rain, clouds and agriculture. In arid lands, he was known as "Kane-pua'a." The puffy clouds encircling the mountains were called "Ao-puapua'a" (clouds like pigs) and were signs of "Lono" bringing rain.

"Ku-waha-ilo" (not "Ku a hailo," as written), or "Maggoty-mouthed-Ku" was the god of sorcerers who prayed others to death.

"Ku-ka'ili-moku" ("Ku"--snatcher of islands) was the god to whom chiefs prayed to snatch lands and hold them.

"Poliahu" (goddess of snows) and "Lilinoe" (fine rain and mist) were sisters.

"Pele" was feared, but she was also loved.



Legends and Relics
of the Old Hawaiian Civilization

(OAHU HISTORICAL SITES)

The destruction of the heiaus and idols by the Hawaiian people in their zeal to get rid of the Tabu System after the death of Kamehameha the Great was unquestionably some loss to archeology, but fortunately for that science, the destruction was rather superficial. A great many of the idols have found their way into the Bishop Museum, and the destruction of the heiaus was limited to the more superficial parts. However, the destruction resulting from the population explosion, particularly on Oahu during the last few years, stemming from highway construction, real estate development, etc., has been far more serious. Today it is very hard to find much remains of the old civilization, and even a careful search is likely to reveal little. In fact, it would seem that the already stupendous and fast-growing amount of rubbish, ranging from discarded automobiles and refrigerators, down to broken bottles, which litters our landscapes has become the hall-mark of our modern "Great Society."

Like all other primitive people, the Hawaiians had their sagas of gods and heroes, and it is the purpose of the next few pages to describe some of those particularly connected with Oahu, and the sites of legendary or archeological interest.

THE ODYSSEY OF HIIAKA

According to the legend written up by N. B. Emerson in his book, "Pele and Hiiaka," Hiiaka was the youngest sister of Pele, who became Goddess of the Volcano. They were members of a considerable family, their mother being Haumea, a name that crops up frequently in Hawaiian legends. Haumea was the daughter of Kane-hoa-lani, God of the Sky. They were born in Kahiki, "the Dawn," a mythical land, home of the Polynesians. Pele had an older sister, Namaka, who was a sea goddess, and, taking advantage of the latter's absence, Pele smothered some land dear to her with a flow of aa lava. This precipitated a bitter intra-family feud with the result that Pele and some of her brothers and sisters, including Hiiaka, and some other gods, had to flee Kahiki. They came first to some of the lesser islands at the northwest end of the Hawaiian Chain, and then came down to Kauai. There Pele met a Prince named Lohiau, who was tall, dark and handsome, and fell in love with him. However, she and her followers continued on to Hawaii where they finally made their home at Kilauea.

Unfortunately Lohiau was a human being, and he died and went to Milu, the abode of the dead, off the Napali Coast of Kauai. Pele was heart broken at the news, and finally succeeded in getting Hiiaka to go to Milu and bring Lohiau back. To do this, Hiiaka had to be given great powers because there were dragons--mo'os who would dispute her passage.

The Legend of Makapuu

After slaying mo'os on Hawaii, Maui, and Molokai, Hiiaka and her companion, Wahine-o-mao, got a human crew to take them to Oahu. They sailed past the rocky and forbidding tip of this island to a beautiful sandy beach, now known as Makapuu Beach and a favorite spot for surf-swimming. There Hiiaka saw an old friend, a divine lady named Makapuu, who with her sisters, had come from Kahiki with Pele and Hiiaka, and falling in love with that wild and beautiful area, had made it their home. However, Hiiaka's crew were so terrified by the sight of Makapuu and her eight eyes that they resolved to go on to Kailua, but a tempestuous wind arose and drove them back, and forced them to land on the Koko Head side of the promontory. The men fled, but Hiiaka and Wahine-o-mao went back and were very kindly received by Makapuu, whose name was subsequently given to the promontory.

Near the southern tip of the Makapuu Ridge was a balanced stone. This was originally a very beautiful girl from the island of Maui. Here she met Hiiaka, and not realizing her divine nature, asked her to prepare an uhu fish for her, which Hiiaka very graciously did. However, the Maui girl ate only the head end of the fish and threw the rest away, which so angered Hiiaka that she turned her into the rock. Unfortunately this rock was destroyed during World War II.

When the girl did not come home, her brother became much alarmed, and consulted a Kahuna, who, in turn, consulted the gods. When it was learned what had happened, the brother was told that if he could paddle his canoe to Makapuu and greet his sister before the sun rose, she would be turned back into a human being, but if the sun shone on him before accomplishing this, he, too, would be turned into a rock. Accordingly he paddled as hard as possible arriving at Makapuu at dawn. Just as he jumped from his canoe onto the ledges, the sun shone, and he was turned into a rock.

It was said that men and boys could step over the second rock in perfect safety, but if a woman did so, the sea would rise and drown her. However, the area is now safe for Girl Scouts because the great seismic sea wave, or tsunami, of April 1, 1946 washed the rock into the sea. At the time of the tsunami, the sea rose 37 feet at Makapuu Beach, and 32 feet at Sandy Beach near Koko Head, and beside washing away this legendary rock, it washed away some rock platforms which were relics of ko'ae, or fishing shrines, and a stone enclosure where canoes were kept. Since all these must have been of considerable antiquity, it would indicate that the 1946 tsunami was quite an unusual event such as probably transpired only a very few times in the previous thousand years.

Hiiaka had other adventures on Oahu which will be described later.

Other Features at Makapuu

There is a blow hole at Makapuu, on the east side of the ridge, about midway along the rocky shore. It is much further inland than its Koko Head analog, and has a much smaller opening, so that the air makes a loud roaring as it is being forced in and out. Interestingly, there seem to be no legend connected with either Blow Hole.

About a quarter of a mile south of the Blow Hole is a cave some 30 or 35 feet above the sea, representing a former strand of the ocean. Presumably this cave is the one that rejoices in the name of Ke Ana o ke Akua Pololi--The Cave

of the Hungry God. How it got this interesting name was not told. Since there is good fishing along this coast but a complete absence of potable water, one might expect the god to suffer from thirst rather than hunger.

The valley just west of the Makapuu Ridge, up which the highway passes on the way to Sea Life Park and Waimanalo, rejoices in the name of Ke Ala Kipapa--the Paved Road. Before the construction of the present highway, an old native road existed, about eight feet wide, and paved with rocks up to three feet across. Most of this old road was destroyed in the construction of the highway, but a small portion can be seen by walking a short distance from the parking lot overlooking Makapuu Beach, heading somewhat to the west toward a slight gully. Fortunately the best part of this road was just beyond the range of empty beer bottles which had been hurled from the parking lot. Considering the absence of any modern machinery in making this road, it was quite an engineering feat. Little seems to be known regarding when the road was constructed, but since it gave the name to the valley, one might presume it was of some antiquity.

Kaloko

This is an area about 1/4 mile east of where the present highway leaves the beach to go inland to Makapuu and Waimanalo. McAllister described several ko'ae sites, consisting of rock platforms, as well as a canoe storage site. This latter was an enclosure about 100 feet from the sea and opened toward it, measuring about 12 X 35 feet, surrounded on the other three sides by a stone wall two to four feet wide and about six feet high. The inlet where this was described appeared protected to an extraordinary degree from the sea, but I was unable to find any sign of the ko'ae or this canoe storage place. This area at Kaloko is quite low, so that it is entirely possible that the tsunami had destroyed the sites.

Koko Head Area

In the early days, shortly after the coming of the white man, the whole area from Makapuu to Kuliouou, known as Maunaloa, supported a very considerable population, and was quite famous for the excellence of sweet potatoes. During the early part of the 19th Century, the forest in that section of the Koolau Ridge was destroyed by the ravages of goats resulting in the drying up of the entire area. In recent years these pests have been pretty completely exterminated, and much vegetation is returning. Old Hawaiian relics in that area have been mostly destroyed by real estate developments.

In the sea in the region near Sandy Beach is a rock that was credited with great curative power for anyone who ventured to swim over it. North of Hanauma Bay and east of the Kahauloa Rifle Range, is a promontory on which is located a small cave accessible at low tide and during calm weather. Here used to be some petroglyphs, but between the natural erosion by the sea and vandals, there is little, if anything, left.

Just south of Hanauma Bay are two small craters, Nonoula and 'Ihi'ihi-Lau-Akea. It is interesting that the old Hawaiians recognized them as such, and in the legend Hiiaka addresses them with pity and sympathy as old friends, though poor and forlorn.

Some burial caves have been found around Kulouou. One, on the west side of the valley, contained a number of adzes similar to those found in Tahiti and Marquesas, but different from those of Samoa and Tonga. Some charcoal was found there, and was dated by the Carbon 14 technique to be 900 or 1000 years old.

The central ridge of Niu bears the name of Kulepe-A-Moa, taking it from a larger heiau that formerly existed at its foot, but of which nothing remains.

A narrow trail is described as beginning in Niu and leading up Kailili Valley to the top of Kilohana Mountain, and then down into Waimanalo. Although the descent from Kilohana was reported as very steep, it was said to have been not too difficult. The trail was reputed to have been extensively used before 1850, but afterwards was not used at all. The names Kilohana and Kailili do not appear on the modern maps. A trip to the Waimanalo side of the ridge opposite Niu, with binoculars, fully confirmed the steepness of the spurs, but none looked very promising. Perhaps the feasibility of the descent depended on the nature of the vegetation.

Mauna Kahekili Heiau

This existed on the highest and most pronounced knoll on the Waialae-Walupe ridge, in an area formerly planted in pineapples. It was once a very large heiau, but all that is left of it are a few large rocks embedded in the ground.

Kaau Crater

Back in the days of Gods, the demigod Maui wanted to join Kauai and Oahu so he went to Kaena Point and threw out his great hook, Mana i a Kalani, hoping to catch the foundations of Kauai. He then gave a tremendous tug, and the great rock Pohaku o Kauai, fell at his feet and the hook sailed on and landed in Palolo making Kaau Crater.

Another legend is that there were once two famous roosters. One lived in Kaau Crater and was called Kaau-helo-moa, and the other, Olomana, lived on the shapely peak of that name. Long they traded insults, until finally Olomana flew over the ridge and fought Kaau-helo-moa in mortal combat. They pulled out all of each other's feathers, and these are now the ferns growing in Kaau Crater.

Pahoa

When Hiiaka with Wahine-o-mao and Lohiau went inland from Waikiki, they came to a place called Pahoa, where the King's Daughter's Home is located on Waialae Avenue. Hiiaka told her companions that they were going to meet a brother and sister named respectively Pahoa and Makahuna. They were mo'os, and evil, but by no means the only evil ones there. Hiiaka greeted them courteously, but Pahoa replied insolently, "Who are you, rude woman, to speak our names?" To this Makahuna added, "We two can kill Hiiaka, and let us do it." Accordingly they fought, and Hiiaka smote them with her skirt, which was loaded with lightning and slew them both.

Kamoiilili

Not far from where Hiiaka had met and slain Pahoa and Makahuna, she and her companions encountered another large mo'o that resembled a woman, and was called Kamoiilili. This mo'o wanted to attack them, so Hiiaka smote it with her skirt, breaking its body, and converted it to the long, low rocky mound which is near Kamoiilili Church.

Kalua Olohe

Loheloa was a demigod who came in his great canoe to Makapuu, and from there to the beach off Leahi, or Diamond Head. He saw a strange glow in the sky and was told that it belonged to Olohe, the local chief who was half man and half dog and very cruel.

Loheloa met some fishermen who asked him to go away, as he was scaring the fish. Accordingly he prayed to the gods to bring the fishermen a school of fish, which they did, and for which the fishermen were very grateful. Then, on hearing of the cruelty of Olohe, Loheloa challenged him to fight, betting his canoe and his bones on himself. They fought at what is now Kapiolani Park. Olohe punched, and raised a gale that flattened the ilima bushes. Loheloa then struck Olohe under the ear so hard that he sailed through the air and landed at the small crater at the Diamond Head end of Kaimuki, Olohe's body making the pit, which is now called Kalua Olohe, Olohe's Pit. The people greatly rejoiced at the death of the cruel Olohe, and welcomed the good and kindly Loheloa as their Chief.

Moiliili Petroglyphs

On the north bank of Palolo Stream, about 125 to 150 yards east of the St. Louis Street bridge, are two groups of petroglyphs about 25 yards apart. While in the opinion of Dr. Kenneth Emory, they are undoubtedly of considerable antiquity. They are crudely drawn and hard to see, even from within a few feet.

Pohakuloa Stone

This rock, which was about 12 feet long and weighed a good many tons, was worshipped by Hawaiian women in olden days for endowment of their children with wisdom and strength. The stone was used as part of the Punahou wall when the school was founded. The tabu which endangered anyone disturbing the stone was challenged by Kamehameha III by sitting on it. By the grace of his presence, the King's body guards were able to move the stone, the men being described like ants tugging at a kernel of corn. About 1856 it was broken up and part of it was taken to the Kapiolani Maternity Home and the rest stands at the front gate of Punahou.

Kapunahou

When Kane and Kanaloa first came to Oahu, they set out, at sunset, for Manoa Valley and they rested just below Rocky Hill. Kanaloa was thirsty, so Kane thrust his staff into the ground, and out burst a spring of the best of water which has ever since been known as Kapunahou, the New Spring, and was carefully watched over by stern Kaheakea, Rocky Hill.

In 1861 a legend was told Professor Alexander by the venerable Kauhi and his wife who had long lived near the spring. Long, long ago an aged couple lived near the spring, and in time of drought and famine the people had to search the mountains for wild yams and ti roots for food, and go to Kamoiliili for water. One night the old woman dreamed that a man appeared to her and told her there was water underneath the trunk of an old hala tree nearby. Her husband made light of the dream, but the following night he had the same dream with the added instruction that he was to catch a red fish, the sacrificial fish, as an offering to the family deities, and to pull up the hala tree. This he did, and Punahou Spring was founded. In accord with this legend, Punahou adopted as its seal the Hala Tree with two taro leaves and water flowing under it.

Waiakeakua

This is the easternmost of the gulches at the head of Manoa Valley. Kane and Kanaloa were there, and as Kanaloa wanted water, Kane thrust his staff into the ground, and there came a beautiful waterfall plunging into a lovely pool. The name is The Water of the God. This water was much prized by the old chiefs, including Kamehameha, and the pool was formerly used by them as a picnic ground.

Puowaina (Punchbowl)

The name was shortened from Puu o waiho ana, The Hill of Offering. Tabu breakers were executed by being drowned in a spring at a fish pond that existed below King Street near Koula. On any struggling on the part of the victim, the priest holding his head under water would say, "Moe malia i ke kai o kou haku--Lie still in the waters of your superiors." The bodies were then taken to the Heiau Kanelaa, located on the slope of Punchbowl near the present Robert Louis Stevenson School, then taken to the summit of Punchbowl and burned. The description of the burning place sounds like the southeast summit, which was a small spatter cone that was concreted over when the National Cemetery was made.

Those who curse the Missionaries for breaking up an idyllic existence can hardly claim that this treatment of tabu breakers, who might include a little girl for the crime of eating a banana, was exactly idyllic.

On the pleasanter side, Punchbowl was famous as a place for growing sweet potatoes, both inside the crater and on the mauka slope.

Kupanihi

This is the name for the area which became Pacific Heights. It was originally the name of a famous sow that lived there that bore a human child who became a celebrated warrior and was the ancestor of many of Oahu's bravest warriors and high chiefs.

Nuuanu Heiaus

Although Nuuanu was heavily populated in ancient times, only two heiaus are remembered there now, and their names have been lost. According to an old Hawaiian named Pahu, there was a heiau site near 2290 Liliha Street.

Kapena, another informant, tells about a heiau as having been located at 2712 Nuuanu Street. A young man from the mainland chose this site for his home and started to build in spite of dire warnings from his friends. While the house was being built, he returned to the mainland to get his fiancée, but the engagement was broken and he returned to die of tuberculosis. The house was sold, but the new owners were there less than three weeks when it burned to the ground.

Kaheiki Heiau

This was a famous heiau mentioned in several legends, and was built so long ago that it was attributed to the Menehunes. Even its precise location is uncertain.

A great Kahuna, Kahilona, resided at Kaheiki, and was the guardian of a dog of super-natural powers named Kaupe. The dog never ate chiefs, but he did eat some common people, both on Oahu and on Maui. Finally he went to Hawaii and brought back the son of a chief for sacrifice at another heiau. The chief came to Oahu and consulted Kahilona, who recognized that his dog was getting out of bounds. Accordingly, he taught the chief some prayers which set his son free, and father and son hid under a rock in Moanalua while Kaupe went to look for them on Hawaii. The Kahuna then taught the chief some prayers for over-coming Kaupe, and he and the boy returned to Hawaii, met Kaupe and slew him.

Battle Between Kahahana and Kahekili

Kahahana was a wicked king of Oahu, and Kahekili, the Thunderer, was a great king of Maui. This battle occurred in January 1783 centered around Kaheiki Heiau, which Kahahana sought to defend. From this account, it sounds as though the heiau were on the lower slope of Pacific Heights ridge, but this is not certain. Kahekili's wife, Kauwahine, was also a famous fighter, and she played an important part in the battle. The forces of Kahahana were totally defeated, thus fulfilling the prophecy of Kaopulupulu, the great prophet-Kahuna of Waialua, whom Kahahana had killed. Shortly afterwards, Kahahana was himself slain.

Nuuanu Petroglyphs

Opposite Alekoki Pool in the Nuuanu Stream, by the Nuuanu Memorial Park Grounds, are two groups of the most remarkable ancient Hawaiian rock pictures yet found on Oahu. Most of them are of human beings, but some are of a dog believed to have been the mythical Kaupe.

Dr. Kenneth Emory expressed the belief that Boy Scouts might be able to help in preserving these petroglyphs.

Hanaikamalama

In the reign of Kamehameha IV and Emma, the little court of Hawaii was conducted with the pomp and circumstance of a European Court, and as an escape from this, their Majesties loved the coolness of Hanaikamalama, better known as Queen Emma's Palace. It was here that a very lavish banquet was given in 1869 to the Duke of Edinburgh, the eldest son of Queen Victoria.

It is said that before the Battle of Nuuanu, Kamehameha had a council of war with John Young and several others on the grounds. Several years later John Young II bought the property and bequeathed it to his niece, Queen Emma.

The name, Kamalama, meaning Foster Child of God, was originally given by John Young and his wife, a Chiefess of the highest rank, to their home at Kawaihae on Hawaii.

Kugkondall and Gregory, in their "History of Hawaii," described Emma as a woman of culture and refinement, with a kindly and lovable character, a gentlewoman in the finest sense of the word. Her sympathies were naturally with England, and at the Royal Wedding the service used was that of the Church of England. She was born January 2, 1836 and died April 25, 1885.

Pu'iwa

It was said that at the Battle of Nuuanu, there was a long and thick stone wall behind which many Oahu soldiers gathered. The cannon of Kamehameha was fired about six times at the stone wall which fell down. This startled the Oahu men, so now we have puiwa--meaning "startled."

Petroglyphs and Ko'a at Kahapaakai

Kahapaakai is an area in Nuuanu roughly opposite the head of Waolani Gulch. The petroglyphs are about one-third mile beyond the home of Lester A. Marks.

The Mo'o of Konahuanui

It seems that there was once a race of hairless dogs related to Mo'os. The people of Koolau once fattened one of these hairless dogs, and killed and cooked him to give as a tribute to the King, who then lived in Honolulu. The dog had been cut up and packed with laulau in a calabash. A large party was going up the Nuuanu Pali with the dog when the Mo'o on Konahuanui called out, "Ke hele ae nei"--I see you are travelling!" The cooked dog replied, "Yes, I am going to be offered as tribute for these people!" The men carrying the calabash were so frightened that they dropped it and fled. The dog came out of the calabash, shook himself free of his wrappings of banana and ti leaves, gazed at his fleeing recent masters, then turned and ran up to the top of Konahuanui where he was welcomed by his cousin, the Mo'o. Since then, no Hawaiian would eat hairless dogs.

Wakea and Haumea

On the north side of Kalihi is a hill called Kilohana, often dark with mist. Here lived Wakea and his wife. He was a human being, but she was a kupua and had a number of names--Papa, Haumea, and Kamaha'ikana. They had come from Kahiki. At their mountain home they lived on wild bananas, wild yams, wild taro, fish and crabs. Haumea loved to fish at Heeia, while Wakea gathered the produce of the mountain.

Once, when Haumea had gone fishing, Wakea went to get bananas at a place he knew well but which another chief also considered his preserve, and this other chief Kumuhonua seized Wakea as a thief and took him to a place where he intended burning him. Sensing something very wrong, Haumea hurried home in time to see Wakea being led away with his hands tied behind his back. Rushing after them she became very thirsty, and finding no water, threw a rock and created the spring Puehuehu in Nuuanu.

She caught up with the party just as they reached the spot where Wakea was to be burned, and she requested the overseer to let her give her husband a farewell kiss. When she did so, the ropes dropped away and the tree to which he had been bound opened up and the two disappeared into it, after which it closed. The men were very excited and ran to tell Kumuhonua what had happened, and he ordered the tree chopped down, but the first man to strike the tree with his axe was struck by a chip and fell dead, and the next man likewise. So it went on, until they consulted a Kahuna who told them that Wakea's wife was a demigod and told them to perform the proper ceremonies to appease the gods.

While this was going on Wakea and Haumea returned to Kilohana, and Wakea became Chief of Paliku. When Kumuhonua heard this, he resolved to raise an army to destroy Wakea, and sent men all around Oahu to raise the force. Kona, the old name for the district on the lee side of the Koolau ridge east of Halawa, responded, but the men of Koolau, to whom Wakea and Haumea had been very kind, came to their aid. In the resulting battle, Kumuhonua was slain, and Wakea became the first King of Oahu.

Kilohana is a beautiful Peak, accessible by a trail from Tripler General Hospital, and by a shorter route from Moanalua. It is said that if one goes there, one must say a prayer and make an offering of a banana to Haumea.

Moanalua Petroglyphs

In Moanalua are some petroglyphs which Dr. Kenneth Emory would like to see preserved, and he thinks Boy Scouts can help in this work.

District of Ewa

When Hawaii was discovered by the Polynesian gods, Kane and Kanaloa were surveying Oahu. They established the boundaries of the different districts by throwing rocks, and where the rocks fell would mark the boundary of the district. Coming west from the Honolulu area, they reached Red Hill overlooking Pearl Harbor and the beautiful district around it, and decided to make the district as big as possible. They hurled the rock as far as possible, and it fell in the Waianae Hills, but for some time they could not find it. Accordingly, they named the district Ewa, meaning "strayed" or "lost."

Maihea

At the time Kane and Kanaloa were surveying Ewa, there lived in Waimalu a man named Maihea who was most devout, always making offerings to the gods though he knew not their names, and asking for himself and his family only health, wisdom, and skill.

It transpired that a large whale came to the beach, and remained there a long time and the boys of the locality climbed up on it. After this time Maihea's son, Ula-a-Maihea, discovered the whale, and he too climbed on it, but when he did so, the whale began moving seaward, at first slowly, then ever more rapidly. All the other boys jumped off, but Ula-a-Maihea stayed on, and disappeared with the whale out in the ocean.

When Maihea heard of the disappearance of his son he was grief-stricken, but soon two very large and distinguished looking men stopped by his house. Maihea received them most cordially and offered them food and drink, but at the same time, made his customary offering to his unknown gods. One of the visitors then said, "We are your Unknown Gods. I am Kane and this is Kanaloa. Call us now by our names. We have taken Ula-a-Maihea to Kahiki, where we will train him in all the priestly lore and in all the arts, and he will return a great and wise man." Further, they decreed that Ewa was to be a very rich district.

Without presuming to pass judgment on the antiquity of the above legend, it might be of interest to mention a legend my father heard, the essence of which was that Kane came to live as a man in a village with human beings, who looked up to him with great reverence because of his tremendous strength, incomparable wisdom, great kindness and natural gifts of leadership. When a famine came the people turned to him for help, and he ordered them to build an imu, or native oven. When the imu was ready, the people asked, "Where is the food to cook?" He replied, "Put me in the imu!" Because of their great love for him, they demurred, but finally they did as he ordered.

When the food in the imu should have been cooked, they saw a large and familiar figure striding up from the beach. "It looks like Kane!" some exclaimed. "It is Kane!" said others. As soon as he came up, he told them to open the imu, and it was filled with sweet potatoes, taro, fish, chicken, pigs. In that this legend was invented by a Hawaiian, it is a Hawaiian legend, but my father felt that it was very clearly invented after the introduction of Christianity, and was of interest in showing the impact of one religion upon another.

Keaiwa Heiau

This Heiau, whose ruins are now a State Park, is located at an elevation of about 900 feet in the hills above Aiea, accessible by an excellent automobile road. The ruin is rectangular, measuring about 160 feet east and west by 100 feet north and south. The walls are 4 to 6 feet wide, and up to about 5 feet high. A step 80 feet long, 1.5 feet high, and up to 12 feet wide extends along the south wall from the southwest corner. The only definite structure within the enclosure is a low stone wall parallel with the east wall and about 50 feet from it.

The ground around the heiau has been cultivated, and if any structures existed outside of the ruins, they have been destroyed. Dirt has washed against the west wall, almost destroying it. Thrum notes that the heiau was built during the reign of Kekuhihewa, whose love of peace and mild but efficient rule brought much prosperity and happiness. The first priest was Keaiwa. The heiau was devoted to the healing arts, and novitiates were instructed here to become physicians or Kahuna Lapau. Medicinal plants used to be raised here, and the late Dr. Nils Paul Larsen sought to restore them, but not too successfully.

Battle of Kipapa

This took place when Mailikukahi was Moi (King) of Oahu. His peaceful and efficient reign had brought wealth and prosperity to the Island, which attracted the envy of a group of restless and turbulent Hawaii chiefs who thought to conquer the island, helped by a Maui chief. They landed in the Ewa lagoon and were marching inland when they met Mailikukahi and his army at Waiakakalaua. A very bloody battle followed, in which the invaders were totally defeated. The gulch Kipapa (paved) got its name because it was paved with the slain. One of the Hawaii chiefs, Punaluu, was killed on the plain which now bears his name. Another, named Hilo, was captured and his head cut off and taken in triumph to Honouliuli where it was stuck up at a place still called Poo-Hilo.

Barber's Point

There are several slightly different versions of the story, one of which was that in October, 1795, Captain Henry Barber with the good ship Arthur visited Oahu, and became very friendly with Kamehameha. When he was about to go, he gave the King a number of gifts including some whiskey, which however, was watered. They both left Oahu about the same time, Kamehameha to go to Kona, Hawaii, and Barber to get shipwrecked on the point that now bears his name, which was then known as Kalaeloa. This was the first time a ship was wrecked in Hawaii. Of the crew of 22, six drowned. The natives at once swarmed aboard and looted it of everything moveable.

Barber went to Kona in the hope of recovering his stolen possessions, and Kamehameha received him very cordially and had a big feast in his honor. When the awa was passed around, however, Barber's cup contained only very diluted drink, so that he might know that the King recognized the diluted nature of the whiskey. Nothing, however, was said and Barber was given Kapu sticks, with the authority of which got back all the loot.

There were also twelve brass cannon on board, and when the ship broke up, these went to the bottom. Kamehameha succeeded in dredging these up, and they went to his palace at Lahaina, Maui, and not to Barber, who disappeared from history. Later the cannon disappeared, and their whereabouts is now unknown.

Shark Riding

H. L. Sheldon in 1883 tells a story told him about twenty five years before that a couple of young natives had signed up to go on a whaling trip, but when they got about thirty miles off shore, they jumped overboard. After swimming some 24 hours they met a huge shark of a variety often met around Barber's Point. They both mounted on his back, and he proved quite tractable, and they were able to steer him toward land. They got very hungry, and enjoyed very much the small fish that adhere to sharks' skins. The shark brought them fairly close to land, they then jumped off and made the last bit on their own power to Barber's Point.

Sheldon admitted that one had to be in romantic company to believe the tale, but still thirty miles would be admittedly a good swim.

Maui Obtains Fire

Maui, a demigod of many famous exploits, was born on the southern side of Waianae Valley and lived there with his mother, Hina. His grandfather lived on the other side of the mountains across Phakea Pass.

Originally, man had fire, but the gods took it away, and it became the possession of two women, Alae-huapipi and Alae-nui ahina, who also lived in Waianae. These two could change themselves into mud-hens (Alae). One day, Maui saw them toasting bananas over a fire, and he managed to sneak up on them without being discovered. They immediately turned themselves into mud-hens, but Maui caught one before it got away. While its companion said, "O, Alae-huapipi, hide the fire!", Maui said, "Show me how the fire is made. If you try to conceal it, I will kill you!" Fearing that she would be killed, she revealed the secret to Maui, which consisted of rubbing two sticks of the proper woods together. It was called Mapele Fire, because two, three, or even four women would rub the sticks to make it. However, man had fire again.

Maui Recovers His Wife

Maui was eating a fish at a heiau when he looked up toward Pohakea, and saw his wife, Kumulama, being carried away by the evil chief, Pe'Ape'a-Make-Walu (eight-eyed). He immediately chased them, but was unable to catch them and he returned weeping to his mother. She told him to rest a little, and then go over Pohakea and find his grandfather, Kuolokele. He went over Pohakea, but for some time he saw no one, then an old man appeared, carrying an enormous load of sweet potato leaves. The old man put down his load to rest beside a stream, and Maui saw that he was a hunchback. Maui picked up a rock and threw it at him, striking him in the back, and immediately his back was straightened. The old man was Kuolokele, and on learning Maui's trouble, he told him to gather bird feathers, ti leaves, and Ke ie-ie vine to fill a house nearby. This done, Kuolokele told Maui to go home, and come back at the end of three days.

While Maui was gone, Kuolokele fashioned a bird-ship (Moku-mau), and on Maui's return, instructed him in the art of flying it. He told him, further, that he was to fly to the land Moanalaha, which was Peapea's home, and there he would find a village, all of whose inhabitants, including Peapea and Kumulama, would be at the beach. He was to attract their attention, then fly out to sea, and then come back. Peapea would say, "This is my bird, and he will rest on the Sacred Box." Maui listened to the instructions, then flew for two days and two nights until he reached Moanalaha. Everything went as foretold, and Maui landed on the Sacred Box. When Peapea returned, he ordered that the bird be taken to his sleeping house and fed, after which they lay down to sleep.

Maui waited while Peapea's eyes closed one by one. Since it was not almost dawn, Maui called on Hina to lengthen the night. Finally, all Peapea's eight eyes were closed in sleep, and Maui slew him and cut off his head. Taking his wife, he flew home to Hina and Kuolokele, where they all feasted and rejoiced.

Kumapaio Trail

This trail extends from a road near the head of Waianae Valley and crosses over the ridge north of Puu Kawiwi at an elevation of 2400 feet into Makaha Valley, and ultimately joins a road leading down Makaha Valley. With eight archaeological sites reported along this trail, it may well be the nearest approach to a trail of historic sites on this island.

If the trail is open and passable, it might be a pretty and interesting walk. The sites were all visited by McAllister some 35 years ago, but whether very many of the sites could be found today without very great effort, and whether anything is left of any of them to be of interest to anybody, may be questionable in the highest degree. Last, but by no means least, would be the problem of getting permission to go over the ground.

The most interesting site on the Waianae side described by McAllister was the Punanala Heiau located at the foot of a spur on the east side of Kawiwi, which was described 35 years ago as being in a fair state of preservation. More recently its existence has been questioned, so one may presume that it has been destroyed, or that the brush has grown up making it very hard to find.

Kaneaki Heiau

Kaneaki Heiau in Makaha Valley was described by McAllister as being one of the best preserved heiau on Oahu. This is shown on the USGS Topog Map, scale 1:62,500-1959, and is represented as being very close to a secondary road, and only a few hundred yards from a good automobile road. This is probably the only one of the eight sites along the Kumapaio Trail that could easily be found, and might be in a condition that would make it of interest. McAllister represented it as a quite elaborate structure.

Makaha

This area was noted for its robbers, and, in addition, some cannibals were once said to have lived near the foot of the ridge between Makaha and Keaau Valleys. Levi Chamberlain in his journal 1822-49 said he was not certain whether this was a legend or a fact.

Olohe of Makua

According to Fornander, Makua, the last of the larger Waianae valleys, was the traditional home of the olohe, or professional robbers, whose skill at bone-breaking was the secret of their success.

Kaena Point

Two islets are located off Kaena Point, the smaller one, slightly nearer shore, is Pohaku-o-Oahu; the other, Pohaku-o-Kauai. Sites of Oahu says nothing about legends concerning Pohaku-o-Oahu, but there are at least two legends regarding Pohaku-o-Kauai.

One is that the demigod Maui went out there with his wonderful hook, Manaiakalani, which he casted as far out to sea as possible, hoping to snare the foundations of that island so that he could unite Kauai and Oahu. On giving a tremendous tug, Pohaku-o-Kauai fell to his feet, while the hook sailed on and landed in Palolo Valley, making Kaau Crater, or as it is often called, Palolo Crater. According to this, Maui's failure to unite the two islands was attributed to his failure in using the proper etiquette in dealing with the higher Heavenly Powers.

According to another legend, there was a great warrior on Kauai named Haupu, but he was a man of short temper. One night an Oahu chief named Kaena was having a hukilau at the point of that name, which has always been famous as a fishing ground, and the people made so much noise that they disturbed Haupu, who thought that they were planning to invade his realm. Accordingly, he hurled a huge rock at them which became Pohaku-o-Kauai, killing Kaena and many of his people.

Pa'u-o-Hiiaka

When Pele came to Hawaii from Kahiki, she went first to the northwestern islands, then came down to Kauai where she met Prince Lohiau, who was also her Prince. Then she came on to Oahu, looking for a home for herself and Lohiau. At that time, Hiiaka was carried as an egg. The tiny creeper, Pau-o-Hiiaka, "Hiiaka's Girdle," is plentiful around Kaena after a rain, where its tiny blue flowers intermingle with the golden blossoms of the ilima.

Leina Kauhane

This is a white rock about 0.4 miles east of the tip of Kaena, where the souls of the departed take their leap into the Other World.

Healing Stone-Puaena

Puaena is the present name of the promontory on the north side of Haleiwa Bay. The stone is the remains of a woman, Puaena, who came in Pele's retinue from Kahiki. The stone is partly covered by sand, oval in shape, about 2' high and 4' long. It was famous for its curative properties, and people from all over Oahu came to it to be cured of their ills. Seaweed was placed on the stone, the proper prayers said, and the sick or injured member touched the stone. Puaena also had the gift of prophecy, and people who consulted it were answered in their dreams.

Fish God

Una Dragoo Hunt in 1901 tells about visiting the Tennant family in Waialua. Mr. Tennant's maternal grandfather had been a chief, and he was familiar with local legends. One afternoon Mrs. Hunt and Mrs. Tennant and a number of children went swimming on a beach, presumably near Puaena Point, when one of the children bumped into a balanced rock, and all the children joined in pushing it over, when it rilled into the sea.

That evening, a large party of Hawaiians came there to fish, but the Fish God whom they needed to propitiate in order to be successful, had disappeared. A great wailing was set up, and it was soon discovered that the balanced rock which the children had pushed into the sea was the missing Fish God. A search was instituted, and fortunately the stone was found and restored to its proper place, after which everything was all right.

Kupopolo Heiau

The site of this heiau is shown on the USGS Topog Map, scale 1:62,500-1959, something on the order of half a mile south of Waimea Bay and 300 yards east of the road.

It had been a very important heiau, but was largely destroyed when the Tabu system was abolished. Still, considerable was left of the ruins when Thrum visited it in 1905 and Kenneth Emory in 1921. It was here that the great Kahuna, Kaopulupulu, presided about the middle of the eighteenth Century. By his wisdom and kindness, Kaopulupulu won the respect and love of the people, and he became the advisor to the King, who was the wicked, cruel and foolish Kahanahana. Since all his advice was rejected, Kaopulupulu came back and tattooed his knee, the significance of this is that the word for knee, kuli, also means deaf, i.e., that the king had been deaf to his advice.

The tattooing greatly incensed the King, who resolved to kill Kaopulupulu and his son, Kahulupue. Learning of this, the two went to Kaena, where, right by the famous rock, Leina Kauhane, where the souls depart for Milo, Kahulupue found a canoe, and suggested that they flee to Kauai. However, the father replied that they had come from a long line of men who had always done their duty, and had never sought safety in flight. Soon soldiers of the king arrived and sounded them with spears. Kaopulupulu told his son, who was close to the ledge against which dashed a tempestuous surf, "Spend not your strength, my son, until you are in the sea, for the earth belongs to the sea." Then he added, "It is better to sleep in the sea, for from the sea comes all life."

The words were believed to foretell the coming from across the sea of a chief who would be master of Oahu. Shortly afterwards, Kahekili, "The Thunderer," King of Maui, came and totally defeated the forces of Oahu. Kahanahana was slain, and his body placed on a slab of rock as an offering to the Gods, thus avenging the death of Kaopulupulu and Kahulupue.

Waimea, Home of Hewahewa

It was here that an extraordinary man, Hewahewa, passed his last days. From being the dread Keeper of Kamehameha's war god, Kukailimoku, he became the last High Priest of Hawaii. Convinced of the undesirability of the Tabu system and the inadequacy of the old Hawaiian religion, he voluntarily laid aside the great temporal power of that office, and finally became a devoted Christian, and member of the Reverend John S. Emerson's Church at Waialua.

Puu-o-Mahuka Heiau

This is also shown on the USGS Topog Map, on a bluff on the north side of Waimea Bay, at an elevation of some 300 feet. It was a very large heiau, and the ruins are described in detail in "Sites of Oahu." Nothing is known of the history of the Heiau, but tradition ascribes its construction to the Menehunes.

Piliaama Stone

About halfway between Puu-o-Mahuka Heiau and the sea is a stone bearing the footprint of a man and of a crab. According to the legend, Hookala was a man of low birth, but extremely handsome and powerfully built. When Hiiaka saw him she fell in love with him and came running to him, but he tried to run away. When she had almost caught him, he vanished, and all that remained was the footprint of the man and the crab.

Kahikilani Stone

Long ago, a chief from Kauai who was a famous surf-rider came to Oahu to try surfing there, and found the waves in the Sunset Beach area much to his liking. While surfing there one day, he noticed some birds circling him, apparently urging him to follow them, which he did. The led him to a cave where he met a most beautiful maiden who asked him to be her husband, which proposal he accepted. Each morning before he left to engage in his favorite sport, she made him two lehua leis.

One day he met another girl who made him a couple of ilima leis, and the old bird flew to his mistress and reported what had happened. On seeing him coming up with the ilima leis, in addition to the lehua leis, she called upon her Aumakua who turned him into a stone, which stands on the ridge between Paumalu and Kaunala, gazing toward the sea.

Kapi or Punaula Fish Pond and the Waikane Stone near Kawela Bay

Kawela is a small semi-circular bay where the highway from Waimea leaves the sea, and does not return to the sea until close to Laie. On the west side of Kawela is a small pond that was created by Kane. Kane came to Kawela and found a great gathering of people, and on inquiring why they were there, he was told that there was a large school of oio fish, which the people wanted to catch with their nets. "Those are not oio fish, but eel," Kane replied. Not recognizing him, the people laughed at him. When they had surrounded the school with their nets and were dragging them in, they found, sure enough, that the fish were eel. Great was their surprise, and they marveled who the stranger might be.

Toward evening they started up a valley to a spring to get drinking water. It was a long way up the valley to the spring, and they stopped to rest near the entrance. Here, in the presence of the multitude, Kane thrust his staff into the ground, and out gushed a stream of beautiful water which has flowed ever since, and is known as Waikane. Perhaps the expression "ever since" is hardly correct, for a few years ago the plantation built a pump just below the spring, and this lowered the water table so the spring no longer flows.

Kahuku Plain

In 1826, Levi Chamberlain described the area as beautiful with hala trees. According to a legend, this land drifted in from the ocean and for a long time moved about, until Maui was able to pin it down so it can no longer move.

Kaliuwaa

The old native belief was that the pool at the foot of the falls was bottomless and leads to another world where dwells a demon, who is prevented from coming up by the thrust of the falls. The waves in the pool are proof of the struggle.

The whole valley is sacred to the gods, and offerings in the form of tileaves, with a stone placed over them, are made to propitiate the deities lest they cause stones to fall from the cliffs.

"Sites of Oahu" describes 18 places in and near Kaliuwaa which were connected with Kamapuaa. Thus Ele'io is a wet place where Kamapuaa vanished while being pursued by some men for stealing chickens, Opu Ohua was another small wet patch named for his stomach; Amo is a place where men carrying amo as an offering to him were eaten by him. Of the more interesting places, Uha-kahi is where Kamapuaa dammed the stream when the soldiers of Olopana were searching for him, then broke the dam so that the flood destroyed Olopana's force.

The legend says that the dry fall which one reaches a short distance below Kaliwaa Falls is where Kamapuaa leaned against the cliff in order for his people to escape from Olopana. Kamapuaa turned himself into a gigantic hog, and most of his people escaped by climbing up his back. However, his grandmother could not do this, so he turned around and helped her over his tummy and chest.

The name Kamapuaa means Child of a Hog, and he was half human, half swine. It was a case of Hog by Name, and Hog by Nature, not changed to Hoag by Legislature because there was no legislature then.

Springs at Kahana

There are two springs at Kahana, the makai one being sweet, and the mauka one brackish. It was not always thus. The great Gods, Kane and Kanaloa, were walking past Kahana, and they were tired and thirsty, and they stopped by the mauka spring, which, in those days, was good water. An old couple lived beside it, and the Gods asked them for water and a night's lodging. However, the couple there were pi (mean), and they told the Gods that they had no room, and only water enough for themselves. The Gods went on, and came to the makai spring, beside which lived another couple, who gave the Gods water, but apologized for its being brackish, and also offered them a place for the night, but apologized for the smallness of their house. Realizing that it would be very crowded, the Gods went on, but next morning the pi couple were surprised that their water had become brackish, while the generous couple were delighted to find that their water had become excellent. It has thus remained ever since.

Crouching Lion

The Crouching Lion at Kahana is not a lion at all, but a dog, Kauhi, who came from Kahiki with Pele and her retinue. He was stationed there to be the Watch Dog of Heaven. When Hiiaka passed by on her way to get Lohiau, Kauhi called out to her, asking to be relieved of his thankless task. Hiiaka was not able to grant him his wish, so angered at her refusal, he tried to tear himself away, but was able only to get up, when his strength gave out, and thus he remains today.

Kualoa

This was one of the most sacred places on the island, where the holy drums of Kapahuula and Kaua kahi o Kahoowaa were sounded. Fornander said that when a chief was residing at Kualoa, all canoes had to lower their masts when passing by. Kamakau noted, in addition, that Kualoa was a place of refuge where those seeking sanctuary could not be seized and killed.

Old Sugar Mill

Elizabeth Kinau Wilder tells in her memoirs how her husband and Gerrit P. Judd formed a partnership in 1864 and built the old mill, largely with their own hands. They imported Chinese coolies as laborers. Unfortunately, the plantation proved a failure and was abandoned in 1868, after which the land was used as a cattle ranch. On November 20, 1850, Kamehameha III deeded to Gerrit P. Judd 622 acres of land at Kualoa plus the island of Mokolii for \$1300.

Kualoa Spring

At Kualoa Point there used to be a nice spring which was ruled by a shark demi-god, whose mother was a human being, but whose father was a shark god. The shark demi-god was fed and cared for by the people, and, in turn, was kind and gentle to them, and kept away evil sharks. However, by and by there came a chief who was pig, and refused to give the shark demigod his fish. The shark god, the father, was very angry at him, and sent a tsunami or tidal wave which destroyed both the spring and the mean chief.

Mokolii

N. B. Emerson tells in the legend of Pele and Hiiaka how the island was originally a mo'o, who was very mean to everyone who came his way. He sought to bar the way for Hiiaka when she wanted to pass through to go to Kauai to get the spirit of Lohiau. Hiiaka slew him, and ripped his fins off, which became the island of Mokolii. J. S. Emerson pointed out how in southern Polynesian the words, "The Dragon" would be, "Ta Moko," but in coming to Hawaii, the southern Polynesian "T" was changed to the Hawaiian "K" and the southern Polynesian "K" was dropped out but represented by a guttural break, so, "Ta Moko" became "Ka Mo'o." Mokolii, the little dragon, is one of the few Hawaiian names where the southern Polynesian "K" is retained.

Kualoa Ridge

This is a very narrow and precipitous ridge. The holes in it were made by Kamapua'a when he was hiding from Pele.

Hakipuu

This locality was famous as the home of the great navigator, Kahai, who, among his notable exploits, went to Samoa and brought back the breadfruit. Kahai was greatly honored, and when sailing his canoe, he did not have to lower his sail, even to the king. However, it is said that Kamehameha the Great, in sailing past Hakipuu, lowered his sail in respect to the memory of Kahai.

Waihee

Keakaoku was a very handsome young man of tremendous strength, but he was unable to speak. He was told that a most beautiful awaited him in Kahiki, and if he could go there and marry, he would be cured of his infirmity. On taking off in his canoe, he was attacked by a gigantic squid which he slew and threw on the land. The slime from its body flowed over the land. Waihee means literally, "squid water."

Iolekaa

In the olden days, the rats of Heeia were at war with the rats from the other side of the Koolau mountains. A trail led over the mountains to Kuiwipoo, but the trail down to Heeia was steep, slippery and dangerous. The Heeia rats were in the habit of offering to lead their foes down the trail, and there was one spot which was particularly slippery and dangerous, and if one were unfamiliar with it, one was most likely to slip, and here the foreign rats would slip, fall down a cliff, and drown in a pool at the bottom. Iolekaa means "the rolling rat."

Kukui-o-Kane Heiau

This was located at Luluku, at the foot of the ridge above the banana fields in Kaneohe. This heiau was the largest and most important in the area, but because it was destroyed by Libby McNeil and Libby, when they were planting pineapples, their efforts at Kaneohe were a failure.

Mokapu

In the olden days, the sea around Mokapu was kapu, and the fish were fed seaweeds so that they would stay near. When an important person wanted to have a feast, a few days previously the fish would be fed seaweed to which was added some crushed kukui nut, which contains a very powerful cathartic principle and cause the fish to expel all the food they had eaten and become very hungry, and therefore easy to catch.

The Creation of Man

Man was created on the eastern flank of Mololani at Mokapu, facing the sunrise and the sea. (It is not exactly clear which hill on Mokapu is Mololani, as the name does not appear on either the USGS Topog or the Sites map.) However, the four great Gods, Kane, Kanaloa, Ku, and Lono were there, and Kane and Kanaloa made images of themselves in the dirt. Kanaloa said to the others "You do not have the power to create Man. Only I have that power!" Then said the others to him, "Let your image become Man." However, all that happened was that Kanaloa's dirt became rock. Then Kane said to his dirt, "Come alive!" and Ku and Lono responded, "Live!" After this was repeated several times, the earth came to life and became Man.

The Gods gave Man a house of kou wood to live in, but there was no woman. Man noticed that his shadow always followed him around, and finally he laid down and went to sleep. When he awoke, he found a beautiful woman lying by his side, and thinking that the Gods had changed his shadow into a woman, he called her Keakuahulilani, "The Shadow made of Heaven."

Mokapu Burial Ground

In the sand along the windward beach at Mokapu roughly midway between Ulupau Head and Pyramid Rock, over 500 human remains have been dug up, making this the largest known Hawaiian burial ground. On account of the drifting of the sand it was impossible to correlate the depth of the remains with age, and at the time of the writing of "Sites of Oahu," only one age determination by radio-carbon had been made, and this gave a figure of 150 years. However, although

Hawaiian artifacts were found, no European artifacts like beads, buttons, or glass objects were found, so it was presumed that the burial site was abandoned before European culture had been established.

From the bone conditions, it was estimated that the average age of the men buried there was 35 years, and the women 33 years, indicating the span of life then was not long.

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Food and Food Preparation

Agriculture, one of the principal occupations of the ancient Hawaiians, required more or less elaborate religious ceremonies. Planting had to be done in the proper time of the moon, prayers were said, offerings were made and tabus kept during the various stages of the growth of the plant. As required, prayers were made for rain or to allay the wind or to stop insects' ravages, as well as prayers of thanksgiving at harvest time, and finally offerings to the family gods.

Taro was the chief crop and the food made from this plant was the principal and often only article of food. Two methods of planting were used then as they do today, i.e., the pond method and the dry land method. The work required to prepare the ground, plant, irrigate and cultivate the crop formed the most laborious part of the native farming.

In areas where plenty of water was available, small ponds were built with water-tight walls and the earth spaded and worked over for depth of two feet. Water was then let in, and the earth mixed and stamped with the feet until a thin muck was formed. Taro was usually propagated by planting the fresh "huli." The leaves cut off in a bunch just below the crown of the plant as the ripe roots are harvested, form the "huli." Plantings are made from eighteen to twenty-four inches apart. Water is let into the patch to form a shallow pond and fresh water is constantly kept running until the roots are mature, when they are ready for use. The growing period is from nine to fifteen months, but they will continue to grow and improve for two years or more. Usually only small areas were planted at a time so that it would not be necessary to harvest more than could be used at one time.

In regions where streams were not available, the land was cleared of weeds and large holes dug in which several plants were set. Kukui leaves and ashes were used to enrich the soil and if carefully tended such plantings would yield well.

Several varieties of taro were planted which varied in size, color and growth. The natives prepared the root for use by first baking it in an oven or imu. The thoroughly cooked taro was then peeled and pounded with a thick heavy stone pestle on a poi board. The scrapings were used in the ponds as a fertilizer.

Poi pounding is real work and usually continues for an hour or more. With careful manipulation the roots are reduced to a sticky dough-like mass as water is judiciously added to prevent the mass, in the form of "paiai," from sticking to the stone pestle. When it has become sufficiently smooth and firm, it is removed from the board and made into poi by thinning with water to the desired consistency. On their long voyages, the natives probably used the "paiai" and when poi was required, a portion was put in a calabash and thinned with water. A few hours after thinning, it would be ready for use, but the natives preferred it after it had soured or worked for a day or two.

Grated taro and coconut cream were mixed to make "kulolo" pudding. Baked taro was used as a vegetable and the leaves of the plant as well as the stems and flowers were often cooked and greatly relished by the natives.

Sweet potatoes and yams came next as the most important food plants to be grown in the islands. Many varieties were in general cultivation. They thrived in the drier areas and were eaten raw, baked or roasted and were also made into a kind of poi. Poi and sweet potatoes were fed to pigs and dogs to fatten them and improve the flavor.

Breadfruit, which was propagated from root cuttings, was another staple food which was baked, roasted and also made into a delicious poi. Several varieties of bananas were also cultivated by the early Hawaiians and eaten both raw and cooked. Other useful plants, formerly grown, were sugar-cane, calabash gourds, paper mulberry, "olona", "ki", coconuts and "awa."

Fishing, like agriculture, was associated with religious ceremonies and the worship of idols. Those engaged in this occupation were very skillful and had an extensive knowledge of the habits, feeding grounds and species of fish in the waters about the islands. Fish nets of various forms for various purposes were made by twisting the fiber of either "olona" or coconut. Other important items were hooks, poisons and traps. It is of interest to know that devices were available for capturing every kind of creature inhabiting the water about the islands with the exception of the whale.

The canoe was a very important part of a fisherman's equipment although fishing was also done from the shore and reef. Seines were used considerably and they frequently were two or three hundred feet in length. Fishing spears consisted of hardwood poles six to eight feet in length, ending with one or two sharp wooden prongs. These were generally used along a reef or in shallow water and caves.

Fish hooks were ingeniously made of mother-of-pearl shells, bone, ivory, and tortoise shell. A fish poison was made by pounding sand and "auhuhu" also called "auhola" a poisonous weed, together. This mixture would be taken to a tide pool, cave or a hole in a reef about which a long seine had been placed to prevent the fish from escaping. A few minutes after distributing the poison mixture, the fish would appear on the surface in a stupefied condition. The effects of the "ona" would soon wear off and in no way injure the food, if the fish was de-gutted immediately.

It is estimated that there were probably more than a hundred kinds of bait known to skilled fishermen in ancient times in Hawaii. Live bait was preferred for line fishing, however.

In the capture of shark, the ancient Hawaiians, especially the chiefs and "aliis", used human flesh as bait. The body was usually that of a slave, killed two or three days in advance of the fishing expedition in order that it be partially decomposed. Large bone or wooden hooks up to a foot in length were baited with chunks of flesh and lowered into the water from a canoe. This type of fishing required great skill and courage.

Salt was an important item used in the preparation of food. There were two general methods. Sea water would be evaporated from shallow stone dishes or sea water would be impounded in small shallow ponds and the residue collected as the water evaporated. Another important source of supply was Salt Lake on Oahu.

Fruits were lacking in old Hawaii as only coconuts, bananas and mountain apples were here originally.

There were many varieties of "limu" or edible sea weeds whose chief value probably lay in the fact that they provided variety in an otherwise monotonous diet.

The Hawaiians managed to boil liquids by dropping hot stones into a calabash containing liquids. Certain foods were thus prepared by steaming. The imu or underground oven was used for most of the cooking and was made much as they are today. Taro took from three to four hours to cook. Sweet potato, breadfruit, and bananas required a shorter period of time to cook but ti root, a confection, took three or four days.

Chickens, pigs and dogs were the land animals used for food and roasted with vegetables in the "imu." After the pig was killed, dressed and salted, heated stones were placed inside it and placed in the "imu" for one-half to two and a half hours. Except for some particular celebration, small pigs were not killed. For general family use, the large hogs were used but not put in the "imu." Instead, after the hog was dressed and salted, hot stones were placed inside and wrapped in old "kapas" and mats, placed on a poi board and left for forty-eight hours. Then it was unwrapped, the stones removed and the meat cut from the inside because the inner portion were more thoroughly cooked than other portions. A large pig would last some time and spoil because of the salting of the meat. Any meat remaining which had been imperfectly cooked would either be cut up and placed in "lauaus" for re-cooking or placed in calabashes with hot stones. The Hawaiians ate only thoroughly cooked meat.

Chickens were cooked by wrapping them in ti leaves and placing in the "imu" or steamed through the use of hot stones dropped into the calabash.

Fish was a favorite food of the Hawaiian people. There were hundreds of species to be caught in the open ocean and they also raised mullet in carefully made and protected fish ponds. "Awa" and "aholehole" were raised in the ponds.

There were three usual methods of cooking the fish. One was to wrap it in ti leaves, in packages called "lawalu", and placed on the coals. Another was to broil it over coals, and third was to place it in a calabash with a little water and hot stones dropped in it. Uncooked fish was preserved by salting, drying or both. Small fish, often eaten uncooked, were split open, salted and hung in the sun to dry. Dried fish and poi made a favorite combination in the old days.

Greens were obtained from several plants and cooked in the "imu" or steamed in the calabash. Among these plants were "popolo", "pakai", "aweoweo", "ho'i'o", "palula" and taro tops or "luau" and also "pia". The latter was prepared by grating the ripe tubers, while raw, between rough stones, mixing with water and allowing it to stand until it had turned sweet, after which it was roasted in bundles.

Patches of sugar cane were common in old Hawaii and the stalks eaten raw but no sugar was extracted.

It is interesting to note that practically all food was eaten cold just as it is the practice today in many Pacific Island countries.

Compiled by Paul B. Sanborne - 1968

SHRIMPS - 'ŌPAE

The general term or name for shrimp is 'ōpae. Hawaiian 'ōpae may be found in fresh, brackish or salt water. Shrimps can be eaten raw, cooked or dried. They are caught in scoop nets ('upena 'ōpae). Leaf containers for shrimps are called pū'olo 'ōpae or ki'o'ōpae. "Po'o 'ōpae is used as an insult to a person. It means "shrimp head."

Fresh Water Shrimps - 'Ōpae

Hawaiian Name	Scientific Name	Description/Comments
'ōpae-kala-'ole, 'ōpae-kuahiwi, 'ōpae-kolo	Atya bisulcata or Ortmannia henshawi	Fresh-water shrimp found in the mountain streams, known as 'ōpae-kolo, 'ōpae-kuahiwi
'ōpae-'oeha'a	Macrobrachium grandimanus	Fresh-water shrimp with claws, seen in mountain streams and taro patches; literally, crooked-walking shrimp.
'ōpae-'olulo		Fresh-water shrimp, soft shelled

Salt or Brackish Water Shrimps - 'Ōpae

Hawaiian Name	Scientific Name	Description/Comments
'ōpae-huna, 'ōpae-'ohune	Palaemonidae	Brackish-water shrimp, transparent in color; literally small shrimp. Used for fish bait.
'ōpae-kai		Salt water shrimps - general term
'ōpae-lolo	Penaeus marginatus	Brackish-water shrimp, literally, stupid shrimp; can be grown commercially.
'ōpae-luahine		Salt-water shrimp
'ōpae-ula	Crangton ventrosus	Brackish-water shrimp, small, literally, red shrimp; used for 'ōpelu bait.

HAWAIIAN CRUSTACEA

The general name of crabs is pāpai. Common edible crabs are:

'A'ama (Plagusia depressa tuberculata, Grapsus grapsus tenuicrustatus, Percnon planissimum)

These crabs live in rocky areas, usually hiding in crevices during the day. It usually comes out at night to feed. It can be caught with the hands by shining a light on it. It can also be caught by looping the eye with a thin string stretched between coconut midribs. The crab instinctively will withdraw its eyes thereby "locking" onto the string.

The carapace is about 3 inches in width. Its pinchers are small, usually of different sizes. This crab is eaten raw; usually aged (miko) with salt.

'Ala'eke (Thalamita crenata)

This crab prefers brackish water and is seldom seen in clean sea water. It lives in shallow waters on muddy flats or in river mouths. It can measure approximately 3-1/2 inches across the carapace at its width. Its pinchers are strong and large; it should be avoided. It can be caught with baited nets or speared. It is eaten cooked; it can be eaten raw but with caution as the shell may be hard.

Mo'ala (Podophthalmus vigil), "long-eyed swimming crab," "red crab"

This crab lives on muddy bottoms in river mouths, bays, etc. where the water is brackish. The carapace is smooth, wider in front than the back, with spines at its sides. This crab is marked by its eyes born on long stalks. Its rear legs are flattened for swimming. It is brown/red in color and may measure five inches and over across its carapace width. It can be eaten raw or cooked. It is caught like the pāpai-kua-honu.

Pāpai-kua-honu, Ku-honu (Portunus sanguinolentus) "white crab"

This crab lives on muddy or sandy bottoms and may be caught in shallow waters to depths of a hundred feet. The carapace is smooth, convex in shape and has three large red spots. It is caught with nets ('ōhua or 'ōpae, crab-net, drag-net), spearing, or with hands. It can be eaten raw or cooked.

Pāpa'i-kua-loa (Ranina ranina) "Kona crab," "Red frog crab"

This species inhabits sandy bottoms from depths of 30-150 feet. It burrows in the sand and is caught in nets especially made to lie flat on the sandy bottom. The carapace is wide in front and narrow at the rear. The pinchers are large and flattened. It is colored red on top and white below. It can grow to 6 inches in width and length. "Kona crab" is excellent when eaten cooked.

Other crabs are:

'Alamihī or 'elemihī
Pokipoki (Calappa calappa, Calappa hepatica, Calappa bicornis),
"box crabs"
'Ohiki (Ocypode ceratophthalma, Macrophthalmus telescopicus),
"ghost crabs," "sand crabs"

Preparation of crabs for eating: boil, roast, or eaten raw. In boiling or roasting crabs, shells were left intact. Shells and inedible innards of crab were removed. Rest were eaten and juices were sucked from chewed shells, etc. For eating raw, the carapace and the gills were removed, salt and 'inamona added to taste.

The general name of lobsters is ula. Common edible lobsters are: ula-hiwa, ula-koa'e and ula-poni. Lobsters have cylindrical bodies in front and flatten out toward the tail. The antennae are long, large and rounded, and are covered with spines which point to the front. It ranges in length up to approximately 16 inches. It usually feeds on algae or animal matter at night as they are nocturnal in nature. They can be caught with a lobster-net, traps and with a pole using a star hook baited with a sea gobey. Ula can be cooked or eaten raw (usually mixed with wana).

The general name of Slipper Lobster is Ula-pāpapa. It is also called "Spanish lobster," "Shovel-nosed lobster," "Sea Crawfish." Ula-pāpapa lives in rocky areas of the reef, usually feeding at night. The carapace is flat and rough. The antennae is also flat. It can be eaten like the ula; its meat is "sweet".

Preparation of lobsters for eating: Lobsters like crabs, can be boiled, roasted or eaten raw. The tail meat can be eaten with wana (sea urchin) raw and is delicious. Caution must be exercised as too much raw wana can act as a laxative.

EDIBLE SEAWEEDS

Limu

The general term for aquatic plants living in fresh and salt water, moss, lichens, and liverworts are called limu. Specific limu names are usually preceded by the term "limu" (i.e. limu-kala, limu-kohu, etc.).

Edible seaweeds are usually found in shallow waters growing on sandy bottoms or on coral reefs. Limu-kala, limu-kohu, limu-lipoa, etc. tend to grow on reefs exposed to wave actions.

Most edible seaweeds can be cleaned in salt water before eating. Remove all foreign particles from limu by shaking in ocean, or gently rubbing limu between your palms in water. Clean limu in ocean as this is practical before taking home.

Some limu requires overnight soaking and changing of salt water to lessen the strong iodine taste and odor. Such as limu-kohu.

Most limu can be eaten raw. Plain or mixed with other seaweeds makes and excellent seaweed "tossed green salad." Seaweeds when mixed are chopped into small pieces. A little Hawaiian rock salt is added to taste.

Some Kapus to Observe:

Never face your back to the open sea or wave action. Keep your eyes opened and ears alert to the wave actions or you may get knocked down or washed out to sea. It usually comes in a series of three waves.

Take only what limu you need.

Do not pull limu roots out as the plant will die.

Do not overturn coral on which the limu is growing, this will surely kill the plant.

Terminology

limua - overgrown with seaweed, limu, etc.

limu lana - floating seaweed, figuratively "a drifter."

limu pae - landed seaweed, said of a kauwa outcast, drifter or newcomer.

'ako limu - to gather seaweed

pōpō limu - to fashion prepared limu into a ball as sold in marketplaces

Edible Seaweed - Limu

Hawaiian Name	Scientific Name	Description/ Comments
'akala, kala	Sargassum, spp.	Brown seaweed with long stems covered with short branches having narrow toothed leaves; round seeds (filled with air); eaten raw, mixed with other seaweeds; used as bait to hook kala fish (surgeon fish - Naso unicornis); lei of limu-kala used ceremoniously to drive illness away; qualified by use of <u>lau-li'i</u> (small leaf) or <u>lau-nui</u> (large leaf).
'a'ala-'ula, 'ala-'ula	Codium edule	Velvety-green, branching, succulent seaweed; larger than limu-wāwae-'iole; limu well-liked when eaten plain or with other sea foods; limu produces a red liquid when left overnight in salt water, liquid well-liked also.
'ele'ele, pīpīlani (Maui)	Enteromorpha spp.	Green, long, filmy edible seaweed usually found growing in brackish water at the mouths of streams, etc.; eaten raw.
Kohu, limu-koko	Asparagopsis sanfordiana	Brown to red colored seaweed with cylindrical stems tufted at the ends, soft and succulent; has strong pleasant odor; not eaten the same day it is harvested from the sea, but let stand in salt water which is changed several times; rolled into balls (pōpō limu); eaten raw or mixed with other seafoods.
līpa'akai, līpehu, pa'akai		Salty seaweed, soaked overnight in fresh water before eating
Līpe'e, līpe'epe'e, pe'e pe'e, 'āpe'epe'e, ho'onunu	Laurencia	Brown to red colored seaweed with small, narrow, stiff, branching and knobbed; eaten plain or mixed with other seaweeds; crunchy when eaten; kapu to hula students as "pe'e" means to hide.

Hawaiian Name	Scientific Name	Description/ Comments
līpoa	Dictyopteris [Haliseris]	Many branched seaweed, flattened, crinkled leaves brown in color; strong fragrant smell; pleasing to the Hawaiians; eaten plain, mixed with other seaweeds or seafoods
manauea, manauwea, manaiea	Gracilaria coronopifolia	Red to brown colored seaweed with cylindrical, succulent stem and branches which looks like antlers; can be eaten plain, mixed with other seafood; qualified by pala-kea, pehu, or puakea.
'o'olu	Champia sp. and Chondria tenuissima	Red seaweeds, fragile, must be cleaned in salt water; if fresh water used, it will melt.
pakele-a-wa'a, huluhulu-waena	Grateloupia filicina	Dark red seaweed, irregular branches, with many narrow segments.
wāwae-'iole		Velvety green branching, succulent seaweed; smaller than 'a'ala-'ula; eaten raw or mixed with other limu or sea foods.



Cooking Time Chart

COOKING TIME CHART

By Richard Paglinawan, August '70

FOOD	TIMING	COMMENTS
Kalua pua'a (200 lbs live weight, 175 lbs dressed)	4-1/2 to 5 hours (cooking time)	Time commences when it is covered completely with dirt to time when dirt is to be removed.
Kalua pua'a	Overnight cooking 6 hours plus	Use thick layer of banana stalks or honohono-wai (grass) as mamaka over hot stones.
I'a (fish)	15 to 20 minutes	Small cooking stones take approx. 30 minutes to be heated/7 heated stones per container; puholo or hakui cooking.
Luau (taro tops) Tahitian type	30 minutes	Puholo or hakui cooking. Does not require removal of outer stalk skin.
Hawaiian type Young leaves Mature leaves	1 hour 3 hours	Minimal skin removal. Must remove skin.
Lawalu (lauau)	15 minutes	One akule cut into sections and wrapped in four ti leaves lawalu cooking.
Lauau (Pi'ao)	15 minutes	One akule cut into sections and wrapped in five ti leaves lawalu cooking.
Kalua moa (chicken)	2 hours	Puholo cooking - place small heated stone in stomach ca- vity and place in sealed con- tainer (tin foil)
Kalua turkey (large size)	3 hours	Small turkeys should be timed as kalua moa. Imu cooking - place heated stones in stomach and neck cavity.



Hawaiian Cooking Methods

I. DIFFERENT TYPES OF "KALUA"

IA. KALUA

1. Defined: To bake in the ground oven (imu)

IB. KALUA - KĀKĀ

1. Defined: To bake chopped (quartered) pig.

Terminology:

1. Kālua - to bake in the ground oven.
2. Kālua pa'a - to bake whole, as a pig.
3. Kākā - chop
4. Umu, also imu - underground oven
5. Pōhaku 'anai pua'a - stone for rubbing off singed hair of pigs.
6. Pohaku 'eho - red hot stones put inside dressed animals in cooking; also, 'eho.
7. Ho'olua - to bake in imu; pua'a ho'olua - to cook laulau in imu

Imu Terms:

1. Kauwawe, kauawe, kauewe - covering of green ti leaves made with the stems tied together and the leaves spread out fan-wise. Formerly used on the imu, replaced today by gunny sacks. Also called kauwewe.
2. Pale - lining, as leaf lining of a ground oven; to cover, over-lay, line.
3. Hālī'i - a covering, spread; to spread; commonly used to spread shredded banana stalks or honohono-wai (grass) over heated imu stones, matting. (R.P., incorrect use.)
4. Māmaka - banana and ti leaves used as matting over heated imu stones; see hālī'i.

Oven Terminology:

1. Umu pao, imu pao - above ground
2. Umu lepo - earth
3. Haka - to lay, as an oven, hole
4. Kahu umu - to tend an oven, oven tender
5. Kahuna - oven cooking, to cook
6. Nānahu - variant to lānahu; charcoal; ho'onānahu - to turn in- to charcoal, as burnt wood.

Note: Modern techniques are in parenthesis

1. While the burning is taking place, the pua'a (pig) is slashed (head, neck, thighs, back, etc.), and salt is rubbed into these cuts. Hawaii-an rock salt is also rubbed into the stomach and chest cavity.
2. Use tongs to place rocks into the cavity of the pig. (The pig is bound with chicken wire.)
3. Shredded banana stalks (use flat side of pick to flatten and shred stalks) are placed directly on the heated stones.
4. Place bound pig into the center of the imu. Sweet potatoes, lau-lau, breadfruit, etc. are placed along side.
5. Ti leaves, banana leaves are placed over the pig and other foodstuff.
6. Cover with lauhala mat (burlap bags and canvas.)
7. Loose earth is covered on the mat (shoveled on the bags and canvas) commencing from bottom up. Sprinkle water to seal small openings.
8. Cooking time commences when the imu is completely covered with earth. See Cooking-Time Chart for cooking time estimate.
9. When the imu is ready to be uncovered, the following preparations should be made:

- a. (Store enough hand tools, preferably long handled hoes, shovels, iron rakes, etc. within reaching distance.)
- b. Have available small containers (like buckets) filled with fresh water within grasping distance; preferably, have someone assigned as "water-boy."
- c. Have on hand large containers (pakini- galvanized wash-tubs, used specifically for food purposes, large aluminum flat pans or tubs) to store cooked pork and other foodstuff.
- d. (Each worker must wear shoes or boots near the imu.)

10. Uncovering process - simply reverse the covering process:

- a. Hoes and rakes are used to bring the earth from the top of the imu within reach of the shovels. Always work in unison and with teamwork. Important: Avoid accidents while handling tools.
- b. The mat (canvas) is removed first by two persons taking hold of the two corners of the same side of the mat (canvas) and pulling it to the opposite side. This will also remove loose dirt. Remove mat (canvas) completely away from the working area.
- c. (Remove the burlap bags thusly:

1. Commence from the top and remove the bags according to layers working downwards. Important: Here is where the "water-boy" with his water container plays an important role; since the bags are "hot" from the steam, the hands are cooled by immersing them into the water.
2. Upon reaching the bottom layer of bags, do not remove them completely from the imu. Pull the bags gently from the center out towards the dirt area. This will keep loose soil from falling into the imu and also prevents the workers from tracking dirt about.)

- d. Remove ti leaves and banana leaves.

- e. Remove foodstuff like sweet potatoes ('uala), laulau, breadfruit, (ulu), taro (kalo), etc., and place in separate containers.
- f. (Unbind the chicken-wire and spread apart so that the pua'a is clear.)
- g. Remove rocks from pua'a or pig's cavities. Important: Immerse hands in water as needed.
- h. (Lift pua'a in the chicken-wire so that a pakini or tub container can be placed at the okole or rump-end of the pig.)
- i. The pua'a is gently forced into the container, avoiding spillage of pork outside of container. (The chicken-wire may have some roasted skin attached to it. Kids, as well as adults, love to eat this portion--picking it directly from the wire.)

11. The container(s) laden with juicy, cooked pork is taken to someone whose responsibility is to "de-bone" the pork...or separate the flesh from the bones (holehole-iwi).

KALUA KAKA PUA'A

1. Proceed with the steps as outlined in illustrations #1 to #3.
2. While the burning is taking place, the pua'a (pig) is chopped (kā kā) into separate sections, approximately 4-5 pound pieces. Cut sections are usually determined by cutting along the joints, ceck, knees, shoulders, thighs, hind quarters, etc. If a piece is too large, slash it with deep cuts. Salt is rubbed into the cuts and flesh of the pua'a.
3. Shredded banana stalks (use flat side of pick to flatten and shred stalks) are placed directly on the heated stones. Green banana leaves are then placed over the shredded stalks, covering the entire circumference of the imu. This matting is termed "halii" and protects the pua'a from being scorched.
4. Place the chopped pork on the banana leaves, commencing from the center of the imu and radiating outward. Thick pork sections (head, thighs, etc.) are centered first, with the smaller pork pieces toward the outside of the imu. Other foodstuff, like sweet potatoes, lau-lau, breadfruit, kalo, etc., are placed alongside, if desired.
5. Ti leaves, banana leaves are placed over the pua'a and other foodstuff.
6. (Cover with burlap bags. Make sure that the bags overlap each other and the bottom pieces extend over the dirt area.) Cover with mat (large canvas).
7. Loose earth is shoveled on the mat (bags and canvas) commencing at the outer edges of the imu and working towards the center. Sprinkle water to pack soil and to prevent steam from escaping. If this isn't enough, shovel loose soil into leaking area.
8. Cooking time commences when the imu is completely covered with earth. See Cooking-Time Chart for cooking time estimate.
9. When the imu is ready to be uncovered, the following steps must be taken:
 - a. Two persons with coconut shell halves (porcelain platters) must be nearby.
 - b. (Enough hand tools, like shovels, hoes, iron rakes, etc., is stored nearby and readily available.)
 - c. Small containers filled with fresh water are kept nearby.
 - d. Large containers (pakini - galvanized wash-tubs, aluminum flat pans or tubs) enough to carry the cooked pork and other foodstuff are kept nearby.

Note: Each food item should have their own container.
e. (Imu workers must wear shoes when near the imu.)

10. Uncovering process: Reverse the covering of the imu process, same as Kalua Pa'a Pua'a.
11. When all of the leaves (cover) is removed, foodstuff like sweet potatoes, lau, breadfruit, kalo, etc., are removed first.
12. Each worker works with coconut shell halves (two platters) and literally "scoops" or "shovels" the cooked pork and deposits it into the containers. Care must be taken so that the cooked pork is not broken into many small pieces but kept intact. Avoid scooping leaves, etc., into the tubs.

This ends Kalua Kākā Pua'a.

Additional notes: Kalua Kākā Pua'a is usually done when the animal is too large in size to cook in the imu kalua pa'a. Also, one person can cook a pig without additional help because the chopped pig is manageable for him.

Although pua'a or pig is described, beef, pork butt, or pork shoulder, etc., may be substituted, if so desired. As a matter of fact, kalua kākā would be practical for patrol cooking.

'INAMONA

(Kukui-nut Relish)

Kukui nuts collected from under a kukui tree are roasted as in pūlehu or kunu. Kukui nuts must be turned from time to time to prevent the kernels from burning.

Crack a nut if the kernel is brown, it is cooked. Break all of the kukui nuts and pry out the cooked kernels into a container.

Use a pestle and grind the kernels into small bits. Add Hawaiian rock salt to taste. The finished product is called "inamona."

"Inamona" is used as a condiment with raw seafoods or eaten as is by picking a pinch of the condiment between the finger and the thumb.

Note: Too much "inamona" can act as a laxative, eat sparingly.

DIFFERENT TYPES OF "IMU" ("UMU")

IMU - same as UMU, underground oven.

1. IMU HAU ANA - Oven in which hau wood is heated (hana) to be bent for a canoe outrigger.
2. IMU HO'OMA'ALILI - Oven with food intended as an offering to appease (ho'oma'alili) a god.
3. IMU KALUA LOA - Oven for baking a long time; oven for taking human sacrifices.
4. IMU LOA - Oven used as a sweat bath. The hot rocks of the oven were covered with a thick layer of greenery (as ginger, maile, ti). The patient lay here and was covered with more leaves and tapa. The treatment was said to last ten days and included prayers; its purpose was to remove the influence of sorcery. Literally "long oven" (with idea that a long life would follow).
5. IMU PAO - Hawaiian oven built above the ground with an opening through which wood could be stoked (pa'o).
6. IMU - Rock and fish trap. The fisherman might insert a branch into the opening at one side to frighten the fish into a surrounding net. Also, ahu, umu.

A heap of rocks placed in the sea for small fish such as the manini to hide in; this was surrounded by a net and the fish were caught.

HO'OUMU. To make an umu; to pile in a heap.

7. IMU LEPO; UMU LEPO - Earth oven.

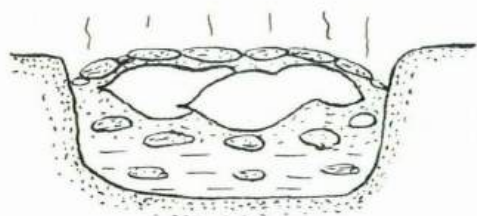
Riddle: KU'U IMU KALUA LOA : MAKE

My oven for taking forever: death

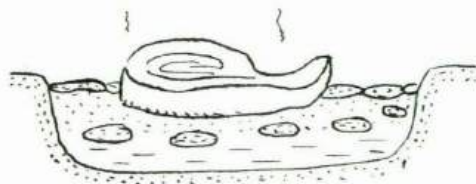
Expression: IMU O NUI

Well-filled imu, a breadbasket.

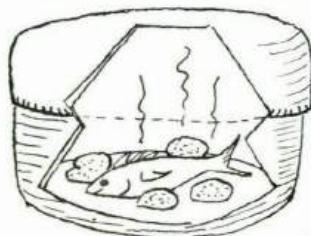
OTHER HAWAIIAN COOKING METHODS



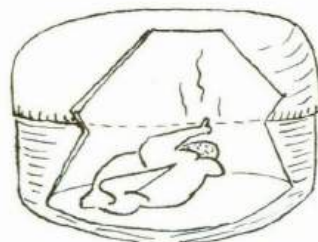
1. Pulehu - To broil vegetables and fruits such as sweet potatoes, breadfruit or bananas in hot embers.



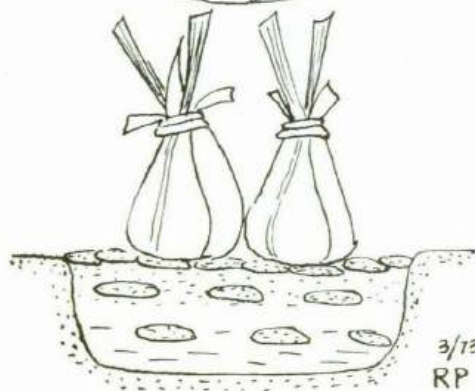
2. Ko'ala - To broil flesh such as meat, fowl or fish over hot coals. Same for kunu.



3. Hakui - To steam by placing fish, meat or vegetables in a sealed container with hot stones and a little water.



4. Puholo - to steam by placing hot stones in the cavities of a fowl and placing it in a covered container or wrapping it securely with ti leaf and other insulating material like tapa (this could be aluminum roasting foil).



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5. Lawalu - fish or meat wrapped in ti leaves and broiled on coals.

HAWAIIAN RECIPES (For Modern Feast)

LOMI LOMI SALMON

1/4 pound red salt salmon (diced) 2 stalks green onions (chopped in 1/4" pieces)
3 medium tomatoes (diced)

1 medium round onion (diced)

Keep diced and chopped ingredients separately and refrigerated until ready to serve. Then combine all except the green onion and mix thoroughly. Sprinkle green onions on top. This dish should be served cold.

CHICKEN LONG RICE

1-1/2 pounds chicken (cut in 1-inch cubes) 1 clove garlic
3 bunches long rice 2 (1-inch pieces) ginger root
2 stalks green onion (chopped in 1/4" pcs.)
Hawaiian rock salt (pa'akai)

Boil chicken in a 2-gallon pot. If a stewer is used, it will take about 3 hours. A fryer should cook in about 1-1/2 hours. Be careful that chicken does not break apart from over cooking.

Chop ginger and garlic and add to the chicken.

Soak long rice before cooking. Then cut into 6-inch pieces. In a separate pot, cook it for about an hour and drain.

Add Hawaiian salt to taste to the chicken mixture.

Add long rice and cook for another 15 minutes over low heat. Before serving sprinkle green onions over top. Serves six.

SQUID LUAU

1/4 pound boiled squid (reef octopus) 1 quart coconut milk
50 luau leaves or 1 carton frozen luau 2 teaspoons baking soda
1 teaspoon sugar

Dice squid and refrigerate. Peel tough skin from the luau stems and under the leaves. Break off the tips of the leaves.

Boil for about three hours, adding baking soda after two hours of cooking.

When luau leaves are cooked, drain them thoroughly through a cheese cloth.

Just before serving, bring the coconut milk to a boil and add sugar to taste.

Combine luau leaves and squid. Add coconut milk and continue cooking for another 10 minutes over medium heat. Serves Six.

HAUPLA

3 cups coconut milk 1/2 cup cornstarch
1/2 cup sugar 1/4 teaspoon salt

Add cornstarch, sugar and salt to the coconut milk and stir until dissolved. Cook over medium heat, stirring constantly until mixture boils. Reduce heat and continue cooking till mixture thickens. Pour into a square 8 x 6 x 2 inch pan. Let cool and cut into 2-inch squares. Serve on a ti-leaf square. 16 servings.



Fishing in Old Hawaii

Fish was an important item of food to the Hawaiians who developed diversified skills in catching fish. They had profound knowledge of sea life, and used special methods and equipment in catching different species of fish. The habitat of the fish they sought required use of varied skills and the Hawaiians were equal to the required knowledge.

CONSERVATION

The Hawaiians practiced conservation of sea life by observing closed seasons; certain fish were "kapu" (tabu) during these periods. When inshore fishing was tabu, deep-sea fishing was permissible and vice-versa. Fish were also tabu during spawning seasons. The good fishing spots (ko'a) were not permitted to become depleted. Fish in such areas were fed sweet potatoes and other vegetables so that the fish would increase in number and grow in size. The natives believed that the gods would be displeased with greediness and waste and so they were careful to practice conservation. Breaking of tabus meant that the culprits would be doled heavy punishment often times with death.

FISHING EQUIPMENT

NETS - Many kinds of nets (upena) were utilized. Some of them being seine nets (paloa and oio), scoop nets (single-handled and double-handled), dip nets and bag nets (nae kuku, ohua, papa, kolo, malolo). Most nets were made of "olona," noted for its strength, flexibility and lasting quality. A tanning solution made from the inner bark of the "kukui" tree was used to soak the nets in to make them strong and to protect them from insects.

FISH TRAPS - The name applied to fish traps was "hin'i." They were many sizes of traps which were used according to the size of fish being trapped. Traps also came in several shapes (circular, cylindrical and funnel shaped). Generally, they were made of the "ie'ie" vine. The trapping method was used for fresh water fish and shrimp, as well as salt water fish.

SINKERS & WEIGHTS - Sinkers and weights (pohaku, ha or kepau) were made of stone in various shapes (grooved, perforated, bread loaf and plummet). They also came in many sizes.

HOOKS - Fishhooks (makau) were made in various shapes, sizes and of various materials according to the kind of fish sought and method of fishing. One-piece hooks were made of bone (human or dog), shell, ivory (whale or walrus) and wood. Some had barbs and some did not. A trolling lure (pa hi aku) was usually made of shell and bone. An octopus lure (makau lu he'e) was made of cowrie shell, stone sinker and bone.

FISHING SPEARS - The fishing spear or "ihe'o i'a" was a straight, slender wooden pole from six to nine feet long. The wood generally used was a hardwood such as "walahe'e," "ulei," "a'ali'i," and "uhiuhi."

FISHING STICK - A wooden club (la'au melomelo) made of hard and heavy wood was used at times to attract fish. The practice was to smear the club with bait and then suspend it in the water.

FISHING STONE - This was a stone (pohaku melomelo) which was plastered with bait and lowered into fishing waters to the desired depth for the purpose of attracting fish.

CONTAINERS FOR HOOKS AND LINE - Hook containers (ipu le'i) were made of either gourds or wood; in either case, the covers were made of gourds. Line containers (poho aho) were made of gourds and come in several shapes; their covers were either of gourds or coconut shells.

FISHING LINE - "Olona" fiber made the best line because of its strength and light weight. The "olona" grew in damp ravines and its bast was used to make fish lines, nets and mesh for capes and helmets. Because of its strength the early whalers sought it for harpoon lines.

BAIT

The Hawaiians were very expert in fishing and through ages of practical experience they acquired great knowledge of the right kind of bait (maunu), to use in catching different kinds of fish. Ground bait or chum (palu) was used a great deal to attract fish to the area of hooks, nets and traps. Cooked squid-ink sac was another source of chum.

BAIT FOR HOOKS - Bait used on hooks differed as to the kind of fish sought.

Some of the bait were crabs (papa'i), shrimp (opae), lobster (ula), octopus (he'e), squid (muhe'e), "nehu," and "i'iao." In ancient times, human flesh of slaves was used to bait hooks for sharks.

METHODS OF FISHING

CATCHING BY HAND - This type of fishing required much dexterity. The fisherman dived down to where there were holes or crevices in the reefs or submerged rocks and groped with his hand for fish, crab, lobster, or shrimp.

SPEARING - This method was very effective at night with the light of torches (lama) for the fisherman usually found his prey asleep. Spearing during daylight required greater skill and judgment; consideration of movement and position of fish being necessary.

NOOSING - This was a method of fishing for sharks from canoes. Bait was thrown to attract sharks and when one appeared it was fed until stuffed. The food which was thrown to the sharks contained "awa" which caused drowsiness in the shark. When the shark was filled and drowsy, a noose was slipped over it and the shark brought to shore where it was killed.

NETTING - One method of netting was the use of a drag net made of several seines joined to make a huge net which was dragged through the waters onto the beach. This is now known as "hukilau" fishing.

Gill nets (upena ku'u) were used by stretching a net across a fish run. The fishermen laid this net at night and either worked the net by removing the enmeshed fish as fast as they were caught or they left the net overnight and removed it in the morning.

SEINE NETTING - Huge nets (upena paloa) were used in deep water. When a school of fish was sighted, two canoes with these nets took opposite positions and at a signal fishermen began dropping their nets in a semi-circle until the school of fish was surrounded by the nets; by continuing their circular run, the canoes tightened the circle. At a signal, fishermen jumped into the water and drove the fishes into the nets where they became enmeshed.

HAND NETTING - Hand nets were of various sized mesh. Some were single handed nets and others double handed. The usual method of fishing with this type of net was to place it across a reef cavity which contained fish and then the fish were driven into the net.

BAG NETTING - Bag nets were made by joining several nets into the shape of a bag with the top and front open. Fish were driven into these nets to be caught.

TRAPPING - Small traps were set in fresh water streams for shrimps (opae), gobies (o'opu) or in shallow waters of the ocean for small fish. Larger traps were used to catch larger specimen of fish. Bait placed inside the traps to attract fish included crushed shrimps, crabs, or sea urchins, cooked sweet potato or breadfruit or seaweed. The type of bait used depended upon the variety of fish sought.

HOOKING - Hooks used to catch fish differed in size according to the size of fish desired. In fishing with a hook, the usual procedure was to scatter chum first to attract fish to the vicinity of baited hooks. Hook bait (varied according to type of fish being sought) were secured just over the hook's point or pushed down over the point limb.

In trolling for "aku" a trolling lure (pa hi aku) made of shell and bone was used. This was attached to a line which in turn was tied to a bamboo pole held by a man in the stern of a canoe. The canoe was driven forward by paddlers causing the lure to skip along the surface of the water thus attracting the "aku" to take the lure.

"Aku" was also caught by the use of live bait (nehu or 'i'iao). When a flock of "noio" (Hawaiian term) was spotted, indicating that a school of "aku" was below, fishermen paddled their canoe to the school and scattered live bait in their midst. Fishermen in the stern of the canoe baited their hooks with the same kind of bait and cast them into the school.

OCTOPUS CATCHING - Octopus (he'e) were caught by several methods--spearing, "kilo" (using a stone lure in the reef areas) and "makau lu he'e" (using cowrie shell lure in waters too deep for "kilo").

POISONING - Two plants, the "auhuhu" and the "akia" were used in stupefying fishes so that they floated to the surface. The plant material was pounded into a mass (hola) and inserted into reef holes and tidal pools.

MISCELLANY

Skilled fishermen (poe lawaia) who know the habits and haunts of all species of fish passed their knowledge on to their descendants. This knowledge was usually kept within one's family. The "ko'a" or good fishing spots

were treasured and not revealed to outsiders. There were numerous superstitions attached to fishing including belief in signs and omens. Fishing shrines at the seaside (also known as Ko'a) were common.

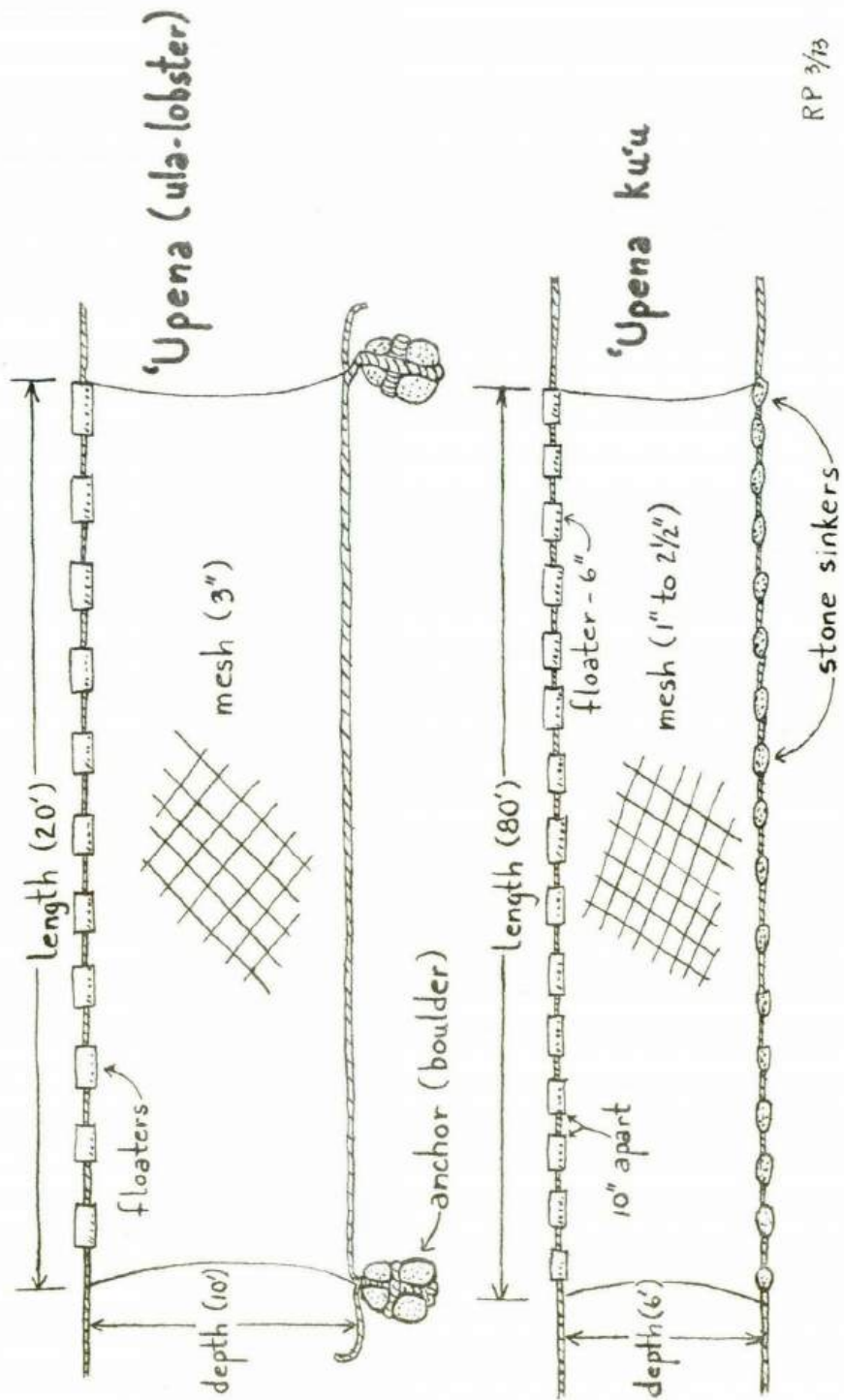
The "patron saints" of fishermen were Ku'ula, Hina (his wife) and 'Ai'ai (his son) and native fishermen said prayers and presented offerings to their idols. Following is an excerpt of a fisherman's prayer to the three gods:

To the aumakua from the east to the west
To those of the upland, those of the shore, to Ku'ula, to 'Ai'ai.
To Hina-who-produces-fish, and to Hina-who-produces-plant foods,
Eat ye that which I give
At Hamakua of the steep trail
That winds up the precipice.
Blow luck for the fisherman-----.

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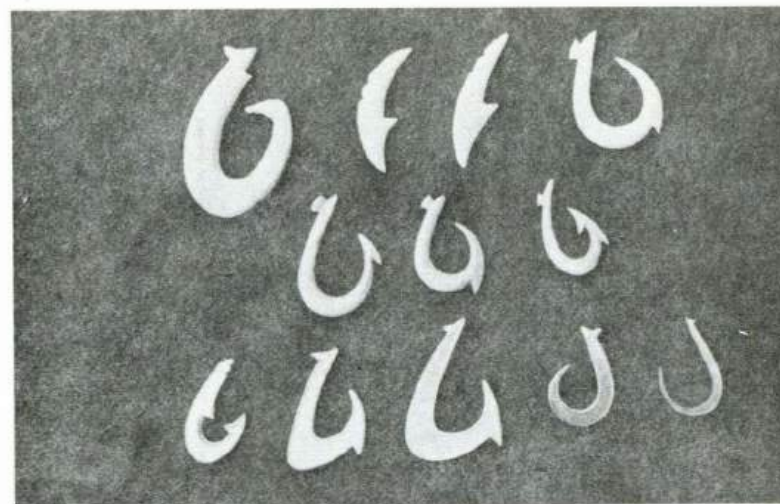
- "Ancient Hawaiian Life" - Bryan
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- "English Hawaiian Dictionary" - Pukui & Elbert
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Compiled by Paul Ishimoto - 1968



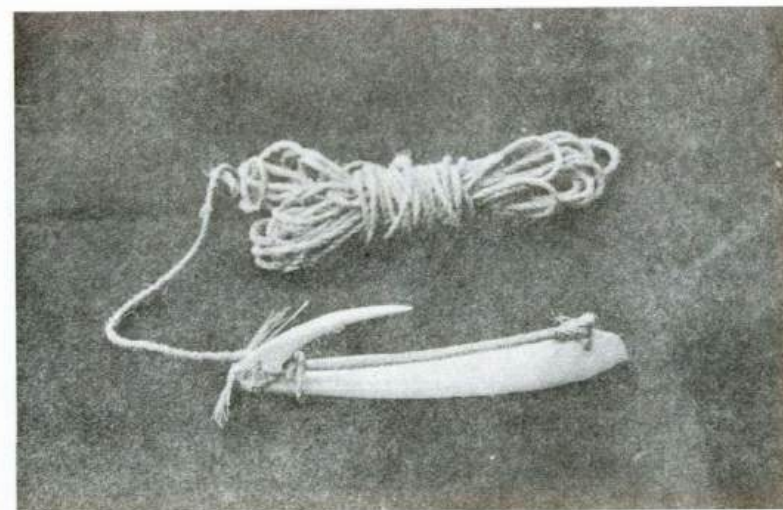
RP 3/13

Fish Hooks and Points



1 - 4, whale tooth, 2, 3 points, 5 - 7, bone, 8 - 12, pearl shell

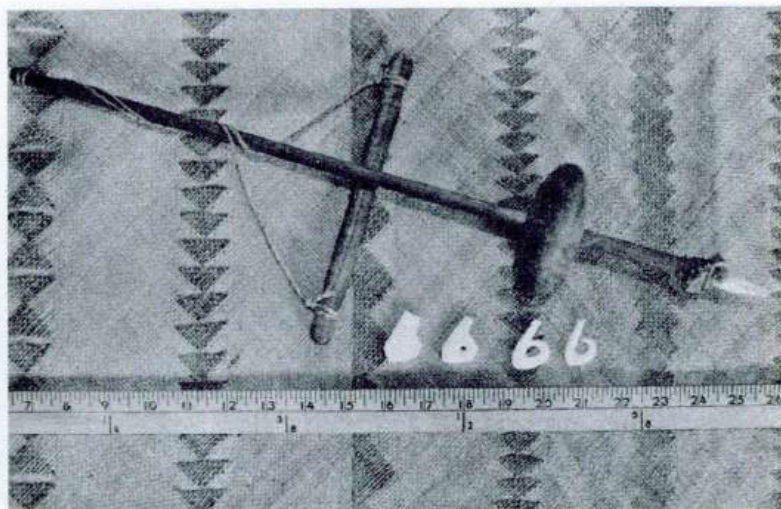
From Jun Tsusaki Collection



Bonito Hook with Olons Cordage

From George Kawelo, Sr. Collection

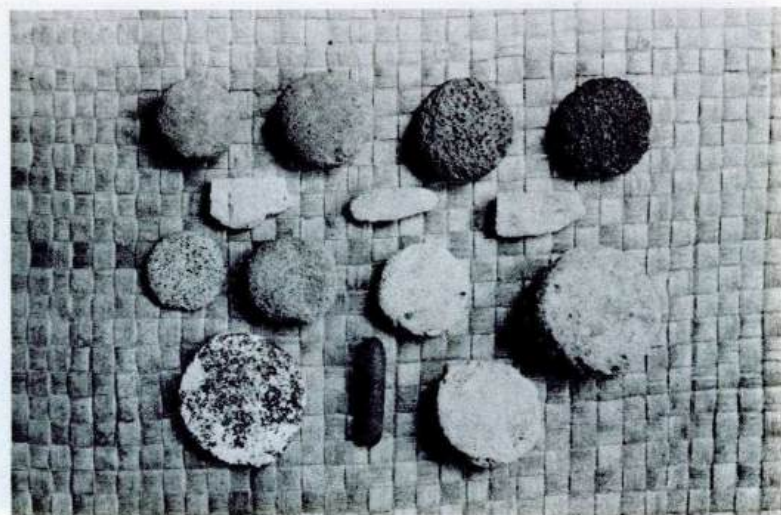
Drill with Seashell Bit (replica); and Steps in Making



Fishhooks from bone.

From Jun Tsusaki Collection

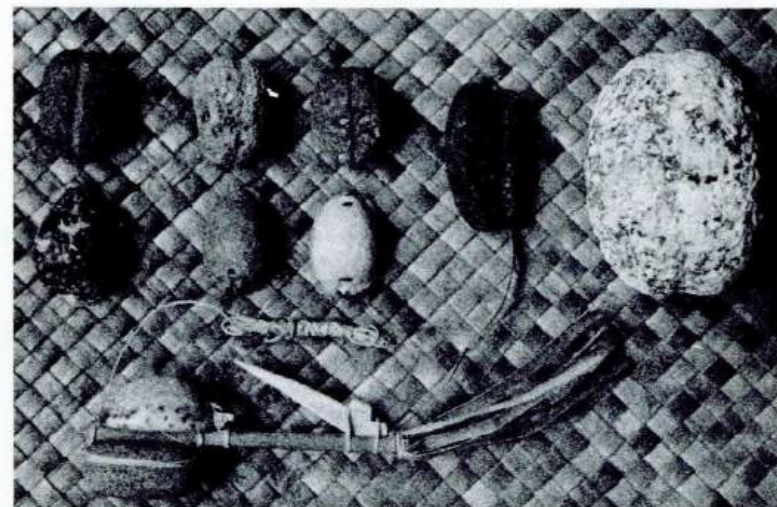
Tools



- | | |
|--------------------------------|--------------------------|
| 1 - 4, Basalt rubbing stones | 10, 11, 14, Coral |
| 5 - 7, Coral files/saw | 12, Basalt rubbing stone |
| 8, 9, Sandstone rubbing stones | 13, Basalt file |

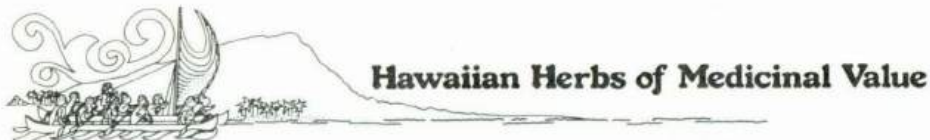
From Richard Paglinawan Collection

Stone Sinkers
and Octopus Lure



- 1 - Basalt octopus sinker; 2,3 - Coral octopus sinker;
4 - Basalt octopus sinker; 5 - Basalt sinker;
6 - 8 - Cowry Lures (Leho); 9 - Octopus Lure (composite
of sinker, cowry lure, wooden shank, bone hook and
hackle made of lauhala strips.)

From Richard Paglinawan Collection



Hawaiian Herbs of Medicinal Value

D.M. Kaaiakamanu

and J.K. Akina - Employees of Board of Health -- November 1922

1. ALOE - Juice used for burns; prevents blister or scar
2. AWAPUHI - Juice used for hair dressing; juice for headache, toothache
3. HALA - Flower used for constipation, pains in the chest
4. HALA-KAHIKI - Good for purifying the blood
5. HAPUU - Meat used for purification of the blood
6. HAU - Slimy substance from bark and bark of hau used as laxative
7. HEI (Carica Papaya) - Milk used to heal deep cuts
8. HINAHINA - Leaves used as tea for high blood pressure; plant, cooked pounded with salt, used for fractures
9. HO-I-O (Dilazium Arnotti) Used to treat boils
10. HONOHONO - Used externally for measles in bath
11. KA-E-E (Mucuna Gigantia) Strong laxative
12. KAKALAIQA (Caesalpinia Bonducella) Good for purifying blood, laxative
13. KAUNAOA (Cassitha Filigormis) - Used in removing phlegm from chest
14. KI - Leaves and very young shoots used in removing phlegm in chest and lungs, dry fever; restful condition of nerves and body
15. KIKANIA (Desmodium Uncinatum) - Laxative, good wash for sores
16. KOA (Acacia Koa) - Ashes of koa used for young children; leaves used to make a restful bed for one who has lain in a sick bed for a long time
17. KOKIO (Hibiscus) - Buds and leaves used for purifying the blood, good for constipation
18. KO-O-KO-O-LAU (Campylothea Spp.) - Leaves rugged, flowers small and yellowish in color used as medicinal tea
19. KOWALI-AWA (Limpomea Insularis) - Laxative
20. KOWALI - PEHU (Limpomea Dissecta) - Laxative
21. KUKUI - Oil used for a strong laxative, meat used for sores
22. LAU - Flowers used for "sour stomach"
23. LAUKAHI - Used for boils as poultice
24. LEKO (Eleele) - Watercress used for purifying the blood
25. LIKO (Guava Leaves) - Young leaves used for dysentery and cuts
26. MAILE (Kuahiwi) - Vine used for sweat bath, removal of yellowish blotches on skin
27. MANAKO (Mango) - Leaves used for tea
28. MAUNALOA - Leaves and roots used for deep cuts
29. NAU-PAKA (Scaevola frutescens) - Plants grow along beach; bark of roots pounded thoroughly and mixed with salt for use as poultice
30. NUHOLANI (Eucalyptus) - Leaves used for sweat bath in fever cases
31. NIU (Cocos Nucifera) - Young shoot of the coconut is used for deep cuts. Meat is applied as a rub. Oil from shell is a good rub also.
32. NONI - Juice of fruit used for skin irritations and athlete's foot
33. OHIA - Bark used for sore throat
34. OHIA-AI - Used for sores about mouth, bad breath
35. OLENA (Ginger family) - Juice used for earache, sinus and piles
36. PALA-A (Odonto-glossum Chineusis) - Makes good tea, used for softening bowels

37. PA-LA-PA-LA-I (Microlepis Strigosa) - Mountain fern used in cases of insanity
38. PA- NI-NI (Opuntia Tuna Cactus) - Slimy juice from large and prickly leaves used for constipation
39. PIA - Starch from dried roots used in dysentery
40. POHE - Used as a poultice for boils
41. POPOLO - Juice from stems and leaves used for colds and asthma
42. PUAKALA - Root used for sores
43. ULU - Milk used for cuts, scratches



Trees & Native Plants Used by Early Hawaiians

PART I

KO KAHAKAI
(Along the Shore)

PART II

KO KULA KAI
(Along the Seaward Slopes)

PART III

KO KULA UKA
(On the Upland Slopes)

PART IV

WAO
(Upland Forests)

Resources:

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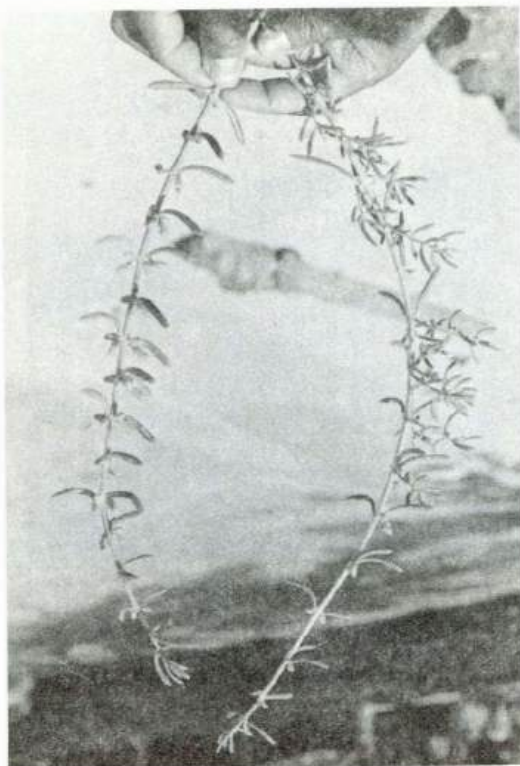
Part I. Ko Kaha Kai (Along the Shore)



Naupaka-kahakai,
beach naupaka (*Scaevola frutescens*)
Also called hua hekili



Naupaka-kahakai,
flower and white seed.



'Ākulikuli-kai,
note succulent leaves
and flowers.



'Ākulikuli-kai, succulent plant, (*Batis maritima*).
Known as 'ae'ae. Can be eaten as greens.



Pōhuehue,
beach morning-glory (*Ipomoea pes-caprae*)
Roots, stems and leaves used for medicine. Seeds
poisonous. Vines used in fish drives and kahunaism.



Pōhuehue,
seed capsules, flowers and leaves.



'Ilima,
close-up of flower.



'Ilima, (Sida). Flower of the Island of Oahu. Made into beautiful leis.



Ko'oko'olau, beggar ticks. (Bidens spp.)
Used medicinally as a tonic in tea.
Note flowers, seeds and leaves.



Ko'oko'olau, close-up.



Hala, pandanus or screw-pine. (*Pandanus odoratissimus*).
The whole tree was useful to the Hawaiians.



Hala, close-up of fruit and keys.



Niu, coconut. (*Cocos nucifera*). Coconut meat eaten. Coconut milk drunk. Hawaiians used all parts of the tree. Niu-hiwa, a variety with dark-green husk, was used in religious ceremony and medicinally. Niu-lelo, a variety with reddish husk was used in other ways than niu-hiwa.



Hē'i, papaya. (*Carica papaya*). Also known as mīkana.
Fruit edible when ripe. Green leaves as meat tenderizer.



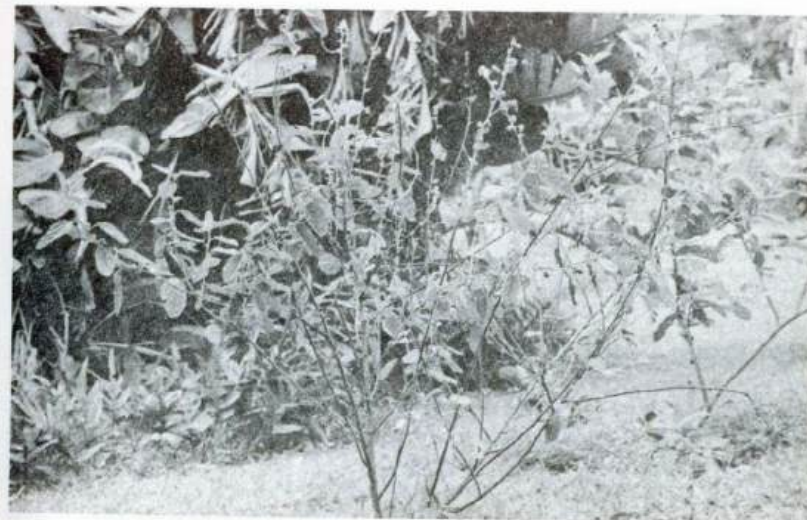
Kou, (*Cordia subcordata*). Wood used for calabashes, cups and dishes.



Kou, flower, seed capsule and leaves.



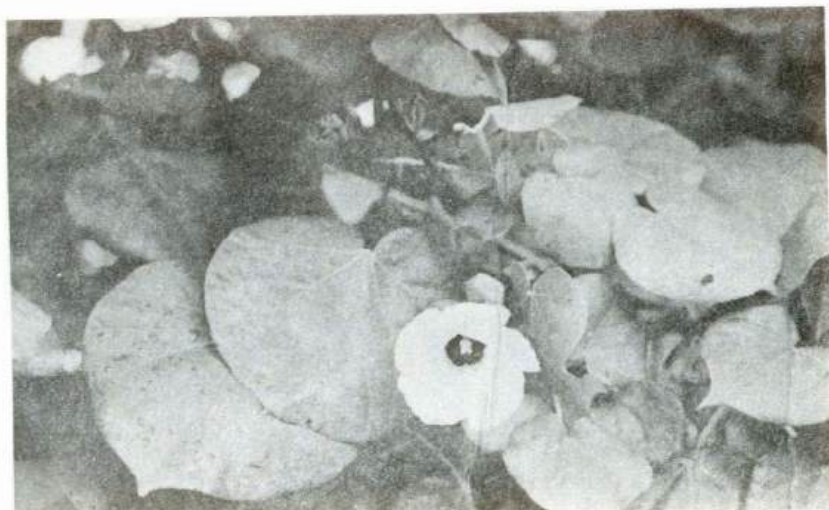
'Uha-loa,
flowers and leaves.



'Uha-loa, (*Waltheria americana*). Bitter roots are chewed to relieve sore throat. Kinolau (multiple body form) of Kamapua'a, the pig-god. Known also as hi'a-loa, kanaka-loa, 'ala'ala-pū-loa.



Hau, lowland tree (*Hibiscus tiliaceus*). The soft wood used as fish-net floaters, outrigger of canoes. Bark used as cordage. Bud of flower eaten by pregnant woman to insure easy childbirth.



Hau, seed capsule, flower and leaves.



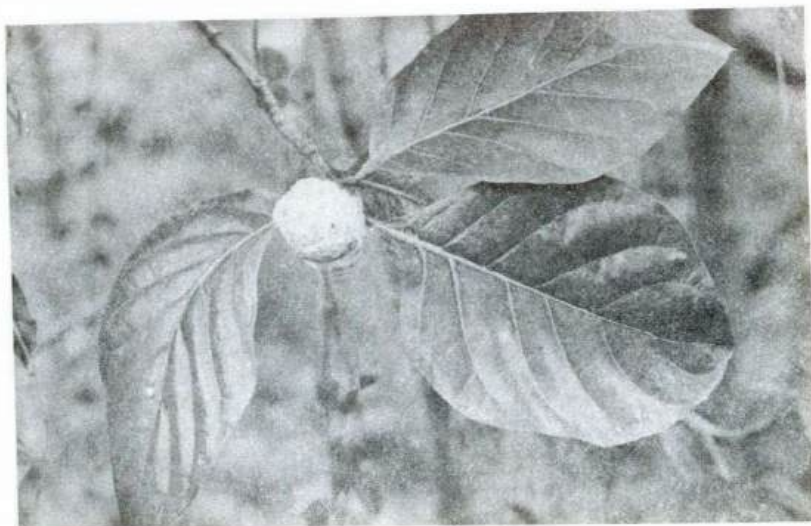
Nfōi, red pepper, (*Capsicum frutescens*). Eaten as spice.



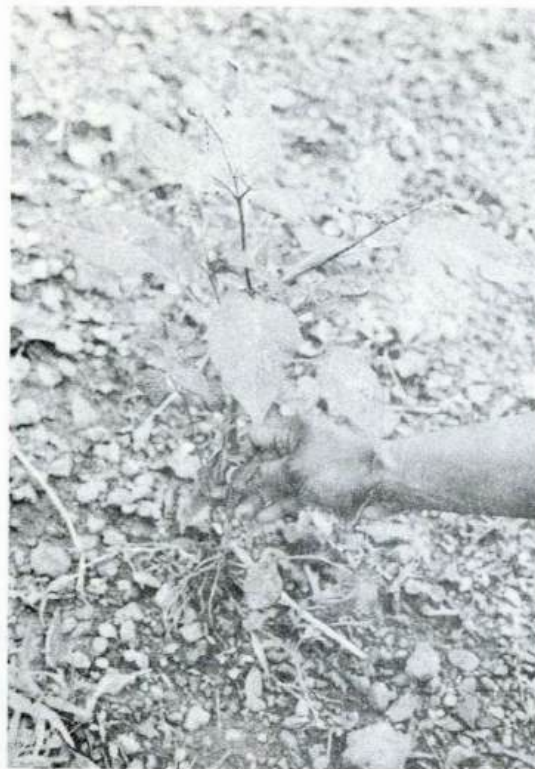
Nfōi, close-up of peppers, flowers, and leaves.



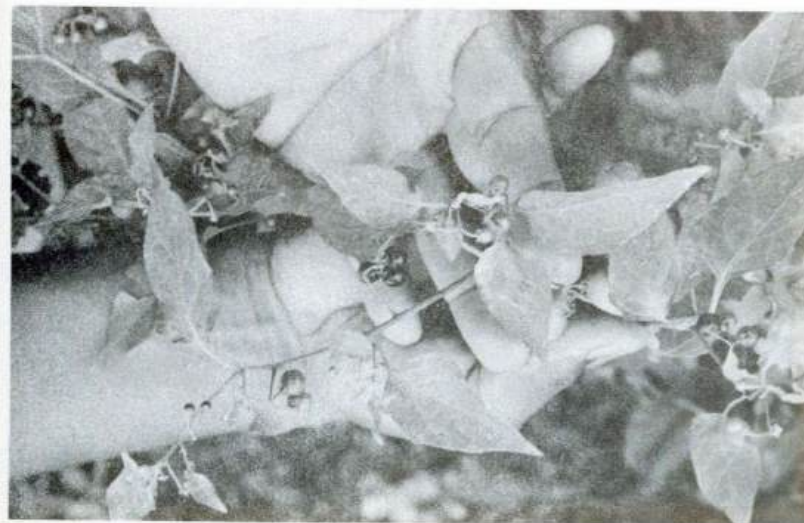
Noni, Indian Mulberry. (*Morinda citrifolia*). Dyes for kapa extracted from different parts of the tree. Fruit used medicinally.



Noni, fruit and leaves.



Pōpolo, black nightshade. (*Solanum nigrum*). Young shoots and leaves eaten as greens. Ripe, purplish/black berries edible. Do not eat green berries, poisonous.



Pōpolo, with berries.



'Ākia,
(Wikstroemia spp.) Bark
fiber used for lashing.
Seeds, leaves, berries,
roots are crushed
and made into hola,
fish poisoning.



'Ākia, close-up of leaves.



Milo, (*Thespesia populnea*). Wood used for bowls.
Other parts used for medicine, gum, dye and oil.



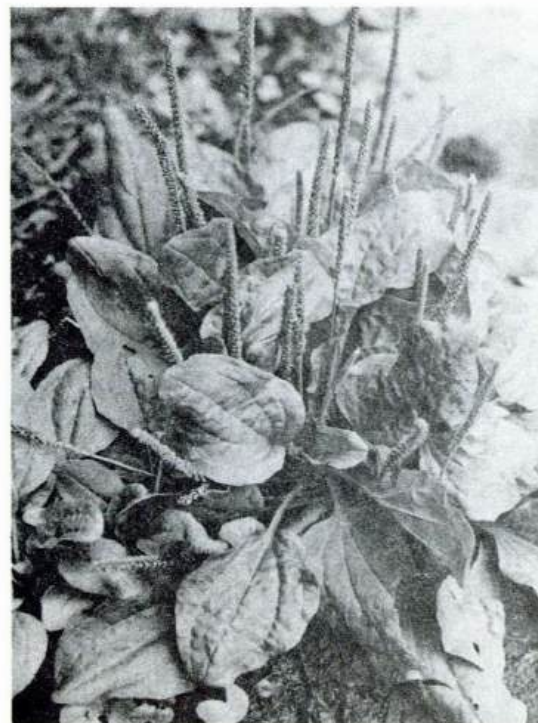
Milo, seed capsule, flower and leaves.



Kamani (*Calophyllum inophyllum*). Hard wood made into calabashes, temple drums.
Also known as kamanu.



Kamani, globular seeds and leaves.



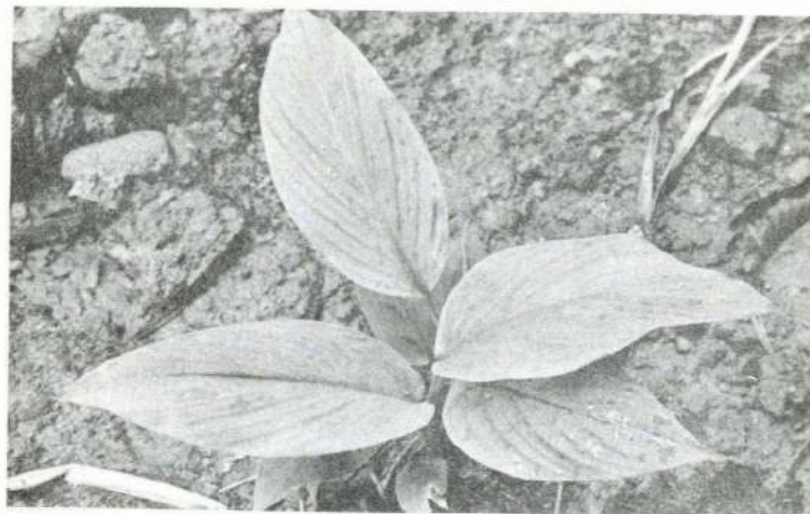
Lau-kāhi, broad-leafed plantain. (*Plantago major*). Used internally and externally for medicinal purposes. Such as diabetes and boil removal.



Kukui, close-up of leaves, flowers, seed.



Kukui, candlenut tree. (*Aleurites moluccana*). Sacred to Kamapua'a, the pig-god. Seeds roasted and made into 'inamona, nuts made into leis, oily kernels used for light. Kapa dyes made from nut, roots. Lei made from flowers and leaves represents Molokai. Sap from green seed used to remove thrush from infants.



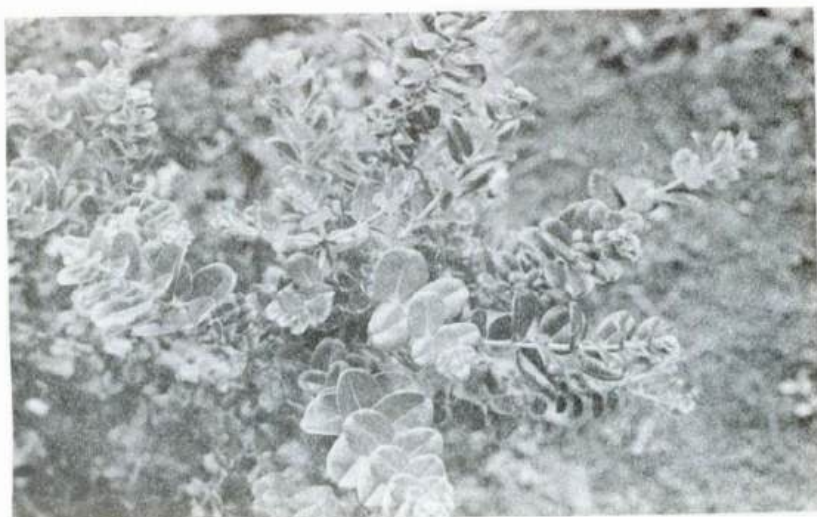
'Ōlena, turmeric. (*Curcuma domestica*). Used to produce an orange kapa dye. Medicinally used for sinus, earache and lung trouble.



Kalo, taro. (*Cococasia esculenta*). Dry-land and wet-land varieties. Cooked corm eaten or pounded into poi, a staple. More than 300 varieties of taro cultivated by the Hawaiians, each with a specific name.



'Ōhi'a-lehua, close-up
of flower and leaves.



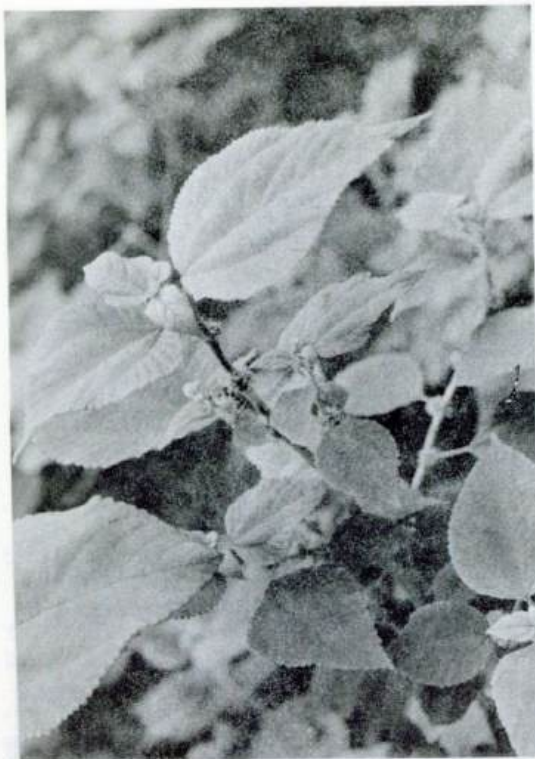
'Ōhi'a-lehua, close-up.



'Ōhi'a-lehua,
(*Metrosideros*
polymorpha, *M. collina*,
M. tremuloides, *M.*
rugosa). Flower sacred
to goddess, Pele.
Color of flowers are
red, pink, yellow and
white. The wood used
for temple images,
spears, mallets, fuel.



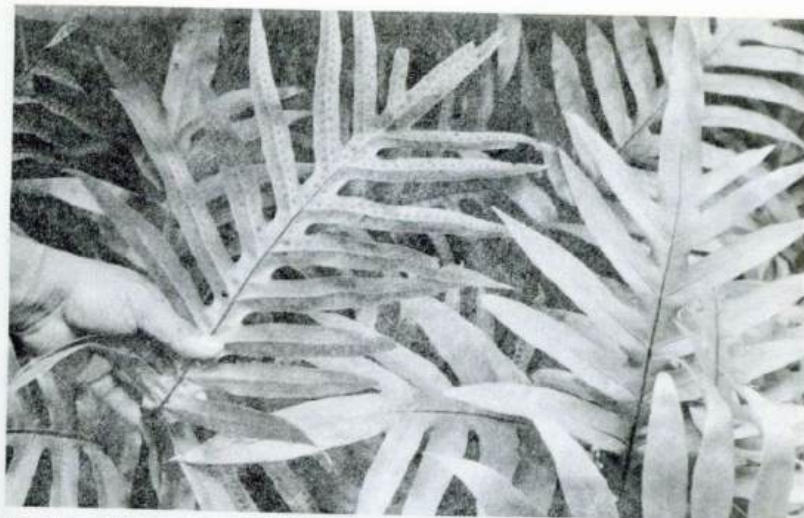
Kō,
sugar-cane (*Saccharum*
officinarum). Many
varieties. Chewed
as confection. Used
medicinally. Also used
in hana-aloha or love
inducement kahunaism.



Māmaki,
leaves, flowers.



Māmaki, (*Pipturus* spp.) Bark made into kapa, inferior to wauke. Young leaves and flowers boiled as tea.



Laua'e, (*Polypodium phymatodes*); a fragrant fern, pieces were strung in hala leis; known also as lauwa'e.



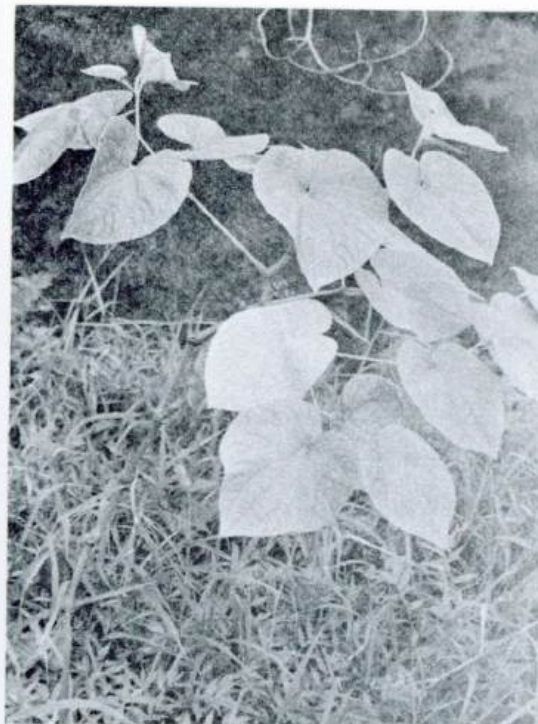
'Ōkupukupu, swordfern. (*Nephrolepis exaltata*); also known as kupukupu, ni'ani'au; can be braided into hat bands.



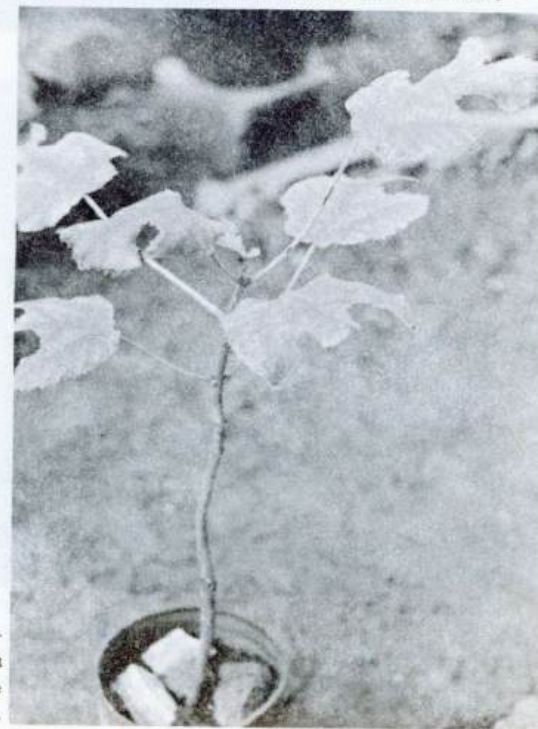
'Ōhi'a-'ai, mountain apple. (*Eugenia malaccensis*). The ripe fruit is edible. The bark and root made into dark brown dye.



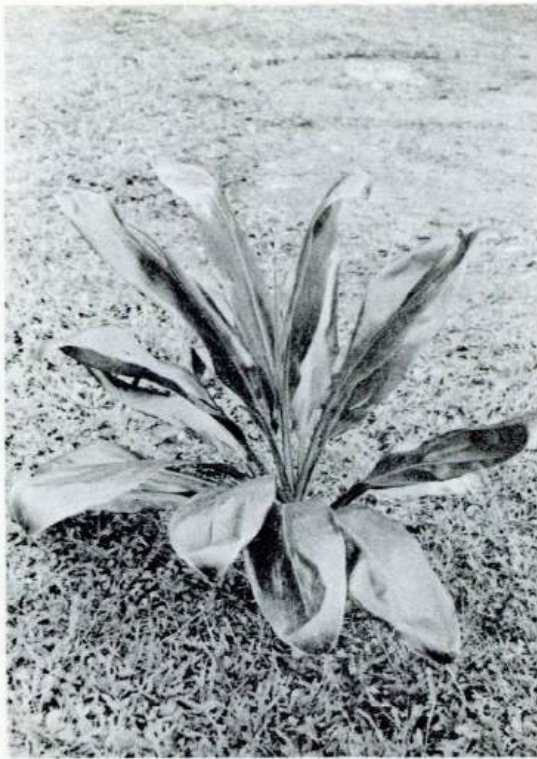
'Ōhi'a-'ai, fruit.



'Awa, kava. (*Piper methysticum*). Used in religious ceremony. When drunk in excess it caused scaliness of skin.



Wauke, paper-mulberry. (*Broussonetia papyrifera*). The bark made into kapa.



Ki, plant.



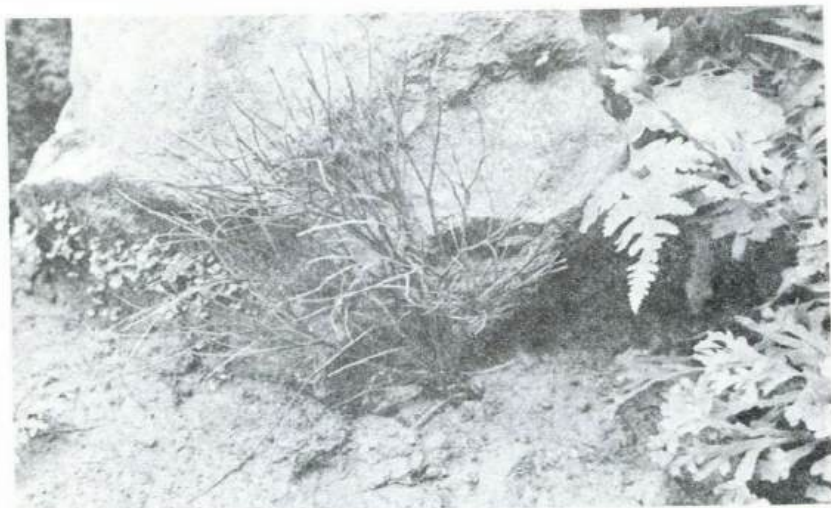
Ki, (*Cordyline fruticosa*). One of the most useful plants cultivated by the Hawaiians. The leaves were made into carrying containers, skirts, sandals, platters, kahili, etc. It was used to exorcise evil spirits. The roots were baked and eaten as a sweet. Young leaf used used as a bandage and cold compress to bring down fever temperature.



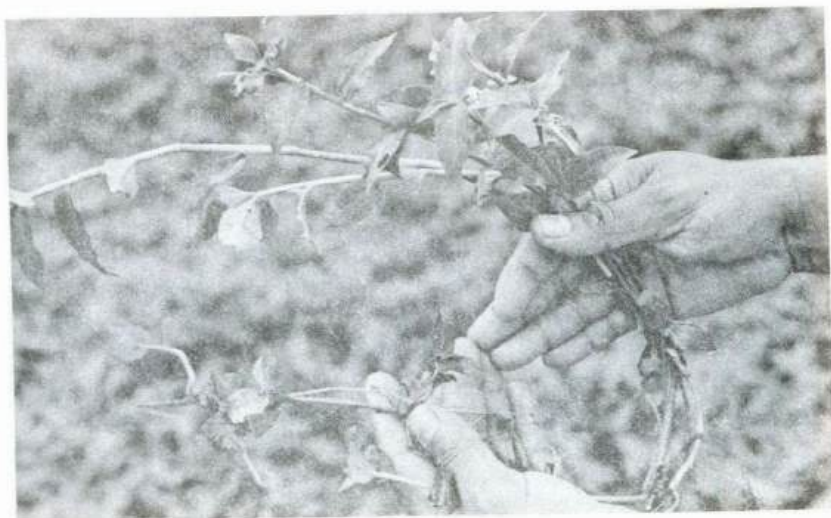
Ki, seeds.



Ki, flowers.



Moa (*Psilotum nudum* and *Psilotum complanatum*), also known as moa-nahele, pipi. Seeds (orange colored, used as talcum. Moa twigs were interlocked and pulled in opposite direction in the game, moa (chicken). The winner with the unbroken twig would crow like a rooster and flap his arms up and down.



Honohono, wandering Jew. (*Commelina diffusa*). Also known as honohono-wai, honohono-'ula, mākolokolo. The sticky sap used to stop bleeding. Used as matting to protect laulau from hot imu stones.



'Ulu, note breadfruit.



'Ulu, breadfruit. (*Artocarpus incisa*). Fruit is cooked and eaten or pounded into poi. Wood of tree made into canoe, images, bowls.



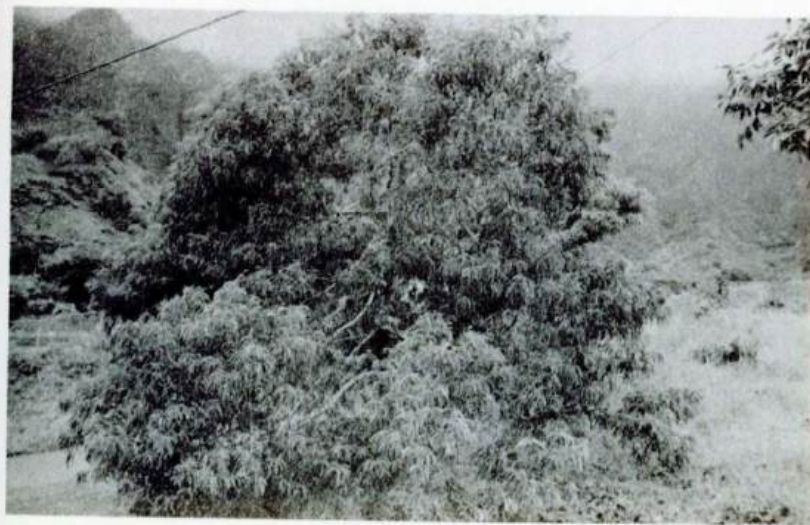
'Ulu,
young leaf shoot.



Mai'a, bananas.
(*Musa paradisiaca*).
Bananas can be eaten
raw or cooked. Many
varieties each with a
specific name. Outer
bark used for plaiting,
cordage and sandals.
Sap from flower-
bud used medicinally.



Koa, infantile compound leaves, with mature crescent
leaves.



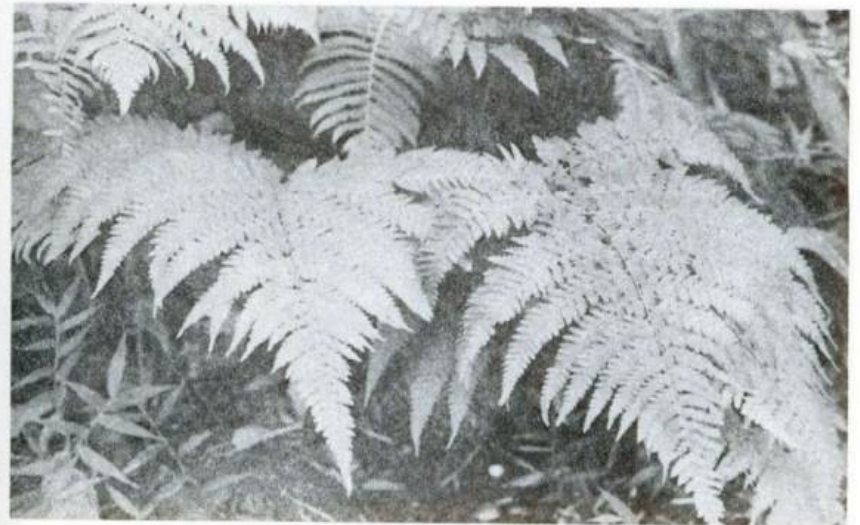
Koa, (*Acacia koa*). Wood used for surf-boards, canoes,
calabashes.



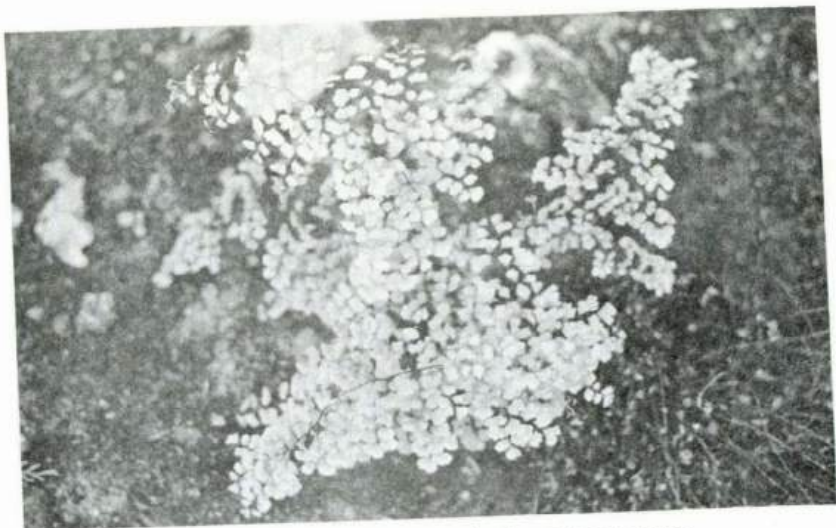
Koa, crescent leaves, seeds, flowers.



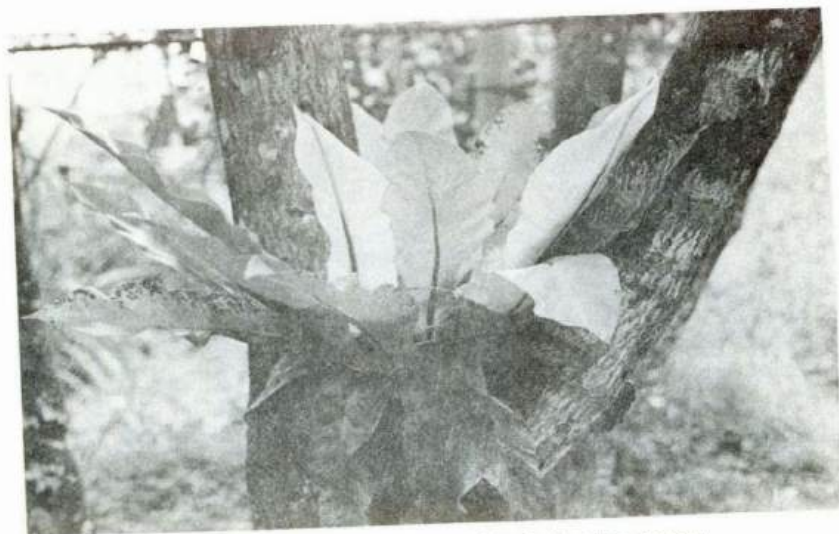
Palai, native fern. (*Microlepia setosa*) Used for braided leis. Offered to hula goddess, Laka. Also known as palapalai.



Palai, close view.



'Iwa'iwa, Maidenhair Fern. (*Adiantum*); the stipes were woven into baskets.



'Ekaha, Birdsnest Fern. (*Asplenium nidus* L.); also known on Maui as Hoe a Maui, literally, the paddle of Maui (demigod)



Hoi, bitter yam. (*Dioscorea bulbifera*). The tubers above are edible only after long washing.



Hoi, close-up view.



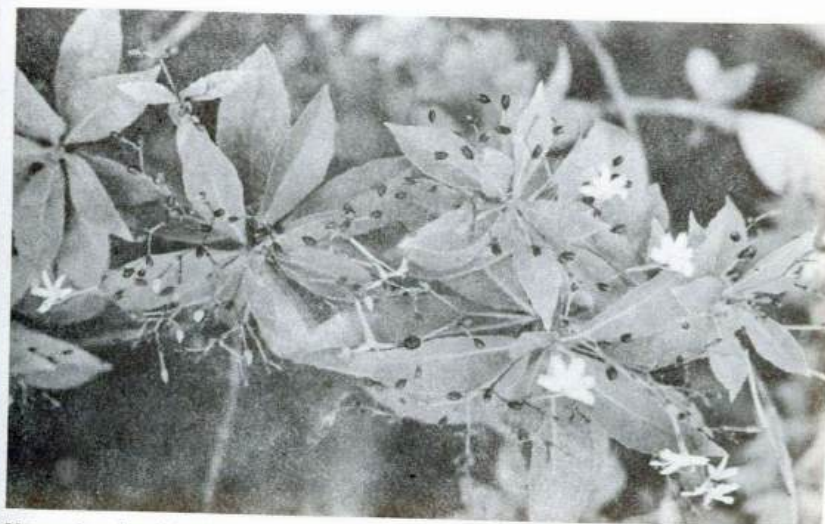
Hoi, bitter yam.
(*Dioscorea bulbifera*)



Pala'a, Lace Fern.
(*Sphenomeris chusana*
L.); also known as
palapala'a. Sacred to
the goddess, Hi'iaka-
i-ka-poli-o-pele,
youngest sister of
Pele. The pala-a was
made into a pa'u and
worn by Hi'iaka. Also
used for medicinal
purposes. Brown
dye was extracted
from the fronds.



Naupaka-kuahiwi, mountain naupaka (*Scaevola*). Purplish/
black seeds made kapa dye.



Naupaka-kuahiwi, seeds, flower, leaves.



'Ama'u - young frond.



'Ama'u, (Sadleria).
Bodyform of Kamapua'a
(hog-god). Pith is
edible when cooked.
Fronds used as
mulch cover for dry-
land taro cultivation.



Uluhe, false staghorn (Sticherus, Dicranopteris, Hicriopteris)
Used in steam baths.



Uluhe, close-up



Maile,
(*Alyxia olivaeformis*),
sacred to goddess
Laka, the hula patron.
Five varieties known:
1. maile-pākaha,
2. maile-lau-lī'i,
3. maile-kaluhea,
4. maile-ha'iwale,
5. maile-lau-nui;
all sisters of Laka.
Maile used as lei.



'Uki'uki, leaves,
seeds and flowers.



Hapu'u,
tree fern (*Cibotium
splendens*). The
starchy pith is edible
when cooked; the pulu
was used to embalm
the dead. Hāpu'u-i'i
(*Cibotium chamissoi*)
has stiff blackish
hair on the fronds.



'Uki'uki, (*Dianella*). Leaves braided into cordage. Seeds
made bluish/purplish dye.



Hawaiian Birds

Forest Birds

1. 'Apapane (*Himatione sanguinea* Gmelin) also known as 'akakane; it is an endemic Hawaiian honeycreeper. Rich crimson red with black wings and tail, white abdomen, and slightly curved black bill. It is found on all the major Hawaiian Islands. 'Apapane feeds on 'ohi'a lehua nectar and on insects high on tree tops. The feathers were used in Hawaiian capes, helmets and leis. Immature birds lack the red, the throat and face may appear orange-orange. (See Figure A)
2. 'O'o (*Acrulocercus nobilis* Merrem) endemic to the island of Hawaii, may be extinct. Acrulocercus bishopi endemic to Molokai and its status is unknown. Acrulocercus apicalis is endemic to the island of Oahu, now extinct. Moho braccatus endemic to Kauai is called 'ō'ō-'ā'ā, recently seen at Alaka'i Swamp. Black honey-eater with yellow tufts under each wing. The yellow and black used in capes, cloaks, helmets and lei of the ali'i. (See Figure B)
3. Mamo (*Drepanis pacifica* Gmelin) endemic honey-creeper with curved bill, black with yellow feathers above and below tail. Drepanis funerea, a Molokai and Maui species, is called hoa and 'o'o-nuku-mū. Mamo feathers were used in featherwork that were highly valued. (See Figure C)
4. 'I'iwi (*Vestiaria coccinea*) long, orange, sickle-shaped beak with brilliant scarlet body. Known also a 'iwi, 'iwi-pōlena, olokele, 'iwi-pōpolo is the term for the immature bird with greenish-yellow and spotted with red or black. 'I'iwi feeds on nectar from the flowers of the 'ohi'a-lehua, māmāne and others. Insects supplement their diet. These birds can be distinguished from 'apapane in that they feed on flowers located in the upper-middle branches instead of high on the tree-tops. Also they feed longer on a single tree than the 'apapane. 'I'iwi furnished most of the bright scarlet feathers for featherwork. (See Figure D)
5. 'Akialoa (*Hemignathus obscurus* Gmelin) olive or yellow-green Hawaiian honey-creeper. The following sub-species are found on Hawaii (obscurus), Lanai (lanaiensis), Oahu (ellisiansus), and Kauai (procerus). Very rare on Kauai, extinct on Lanai, present status unknown on Hawaii and Oahu. The 'akialoa has curved bill used to sip nectar at the base of 'ie'ie and halapepe leaves. Also called kipi, 'akihi-loa. The Oahu sub-specie is known as 'iwi or 'i'iwi. The Kauai 'akialoa has the longest curved bill than those from the other islands.
6. 'Amakihi (*Loxops virens*) dark slightly down-curved bill, yellow-green feathers. The male is bright green above with yellow breast - females are duller. Sub-species are virens (Hawaii), chloroides (Lanai), chloris (Oahu), wilsoni (Maui), kalaana (Molokai) and stejnegeri (Kauai). Kauai sub-species are called alawī, kihi. 'Amakihi are nectar and insect eaters. Often found feeding with the 'i'iwi and 'apapane and distinguished from the latter two in that it feeds through the cutive foliage. The feathers were used in feather capes.



Figure A
'Apapane



Figure B
'O'o



Figure C
Mamo



Figure D
'I'iwi

7. Nuku-pu'u (*Hemignathus lucidus*) brownish-green feather on back and yellow-green below; long curved upper mandible and shorter lower mandible of beak. Subspecies are: lucidus (Oahu), hanapepe (Kauai), affinis (Maui), wilsoni (Hawaii). 'Akihi-po'o-la-au is the name of the Hawaii nuku-pu'u.
8. 'Ākepa (*Loxops coccinea*) Hawaiian honey-creepers in which the male is red-orange and the female green above and yellow below. Also known as 'akepeu'ie. Subspecies are: rufa (Oahu), caeruleirostris (Kauai), ochracea (Maui) and coccinea (Hawaii). Very rare on Oahu and Maui, still exist on Hawaii and Kauai. Kauai 'ākepa known as 'ō'ū-holo-wai.
9. 'Ula-'ai-hāwane (*Clidops anna*) small red honey creeper with black crown, wings and tail and gray neck. May be extinct but believed existing in small numbers.
10. 'Ō'ū (*Psittirostra psittacea*) green finch-like Hawaiian honey-creeper with parrot like bill. Varying shades of green above, lighter below, with a bright yellow head. Fairly inactive birds, difficult to see, seen usually travelling in pairs. Food consist of fruit. Its green feathers were used in cloaks and lei. Also 'ō'ū-lae-o'o, 'ō'ū-po'o-lapalapa.
11. 'Ōma'o (*Phaeornis obscura*) Hawaiian thrush, medium sized gray-brown with no distinctive markings. It feeds on berries from pūkiawe, 'ōhelo and kūkaenēnē with supplemental diet of insects.
12. 'Ele paio (*Chasiempis sandwichensis sandwichensis*) Hawaiian fly-catcher, believed to be a kinolau (multiple body form) of the goddess of canoe-makers.
13. Pueo (*Asio flammeus sandwichensis*) Hawaiian owl
14. 'Io (*Buteo solitarius*) Hawaiian hawk, lives only on the island of Hawaii
15. 'Alala (*Corvus tropicus*) Hawaiian crow, found only in the island of Hawaii (Kona, Kau-Pu'uwa'awa'a)

Sea Birds

1. 'Ua'u (*Pterodroma phaeopygia sandwichensis*), dark-rumped petrel; found only on Maui and Hawaii
2. 'Ua'u kani (*Puffinus pacificus*), wedge-tailed shearwater; also 'uwa'u or ua'u.
3. 'A'o (*Puffinus puffinus newelli*), Newell's shearwater
4. 'Ou (*Bulweria bulweri*), Bulwer's Petrel, also known as 'ou'ou.
5. Koa'e-'ula (*Phaethon rubricauda*), red-tailed tropic bird, inhabits cliffs, long tail feather used in kahili (royal standard).
6. Koa'e-kea (*Phaethon lepturus*), white-tailed tropic bird, inhabits cliffs, long tail feather used in kahili
7. 'A (*Sula sula rubripes*), red-footed booby.
8. 'A (*Sula leucogaster plotus*), brown-vested booby
9. 'A (*Sula personata dactylatra*), masked or blue-faced booby

10. 'Iwa (*Fregata minor palmerstoni*), frigate or man-of-war bird

Fresh-water Birds

1. 'Alae (*Gallinula chloropus sandwichensis*), Hawaiian gallinule or mudhen, also known as koki, 'alae-'ula
2. 'Alae-kea (*Fulica americana alai*), Hawaiian coot, also called 'alae-keokeo.
3. 'Auku'u (*Nycticorax nycticorax*), black-crowned night heron
4. Hawaiian Goose
5. Nēnē (*Nesochen sandwichensis*), Hawaiian goose, found only on Maui and Hawaii

Migratory Birds

1. Kolea (*Pluvialis dominica*), American golden plover, arrives in August, departs in April
2. Kioea (*Numenius tahitiensis*), bristle-thighed curlew, arrives in islands during winter months, also called Kiowea
3. 'Akekeke (*Arenaria interpres interpres*), ruddy turnstone, also called keke, arrives in August and departs in April / May
4. 'Ulili (*Heterosculus incanum*), wandering tattler, arrives in August
5. Hunakai (*Crocethia alba*), Sanderling, spends winter in Hawaii
6. Koloa-mōhā (*Spatula clypeata*), spoonbill or shoveler duck
7. Koloa-māpu (*Anas acuta*), pintail duck
8. Koloa-maoli (*Anas platyrhynchos wyvilliana*), Hawaiian duck

Resource Materials

Munro, George. Birds of Hawaii, Tuttle, 1961

Hawaii Audubon Society. Hawaii's Birds. Hawaii Audubon Society

Buck, Peter H. Arts & Crafts of Hawaii, Bishop Museum Special Publication No. 45, 1957



Some Ancient Sports & Games of Hawaii

HAKOKO

Hawaiian Wrestling

Suitable for boys of all ages.

The pair of players engage in "catch-as-catch-can" type of wrestling. This is done while standing but no other rules are prescribed.

A player scores when he forces any part of his opponent's body except the soles of his feet to touch the ground. If you are brought down with your opponent see that he touches the ground first. The scoring should be agreed upon before the match, so as two throws out of three will determine the winner.

Directions:

Face your opponent. At the signal from the referee use your favorite wrestling hold to get a firm grip on him. When you force him to the ground, or any part of his body except the soles of his feet to touch the ground, you score a point. Continue until a winner is declared by the referee.

HAKOKO NOHO

Wrestling While Seated

Suitable for boys of all ages.

This usually proves to be more of an endurance contest than a form of wrestling.

Directions:

Sit on the mat or play field with your right leg extended in front of you and your left foot under your right knee.

Your opponent does likewise and you move close together so that you put your left hands on each other's right shoulders and your right hands on the left side of each other's waists. In this position your bent left knees are in contact.

Attempt to unseat your opponent by pushing him over sideways with your right hand, aided as much as possible by your left hand. A player is unseated when he is forced over on his side. He usually releases one hand from his opponent and uses it to break his fall.

Unseat him two out of three times and you are the victor.

KAKA LA'AU

Hawaiian Fencing

Suitable for boys of intermediate school age and older.

Each contestant uses a wooden spear or pole six or seven feet long to strike or ward off blows. Broom handles, preferably the hardwood ones from push brooms, may be substituted for

spears. A player scores when he touches any part of his opponent's body, except his head, with his spear. The first player to score ten strikes against his challenger may be declared the winner.

The referee stands at the side facing both players. As the one on the right scores points he holds up fingers on his right hand. He uses his left hand for the player on the left and is able in this way to keep score easily.

Directions:

Grasp your spear near the middle but keep your hands a foot or more apart so that you may use either end of the spear easily.

Approach your opponent at the referee's signal and press the center of your spear between your hands against the same point on your opponent's spear. Repeat this touching procedure three times, then spring back deftly from this contact and you are ready to fence.

Attempt to touch your opponent's legs with the lower part of your spear and his arms and shoulders with the side of the upper part of the spear. Do not thrust with the point. At the same time you ward off his blows as he attempts to touch you.

You score a point when you touch any part of his body, except his head, with your spear.

LOULOU

Pulling Interlocked Index Fingers

Suitable for boys of all ages.

Two players take a firm stand facing each other, lock index fingers, and pull until one lets go or is pulled so far out of position that the referee declares him the loser.

Directions:

Face your opponent and on the signal from the referee lock index fingers of your right hands. (Or left hands if both players are left handed). It is the custom among some players to stand with their right feet in contact during the entire play.

Pull with a straight pull, do not twist or jerk.

You score when your opponent releases his hold or you are able to pull him out of his standing position. Two out of three will make you the loulou victor.

UMA

Hand Wrestling

This game is suitable for boys whose arm bones have developed, probably fifth grade and older.

Directions:

Kneel on a grassy play field or on a sturdy mat. Place your right elbow on the ground or mat and your left hand over your back.

When your opponent has done the same, clasp his right hand firmly.

At the starting signal from the referee, attempt to force your opponent's right hand to the ground while keeping your own elbow firmly on the ground.

You score when you force the back of his hand to the ground or cause him to move his

elbow. When neither seems possible because of evenly matched players, the referee will render a decision, either a draw or a win to the one who showed better technique.

PA UMA

Standing Wrist Wrestling

This game is suitable for boys of fourth grade and above.

Directions:

Players stand facing each other and clasp right thumbs.

At the signal from the referee, try to overcome your opponent's thrust and push his hand or both your hand and his to his chest.

You score when his chest is touched. Two wins out of three should make you the champion.

KULAKULA'I

Chest Slapping

Suitable for boys of all ages.

Directions:

Stand and face your opponent.

At the signal from the referee, slap or push the upper part of his body with your open palms. Of course, you must avoid his thrusts and maintain your balance.

A strong slap on his chest should send him back out of his standing position and score a point for you. Two wins out of three should declare a victor.

IHE PAHE'E

Sliding A Javelin

Suitable for boys from the first grade.

Contestants slide a javelin, from four to six feet long, over a grassy playfield. As a test of skill they attempt to slide it between a pair of stakes placed from four to eight inches apart. As a test of strength they slide the ihe down a long play field.

It may be made in the form of replicas of specimens in Bishop Museum. Or broomsticks, preferably the hardwood ones from push brooms, make satisfactory javelins.

Directions for sliding the ihe between pairs of stakes:

Step up to the starting line, grasp your ihe near the middle and with an underhand thrust slide it along the surface of the grass with sufficient force to drive it between the stakes.

You are the winner if your ihe goes between the stakes a greater number of times than that of your opponent.

Directions for sliding the ihe for distance:

Step up to the starting line, grasp the ihe near the middle and slide it along the grassy course with your greatest possible strength. Mark the spot where it stopped before returning the ihe to the starting line for additional plays.

MOA PAHE'E

Sliding A Dart

Suitable for boys from the first grade.

Contestants slide a torpedo-shaped dart called moa over a grassy play field as a test of skill or strength. Sliding the moa is a greater challenge than handling the ihe as the moa is much more difficult to control. Game darts should be made from the pattern of the original ones in museums. There is no satisfactory substitute for the moa.

The directions are the same as for the ihe pahe'e.

'ULU MAIKA

Disc Rolling

As a test of STRENGTH the players roll the stone discs or maika as far as possible down a smooth course on the playing field.

As a demonstration of SKILL or accuracy the contestants roll the maika between a pair of stakes on a smooth grassy play field. The stakes may be placed three to six inches apart to form the pair. The players may stand from ten to forty feet from the stakes. These conditions should be varied according to the age and skill of the players. The set-up should be difficult enough to challenge the contestants but not made impossible.

A player takes his position behind the starting point which is marked at each end of the 'ulu maika course. A player may attempt to roll one stone between the stakes and then his opponent at the other end of the course retrieves it and rolls it back. If four stones are available, it is advisable to let each player roll four times in succession. His chances for success are often better on the third or fourth attempts which makes the game more enjoyable. His opponent then rolls the four stones back.

Directions for rolling the maika for skill and accuracy:

Determine the number of stones that each player is to roll and the method of scoring as suggested below. The player steps up to the starting line. The stone is held firmly with the thumb and first two fingers around the circumference of the stone. The player stoops over and aims down the course between the two stakes. Sufficient force should be used to carry the stone between and beyond the stakes. A point is scored for each stone that is rolled between the stakes.

Directions for rolling the maika for distance:

Provide each player with one or more stones and mark the starting point. Place the referees some distance down the play field to note where the stones stop rolling. If there are not sufficient stones to allow them to remain on the field until all have rolled, their positions should be marked with ti leaves by the referees and the maika returned to the starting point for others to use.

The player steps up to a point a few feet from the starting line with the stone held firmly between the thumb and first two fingers. He gives added force to his underhanded throw by taking a few short running steps to the starting line. The player who rolls his stone the greatest distance wins a point.

KULA'I WAWAE

Foot Pushing

Suitable for boys of all ages.

Players pair off and sit on the grass or on a mat. Each attempts to unseat the other by pushing against his feet. This game is not interesting unless the players in each pair are the same weight and strength.

Directions:

Sit facing your opponent. Be sure that you are the correct distance from him that your toes and the balls of your bare feet make good contact with his. Your knees should be slightly flexed. Brace yourself by placing your hands flat on the ground behind you and keep your arms stiff.

Push with your feet using a steady thrust or shorter surprise drives.

Your spectators are more entertained by your victory if you are able to push your opponent over on his back with his feet high in the air, or cause him to whirl a quarter turn. You are most apt to score by pushing him and causing him to move even a little along the ground or mat. The referee must be alert to this movement in declaring a winner.

PUHENEHENE

Hiding a Pebble on a Person

The boys and girls comprising each team sit in two rows facing one another. Each team should be kept small enough, five or six, so that they may be hidden under a KAPA, blanket or sheet secured for this purpose. If the team is large, the KAPA must be used as a curtain between the teams, not a cover.

Two referees are needed to handle the kapa. One hands a small smooth stone, the NO'A, to one team. They are then covered by the KAPA and while concealed they hide the stone on the person of one of the players. This done, someone on the team calls 'PUHEOHEO' and the referees remove the KAPA.

The team which is guessing studies the faces of the members of the team having the stone. It is permissible for the persons on this team to look down at the floor or mat so that one of them will not reveal by his features that he has the stone.

The members of the guessing team confer, then touch the shoulder of one with a NI'AU, a coconut leaf midrib, called in this game a MAILE. They score a point if they have indicated the person having the stone. The players agree before hand that the team wins which first earns five or ten points.

NO'A

Hiding a Pebble in Kapa or Sand

This game is suitable for mixed groups. It's an indoor game when played with bundles of kapa or cloth. Out of doors, especially on the beach, it may be played with piles of sand.

Directions:

Divide your groups into two teams; five players on a side are most satisfactory. Sit in two rows facing one another with the five piles of KAPA or sand between the teams.

Decide which side shall play first and select the one who is to hide the NO'A. He takes the

NO'A in his hand, with his thumb holding it against his palm and fingers. With the back of his hand up and the stone hidden beneath, he places his hand in turn under each pile of kapa or sand. He may even return to one or more of the piles but must not prolong this hiding scheme. Sometime during the process he releases and hides the stone.

The guessing team members confer and their spokesman touches one of the piles with the MAILE, a NI'AU or coconut leaf midrib.

If correct, they score a point. The NO'A is retrieved and the guessing side proceeds to hide the stone. The game continues until a score agreed upon before the game, is reached.

PALATE

The Loop and Ball Game

To make the game implement:

Select 9 mature, firm freshly cut NI'AU or coconut leaf midribs from leaflets 28 inches or longer if possible. If NI'AU are slender and pliable, use 12 instead of 9.

Gather these into a tight bundle and wind a strong cord firmly around the base at least 12 times and knot it securely.

Braid the NI'AU from the base to the tip in a 3-ply braid which will produce a flat, firm handle for the PALATE.

Make a loop from the braided tip, using the portion far enough from the tip to form a firm loop which will not bend under the weight of the ball. The loop will be oval, some 3 by 4 inches. Tie the tip to the handle with a dozen or more turns of cord and trim off the free ends of NI'AU.

Make a ball of palm cloth, called 'A'A. This forms at the base of the coconut leaf ('A'A NIU) or a superior cloth comes from the LOULOU or fan palm ('A'A LOULOU). To make the ball, take a sheet of 'A'A at least a foot square, place a very few fragments of the same material in the center as stuffing, then lift up the edges to form a ball about 3 to 4 inches in diameter. It must be slightly larger than the loop of the PALATE and light in weight.

Close the ball by tying it with one end of a cord about a yard long. Use a heavy needle and draw the loose end of the cord through the center of the ball and out the side opposite the tie. This allows the ball to swing with proper balance. Make a needle from a sliver of bamboo, or use an upholsterer's needle.

Attach the free end of the cord to the handle of the PALATE. Note that the loop of the PALATE is not centered but curves to one side. A right-handed player holds the handle so that the loop is toward the left. The string which carries the ball should be so secured that it emanates from the left side of the handle and is just long enough to allow the ball to reach the center of the loop.

To play PALATE:

The object of this game is not merely to catch the ball in the loop, although this may provide enjoyment for younger children. The real challenge comes from holding the handle horizontally and swinging the ball from the bottom of the loop to the top of the loop by describing a complete circle with the ball. With practice, this may be done 50 or 100 times without missing.

A rhythm is set up which establishes the tempo for the following PALATE chant which may be heard on tapes in The Kamehameha Schools Hawaiian Culture Department.

E kau, E kau E 'io E
E pi'i iwai no kaua

Perch, perch, o 'io bird
Go to the upland to get us some water

Ihea ka wai e pi'i ai?
I uka wale o Nini'ole
He aha ka la'au e kau ai?
He 'ohi'a la a he lama
O hele ka hoku, ka malama,
Kau pu me ka mahina-hina
Na wai ke ahi kau 'ui 'uike?
Na Pele ma i Kilauea.

Where shall I find the water?
In the far upland of Nini'ole.
On what trees shall I perch?
On the 'ohi'a and the lama
Set the stars, the night lights shone
And the dim moon above
Whose light is blinking yonder?
It belongs to Pele's family at Kilauea.

KONANE

Hawaiian "Checkers"

The KONANE board or stone, called PAPAMU, is constructed with rows of slight depressions to mark the positions of the playing stones. The number of positions varies greatly on the PAPAMU, but boards made with rows of 8 by 8 or 10 by 10 indentations are popular with the present day players. For the PAPAMU with 8 rows of 8 positions, the players would need 64 small stones called 'ILI.

The 32 black 'ILI, usually beach-worn lava pebbles, may be referred to as 'ELE'ELE or 'ELE, (black). The 32 white pebbles, beach-worn coral bits, may be called KE'OKE'O or KEA (white).

The two players sit opposite each other and place the stones on the PAPAMU which is on the floor or table between them. All of the positions are filled alternately with the dark and light pebbles.

The players agree that one of them shall pick up a dark and a light stone from near the center of the PAPAMU, then hold them behind his back while he places one in each hand. He then presents his hands to his opponent with one stone concealed in each. His opponent touches one hand and in this manner selects the color of the stone with which he shall play. The two stones are not returned to the board but placed beside the PAPAMU in a convenient place which will become the discard pile for all stones removed.

As the game begins, note that the object of KONANE, according to these rules, is to maneuver one's opponent into a position where he is unable to complete a play. The winner is not the one who has removed the most stones or has the smaller number remaining after jumping has ceased. However, these may be considered variations of the game if such rules are agreed upon at the beginning.

The player who selected the black stone moves first. Since there are two empty positions on the board, he moves a black stone over a white one into an empty place and removes the white stone. All moves are made by jumping over one or more of the rival's stones, providing that there is a vacant position to move to and that the stones are separated by just one vacant position. However, a player may jump over one stone and decline to move over a second even though the play is possible but probably not to his advantage.

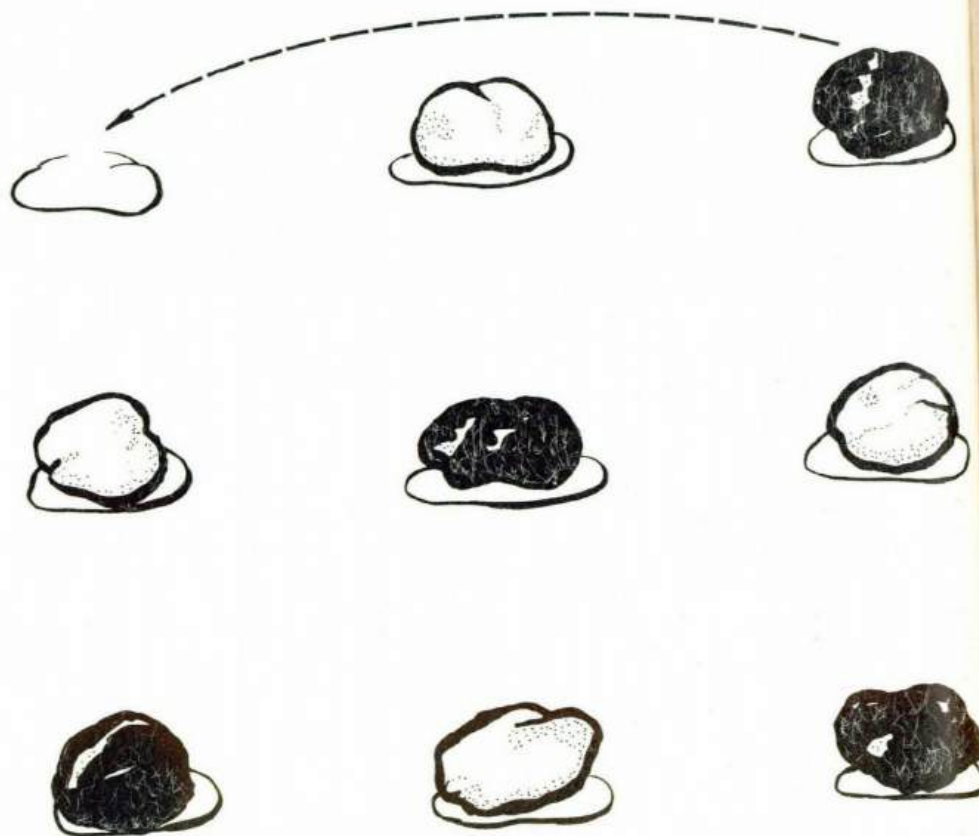
Jumping must be towards or away from the players, or to the right or to the left. A player can never move in two directions in one play and never diagonally.

As the game proceeds, there will be fewer and fewer chances to move. When, at last, a player is unable to jump in turn, the game is ended and the blocked player loses.

For a second game, the player who used the black stones plays with the white ones, and they continue to alternate the color of playing stones with each game in a series.

KONANE

Hawaiian "Checkers"



Taken from "Resource Units in Hawaiian Culture"
By Dr. Donald D. Mitchell
The Kamehameha Schools Press, 1972

'ALO-IA (Dodging)

By Richard Paglinawan April, 1970

Translation: 'ALO-IA -- to dodge, evade, elude, avoid (MKP/Elbert, 1957)

Dodging thrown missiles or projectiles (i.e. spears, ihe; slingstones, ma'a) and thrusts or strokes from ihe, pololu, ikoi, and la'au was a must for the Hawaiian warrior during combat. Sham battles and games helped develop skills in these martial arts.

'ALO-IA, a game, eliminated the chance of injury among participants and was designed to promote team participation and competition as well as opportunity to display individual skill and adeptness.

'ALO-IA is a game suitable for boys and girls, ages 10 and older. Adults also will enjoy this game.

'ALO-IA EQUIPMENT - Consists of two (2) cloth balls, one marked, the other unmarked. These balls are about the size of a closed fist. A sewn cloth bag filled with haole koa seeds or other materials or rolled cloth rags taped into a ball will do. Different colored socks filled with soft material will do also. Note: The padded ball should have some weight so that it could be thrown for a considerable distance. However, it should not be too compact so that injury will not occur upon contact with the body.

PLAY AREA: Select a relatively level playing area free from depressions and obstructions. Area should be large enough to permit mobility of running and dodging participants.

REFEREE: It is best to have a referee to officiate the game. He is responsible to commence the game, keep the game moving continuously until it ends, and determines the eligibility status of the participants. He also announces and declares the winner of the game.

RULES GOVERNING 'ALO-IA:

1. The official referee's decision is final.
2. The referee may stop the game for the following reasons:
 - a. Safety reasons
 - b. Clarification of game
 - c. Determining eligibility status of participants
3. An eligible player is anyone:
 - a. Who has not touched his team ball, or
 - b. One who has his team ball in his possession, or
 - c. One who had touched his team ball and no longer has it in his possession.
4. An ineligible player is anyone who has been hit with his opponent's ball because he met the qualifications as specified under 3, b and c. He must "sit-out" the game till it is concluded.

5. "Hit" or ma-ke means that an eligible player under 3, b and c is struck with his opponent's ball. Any part of his body when struck by the ball scores a "hit".
6. "Double-hits" or ma-ke elua means both balls strike their opponents simultaneously. Both players are then ineligible to participate in the game.

DIRECTIONS

Two teams are created by dividing the participants equally. Team "A" is given a marked ball; Team "B" an unmarked ball.

Each team will go into a huddle opposite each other. In the huddle, the ball is hidden by a teammate (i.e. under the malo flap, t-shirt, etc.)

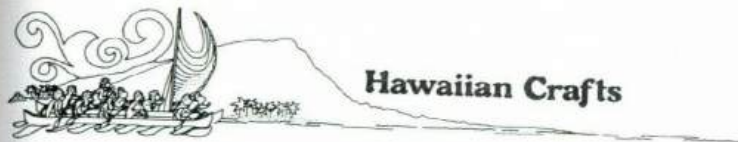
The teams are instructed by the referee to break the huddle and to disperse themselves among their opponent's ranks.

The referee will sound the following: "Ekahi, elua, ekolu -- 'ALO-IA!'" (Literally; one, two, three -- dodge!)

The balls are immediately exposed from its hiding place and is held high for all to see. Opponents with the balls will face each other -- the dodging starts!

Skill is demonstrated in the ability to outthrow an opponent and thereby scoring a hit; feinting so as to make his opponent release his ball and thereby dodging, leaping or jumping, or ducking the thrown ball. Chasing an opponent or opponents as defined under 3c is also part of the excitement.

The game ends when all participants of a team are "hit" or ma-ke. The referee will declare the winner.



Hawaiian Crafts

LEI

by Jun Tsusaki and Lydia K. Kaopuiki

PLAITING

by Lydia K. Kaopuiki

LOMILOMI STICK

by Naomi Kalaauokalani

COCONUT SHELL

by Lydia K. Kaopuiki

TI-LEAF

by Richard Paglinawan

KI'I (PETROGLYPHS)

by Richard Paglinawan

STONE

by Jun Tsusaki and Lydia K. Kaopuiki

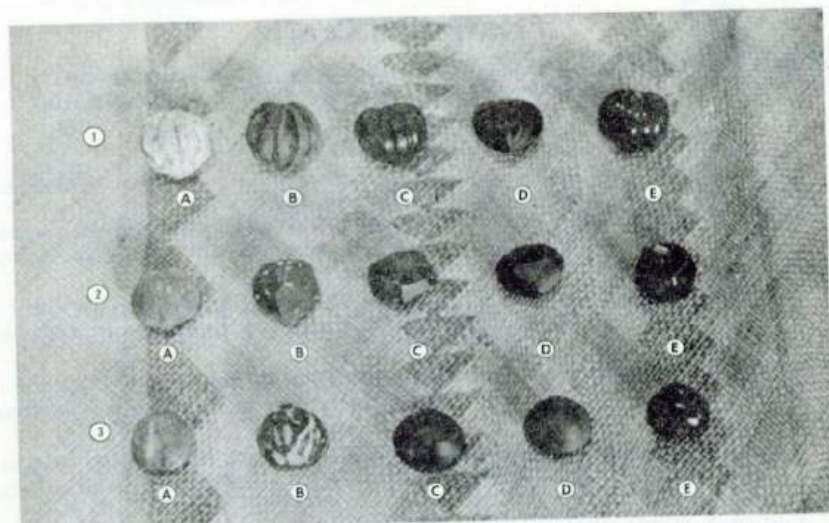
THATCHING

from Sir Peter Buck

KAPA MAKING IMPLEMENTS

by Richard Paglinawan

LEI CRAFTS



Kukui Nuts, Process in Making Lei

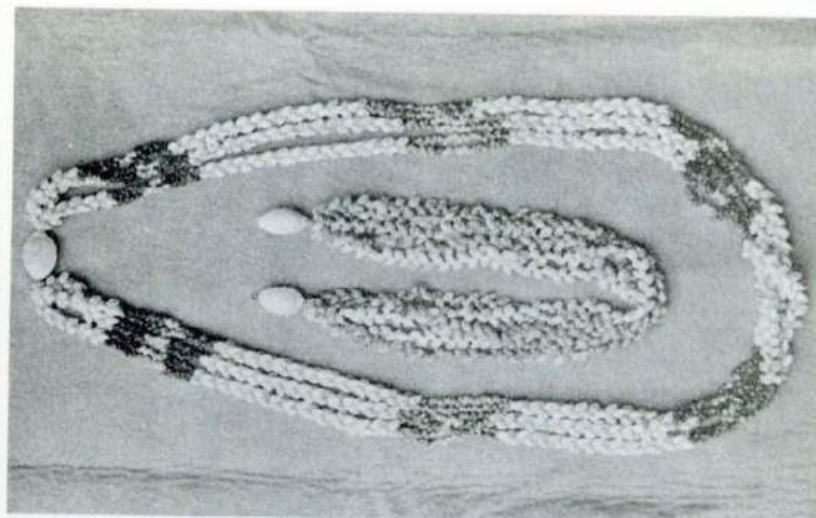
1. Grooved A - Natural Nut with high ridges. B-E - Different steps
2. Faceted A - Natural Nut with rounded ridges. B-E - Different steps
3. Rounded A - Natural Nut with no ridges. B-E - Different steps

From Jun Tsusaki Collection

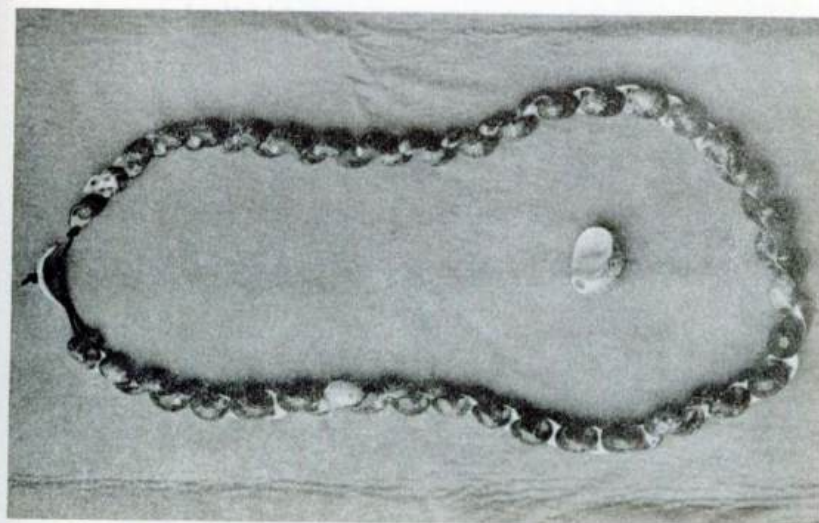


Kukui Leis
1. grooved
2. faceted
3. rounded

From Jun Tsusaki Collection

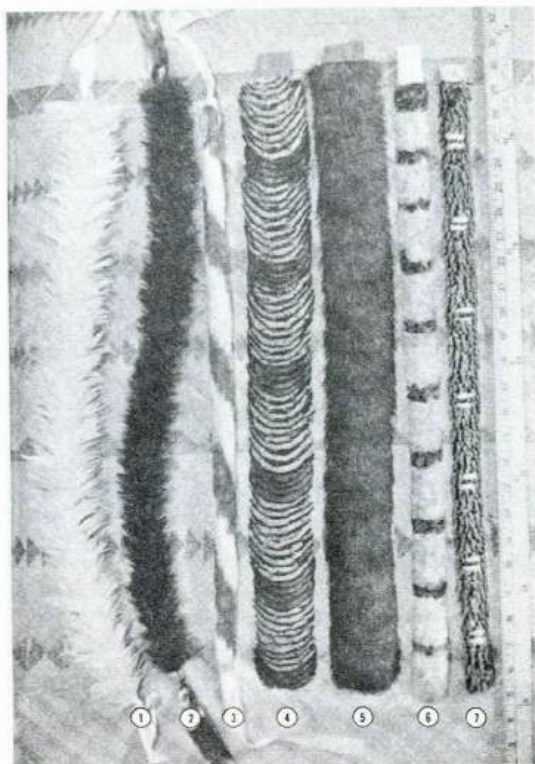


Lei Pupu Ni'ihau
Famous Ni'ihau Shell Leis



Lei Kupe'e (Nerita polita)
Shell Lei

From Lydia K. Kaopuiki Collection

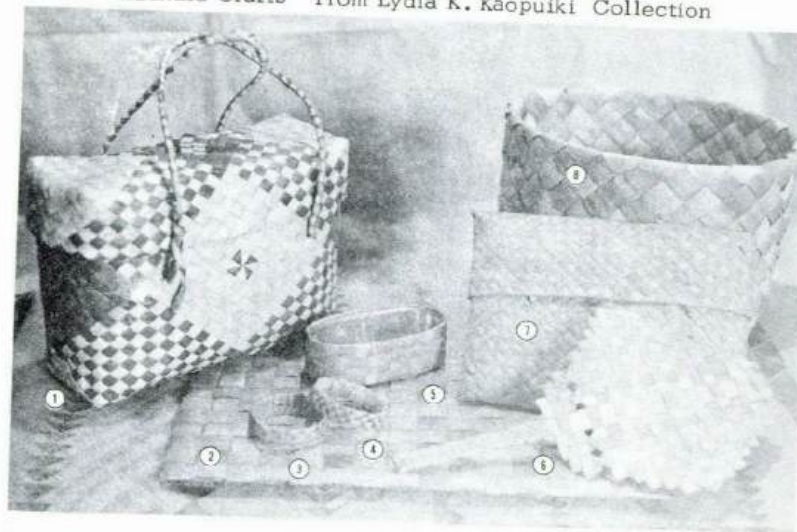


Feather Leis For Neck, Hat Bands

1. Neck lei, duck feathers, dyed (yellow)
2. Neck lei, duck feathers, dyed (black)
3. Neck lei, duck feathers, dyed (yellow/red)
4. Hatband, pheasant feathers
5. Hatband, peacock feathers
6. Hatband, pheasant feathers
7. Hatband, pheasant feathers

From Lydia K. Kaopuiki Collection

Lauhala Crafts PLAITING CRAFTS
From Lydia K. Kaopuiki Collection



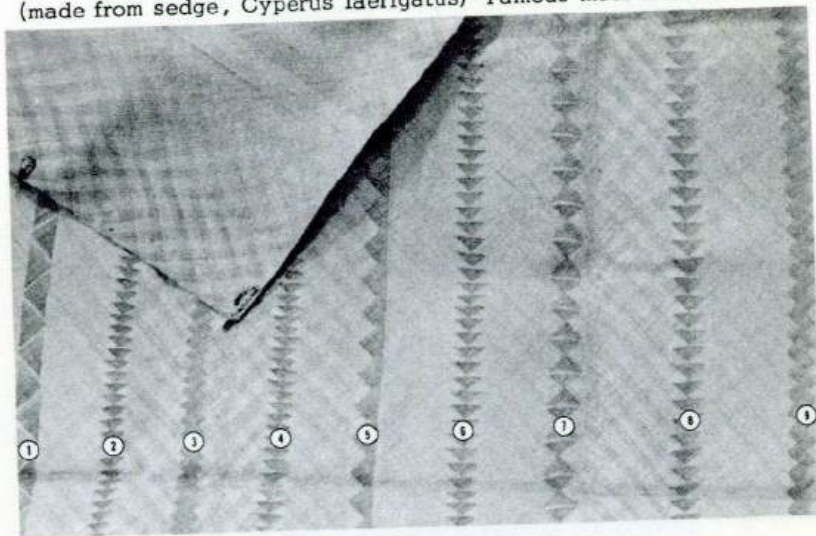
- | | |
|------------------------------------|------------------|
| 1 - purse | 6 - fan (pe'ahi) |
| 2 - place mat | 7 - purse |
| 3, 4 - bracelet | 8 - basket |
| 5 - ashtray holder with can inside | |

Lauhala Crafts



- 1 - lauhala leaf, softened and in a roll
- 2 - lauhala strips for plaiting
- 3 - beginning of a hat (papale).

Makaloa Mat
(made from sedge, *Cyperus laerigatus*) Famous mats from Ni'ihau



Motifs (Names)

1 - Ke'eke'e

2, 4, 6, 8 - pua hala

3, 9 - olowahia

5 - kuhanu

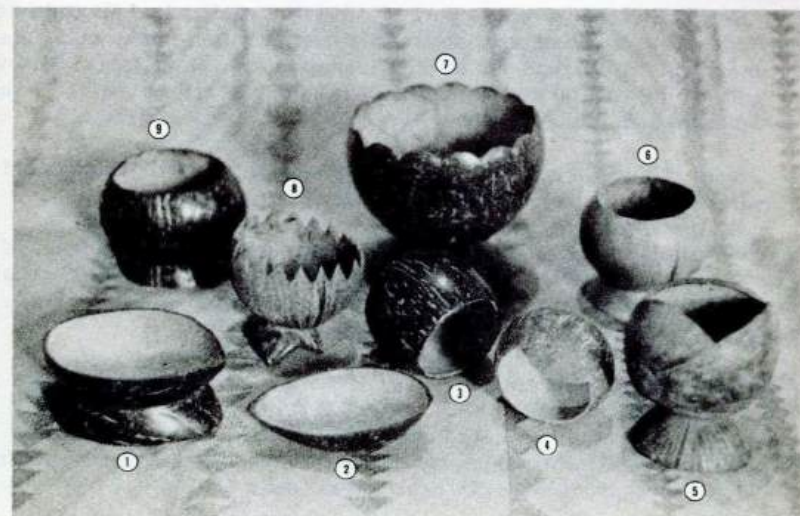
7 - humuniki



Lomilomi Stick

(used for massage)

Coconut Crafts



1 - food platter; 2 - medicinal cup; 3, 4 - bracelets;
5, 6, 7, 8 - cup containers

TI LEAF CRAFTS

by Richard Paglinawan

TI LEAF SKIRT

Background

A uniquely interesting hula costume is the ti leaf skirt. Ti leaf skirt, as a part of a hula costume, is of relatively recent origin in Hawaii's history. Traditionally, dancers used either the pau or kikepa made of tapa.

The grass skirts such as we see today were introduced to Hawaii by the Gilbert Islanders who had come as laborers to Hawaii. Hawaii lacked the materials used by the Gilbert Islanders for their native grass skirts. Taken by this costume, the Hawaiians improvised with the materials they had on hand, the ti leaves. The ti leaves once knotted on a cord was stripped to simulate the grass of the original grass hula skirt.

Material

1. Ti leaves. Number of leaves depend upon waist measurement. If leaves are to be purchased, two to four bundles may be needed, depending on thickness of leaves and individual's waist measurement.
2. Cordage of sufficient length to encircle waist, plus enough extra to tie on skirt.

Preparation

1. Each leaf and stem should be cleaned.
2. "De-bone" leaf. Remove part of mid-rib to make leaf flexible and pliable. To "de-bone", about half way down the back, dull side of leaf, cut or nick mid-rib so that it stands away from leaf. Remove mid-rib by pulling away from leaf, from cut to end of stem. Do not split leaf in half.
3. Stems should be trimmed at both edges so that it will lie flat and be pliable.

In each type of ti leaf skirt it will be easier to tie on the ti leaves if the cord is stretched taut between two uprights. In tying cord to uprights be sure that cord length is sufficient to encircle waist, plus extra to tie on, i.e., 24 inch waist: add 12 inches, 6 inches on both sides.

Care of Skirt

All ti leaf skirts may be kept for several weeks in the refrigerator. Following use, wrap in wet towel or newspapers, roll up, and place in refrigerator.

Types of Ti Leaf Skirts

There are three different types of ti leaf skirts. Step by step instructions of the three types, its knotting techniques with illustrations are described in the following paragraphs.

Type 1. (Illustration # 1) An older type of skirt, the knots at cord edge will be large.

- Steps:
1. Waist length cord, tied between two up-rights.
 2. Ti leaf, shiny side forward, place leaf in front of the cord.
 3. Bend stem over cord.
 4. Bring stem forward to front of cord.
 5. Stem crosses, right to left, front of stem.
 6. Pull stem through loop formed in back of stem.
 7. Pull end of stem upward, back of cord.
 8. Pull to tighten.
 9. Repeat until desired length is achieved, placing each knot as close to the next for close fit and fullness.
 10. After all leaves are tied on, protruding stems may be trimmed to about two inches.
 11. The leaves may then be cut to desired length and stripped to simulate grass.

Type 2. (Illustration #2) This is the same skirt as described in Type 1, except that the knot is smaller and skirt is fuller.

- Steps:
1. Prepare ti leaves as previously described. However, in this case, split stem portion in half.
 2. Prepare cordage, waist length, tied between two up-rights.
 3. Shiny side of leaf forward, loop both halves of stem over cord.
 4. Holding left half of stem down, use only right half to form knot.
 5. Repeat Steps 4 through 9 as in ti leaf skirt Type 1.
 10. Trim excess stems. (Half of stem will extend above cord, half of stem will extend down into skirt) about two inches.
 11. Trim leaves to desired skirt length and strip leaves to simulate grass.

Type 3. (Illustration # 3) This skirt is of modern design, lying flat at waistline without bulky knots.

- Steps:
1. Cordage tied between two up-rights.
 2. Second set of cord. This cord must be twice the waist length, plus 12 inches, 6 inches on both sides.
 3. At loop end of second cord, tie knot about six-eight inches from end.
 4. Shiny side forward, loop stem over cord, that is between up-rights. Stem should now be doubled, with end of stem extending into leaf.
 5. Place knotted end of second cord at edge of ti leaf. This cord should be placed slightly above leaf portion at beginning of stem.
 6. Twist, cut end of cord, right to left. Do not knot.
 7. Add more leaves until desired length is achieved.
 8. Always twist cord after each leaf, always twist in the same direction.
 9. At last leaf, knot end instead of twisting.
 10. Trim skirt to desired length, strip leaves.
 11. When secured at waist, both upper cord and lower cord need to be tied.

PAU-LA-I
(Hula Skirt)
Knotting Techniques

Illustration #1

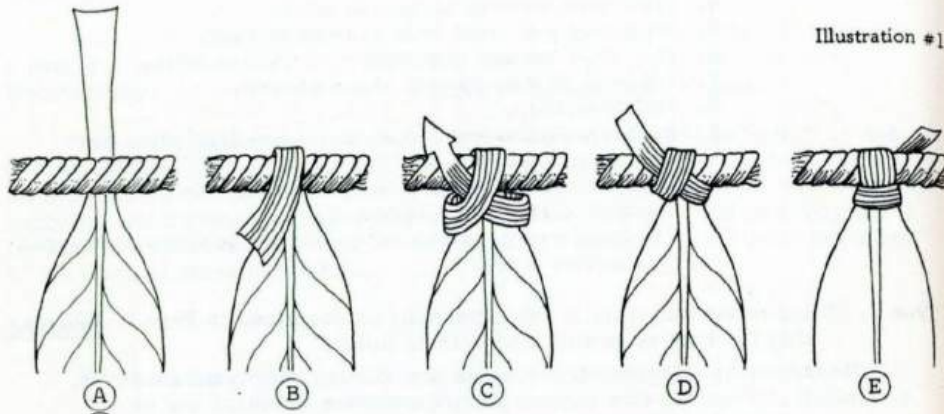


Illustration #2

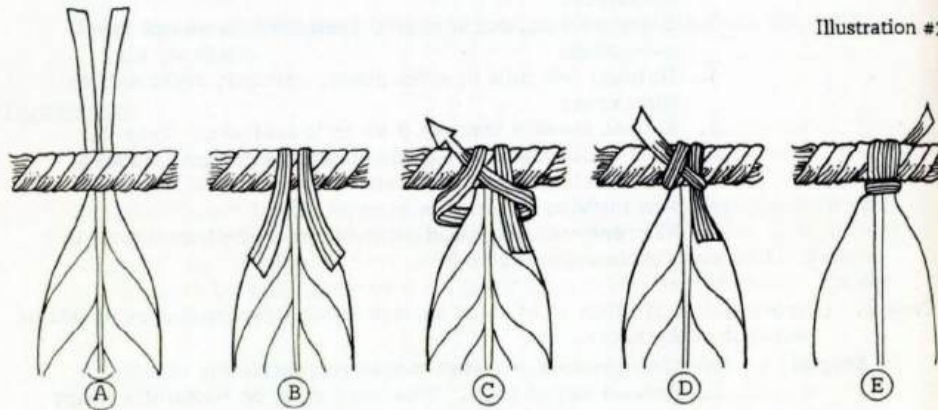
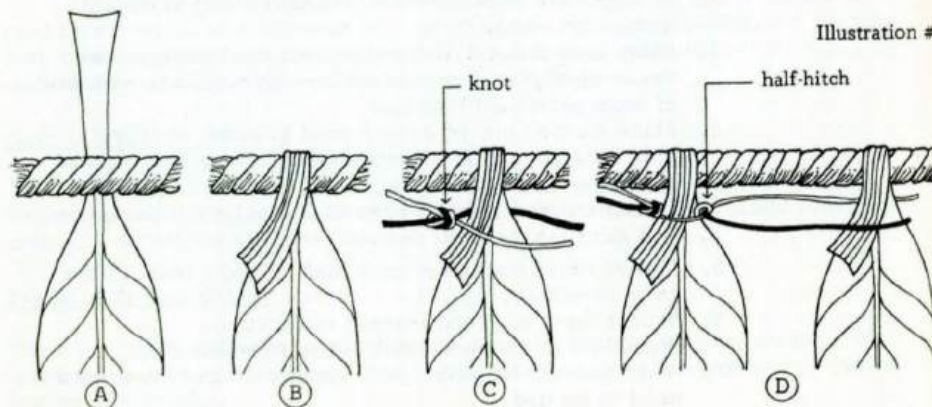
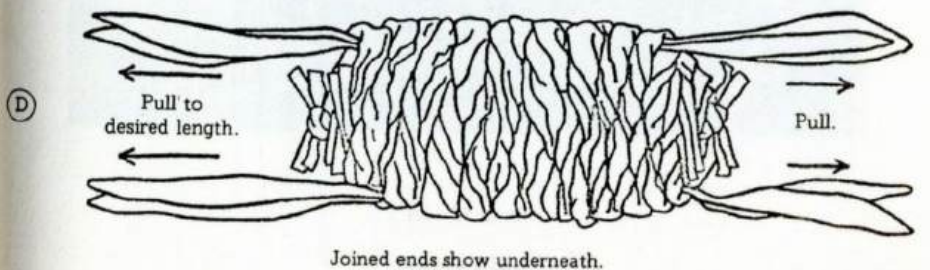
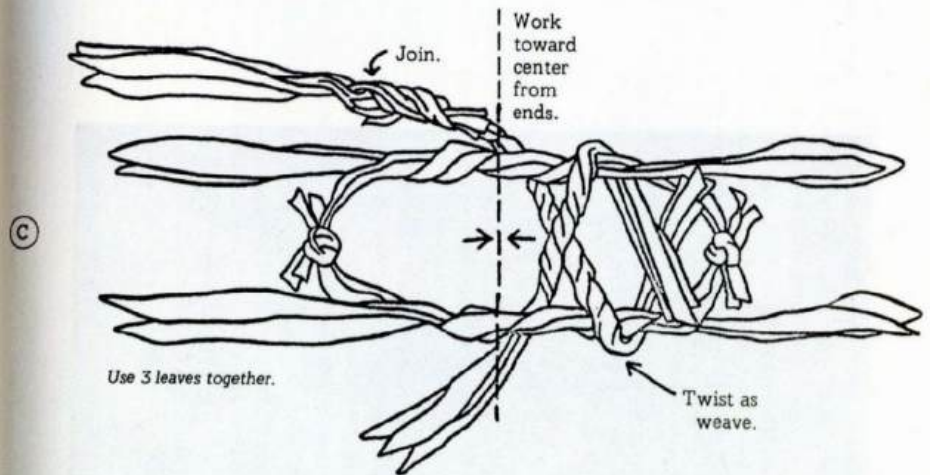
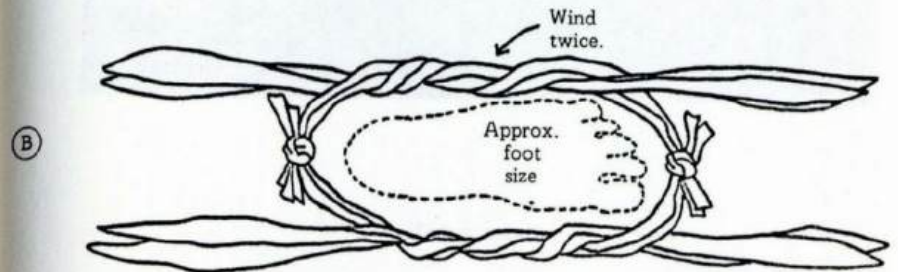
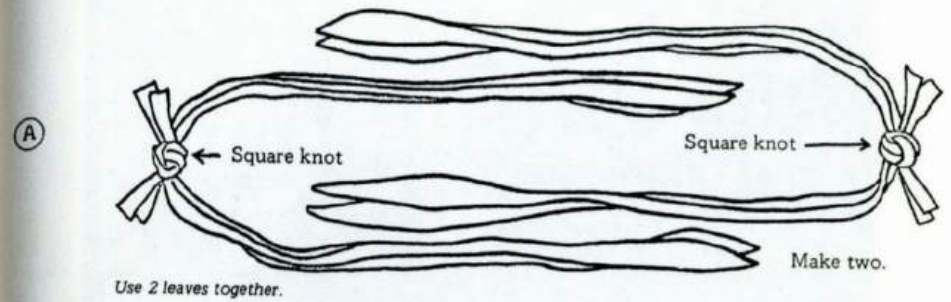


Illustration #3



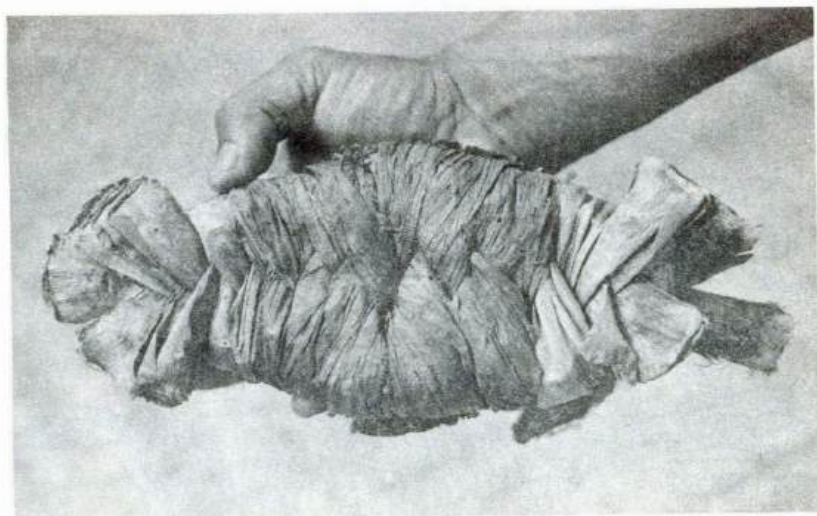
TI LEAF KAMA'A LA'I (SANDAL)

Use 20 long dried, soaked leaves.





Kama'ā La'i



Kama'ā La'i
(top view)



Kama'ā La'i

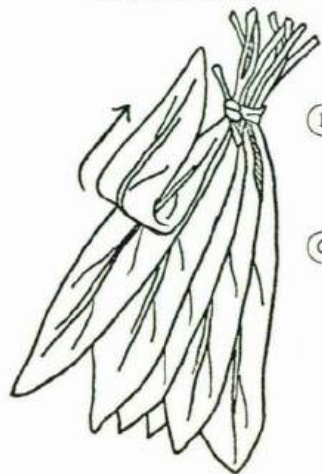


Kama'a Lauhala

TI LEAF PU'OLOS (CONT.)
(*Cordyline Terminalis*)

3. Lei Carrier
Use 6 - 8 de-boned and 2 dried leaves.

- (A) Lay leaves on each other, shiny sides down. Tie.



- (B) Bring leaves up to top, overlapping as you go.

- (C) Insert lei before done.

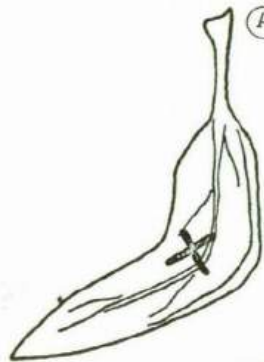
- (D) Tie as in stalk pu'olo.



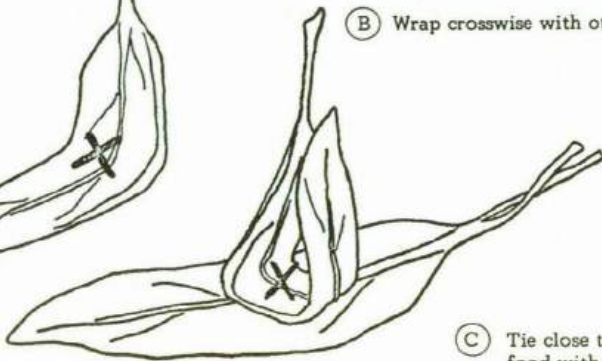
B. For Cooking
(Always use clean leaves!)

1. Laulau (for meat, fish)
Use 2 de-boned leaves.

- (A) Place food in leaf.



- (B) Wrap crosswise with other leaf.



- (C) Tie close to food with de-boned end.

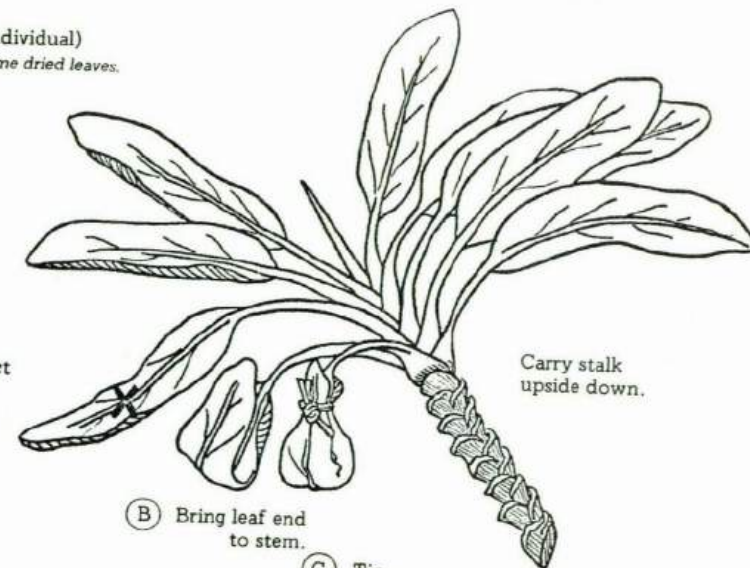


TI LEAF PU'OLOS (BUNDLE)
(*Cordyline Terminalis*)

A. For Carrying

1. Whole Stalk (individual)
Use fresh stalk, and some dried leaves.

- (A) Place object in leaf.



Carry stalk upside down.

- (B) Bring leaf end to stem.

- (C) Tie. Tuck sides.

2. Whole Stalk (complete)
Use fresh stalk and 2 dried leaves.

- (A) Tie stalk at stem base.



- (B) Bring leaves up over tie, overlapping as you go.

- (C) Insert object before done.

- (D) Tie with other dried leaf.

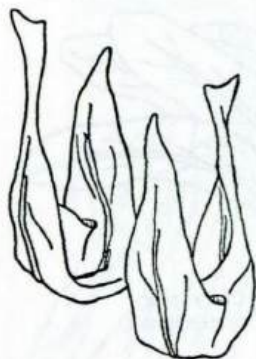


TI LEAF PU'OLOS (CONT.)
(*Cordyline Terminalis*)

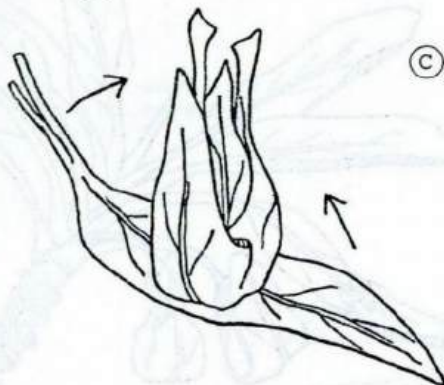
2. Pi'ao Wrapping

Use 2 leaves and 1 de-boned leaf.

(A) Wrap food in two pi'ao.



(B) Wrap crosswise with third leaf.



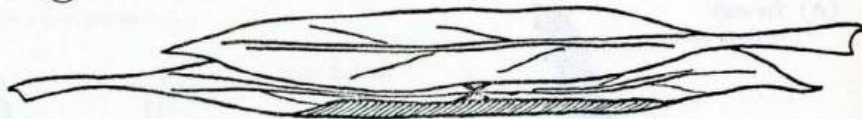
(C) Tie with de-boned end.



3. Lawalu (for fish)

Use 2 leaves and 4 de-boned leaves.

(A) Place food between shiny sides of two leaves.



Wrap sides around food.

(B) Wrap diagonally with de-boned leaf.



(C) Do same with other leaf in other direction.

(D) Tie de-boned ends close to food.

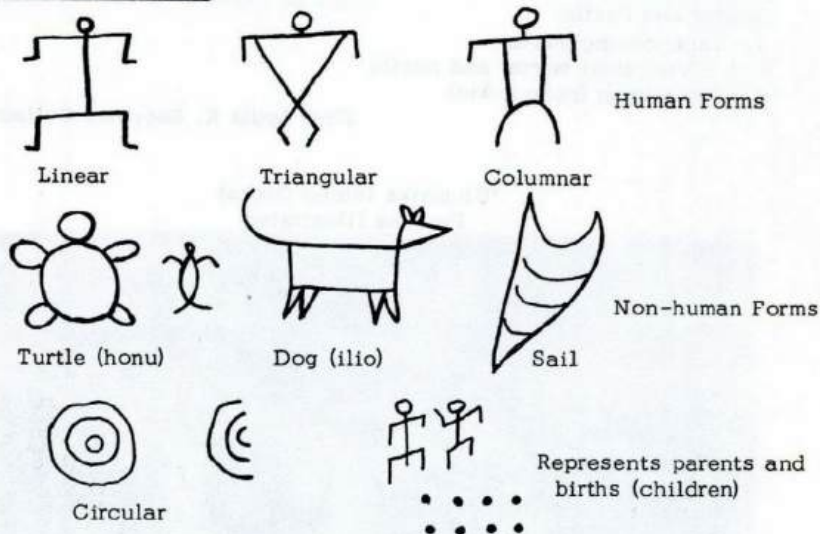


KI'I (PETROGLYPHS)

DISTRIBUTION:

Island	Location
Oahu	Kapena Falls, Nuuanu; Kalaepohaku, Kokohead; Moanalua, Moiliili, Sunset Beach
Hawaii	Puuloa, Puna; Puako, Kawaihae; Kamoamoa, Puna; Kahaluu, Ka'u
Maui	Haleakala Crater, Olowalu, Lahaina, Kaupo, Nuu, Kahakuloa
Lanai	Lauhiwa, Palawai Basin, Kaunolu Village, Kaunolu; Kuahulua, Kaumalapa'u Bay, Piliamoe, Koi gulch
Kauai	Wailua Beach, Keonelo, Poipu
Molokai	Specific location unknown

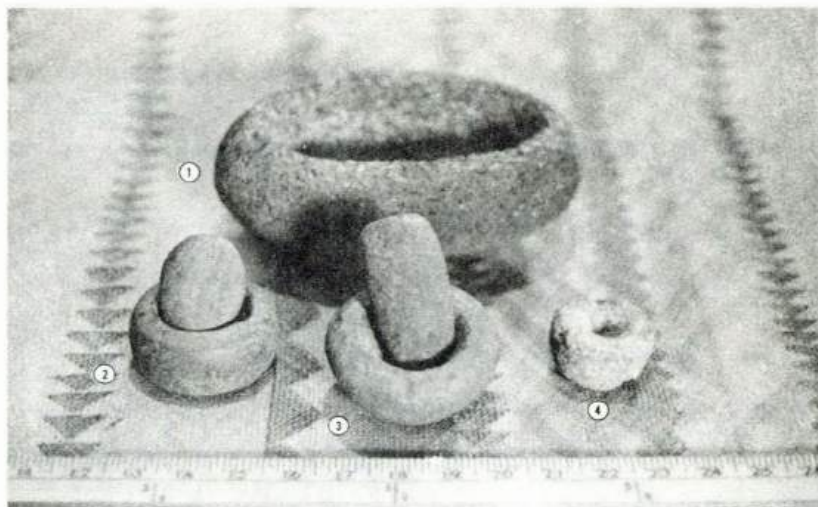
KI'I REPRESENTATION (Types):



PETROGLYPH RUBBINGS:

Use cloth, paper, etc., and lay it flat over the Ki'i. Choose colored crayons to outline petroglyph. Use petroglyph rubbings/designs as pictures, letterhead, decorations, etc.

STONE CRAFTS

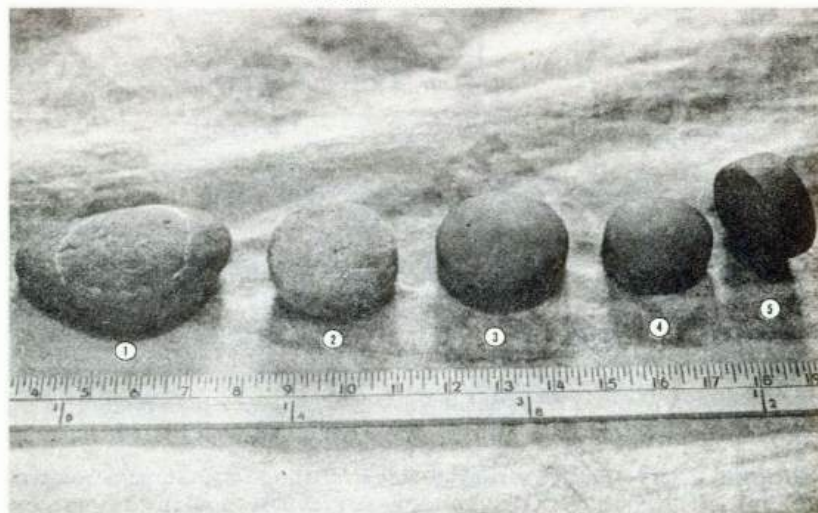


Mortar and Pestle

- 1 - Tapa-dyeing mortar
- 2, 3 - Medicinal mortar and pestle
- 4 - Stone lamp (poho kukui)

From Lydia K. Kaopuiki Collection

'Ulumaika (Stone Disks)
Process Illustrated

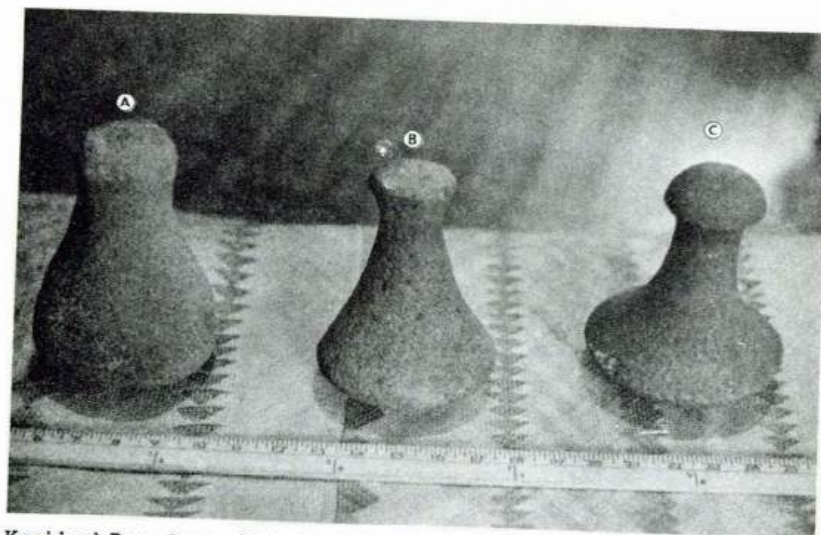


- 1 - Natural Stone, marked with chalk; outer circle to be eliminated
- 2 - Rough 'ulumaika

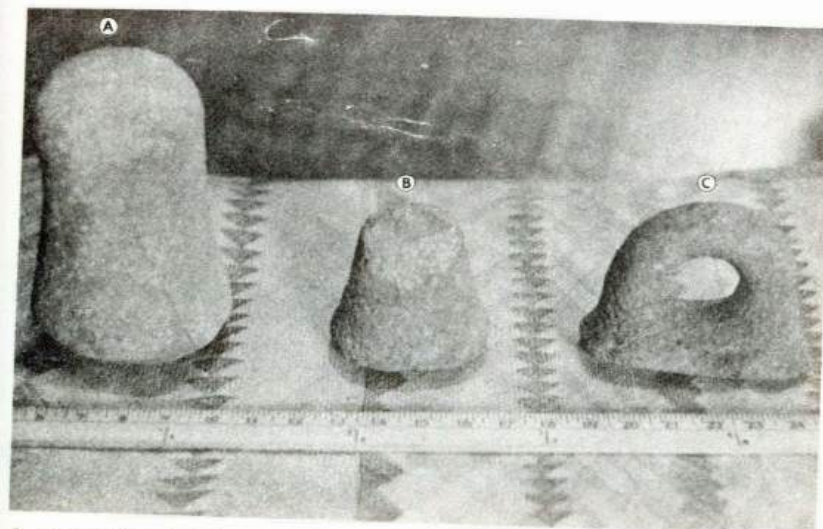
- 3 - Polished 'ulumaika
- 4 - Completed 'ulumaika (top view)
- 5 - Completed 'ulumaika (side view) (replicas)

From Jun Tsusaki Collection

Pounders



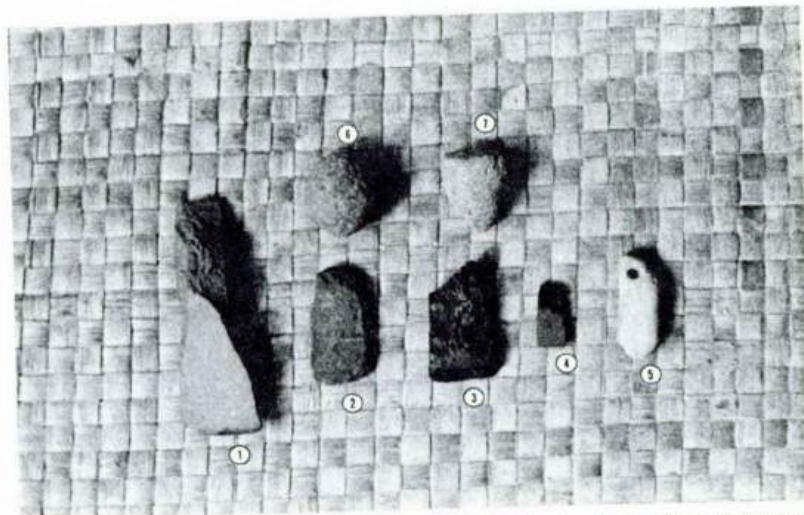
Knobbed Pounders (Pohaku Ku'i poi)



- A - pounder, for dyes, stains
- B - pounder, top broken
- C - Ring pounder

From Lydia K. Kaopuiki Collection

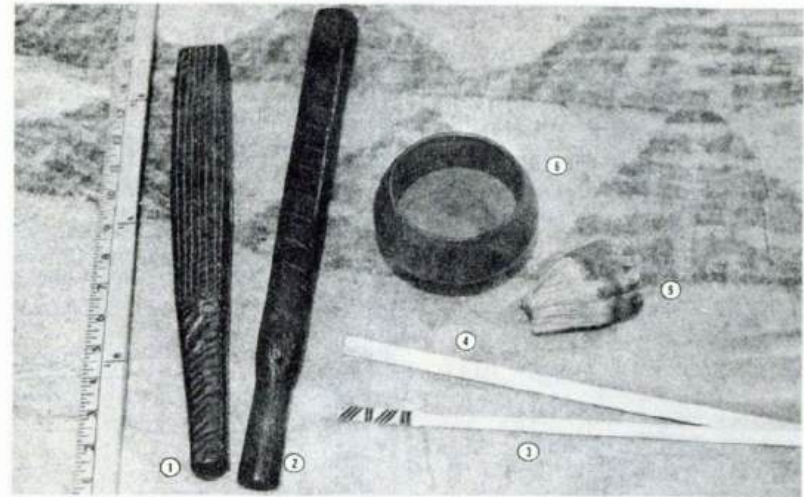
Stone Artifacts



- | | |
|---------------------------------|-----------------------------------|
| 1 - Adze, basalt | 5 - Whale-tooth pendant (calcite) |
| 2 - Adze, basalt (crudely made) | 6 - Slingstone (ma'a) |
| 3 - Adze, basalt | 7 - Top (hu) |
| 4 - Adze, basalt | |

From Richard Paglinawan Collection

KAPA MAKING IMPLEMENTS

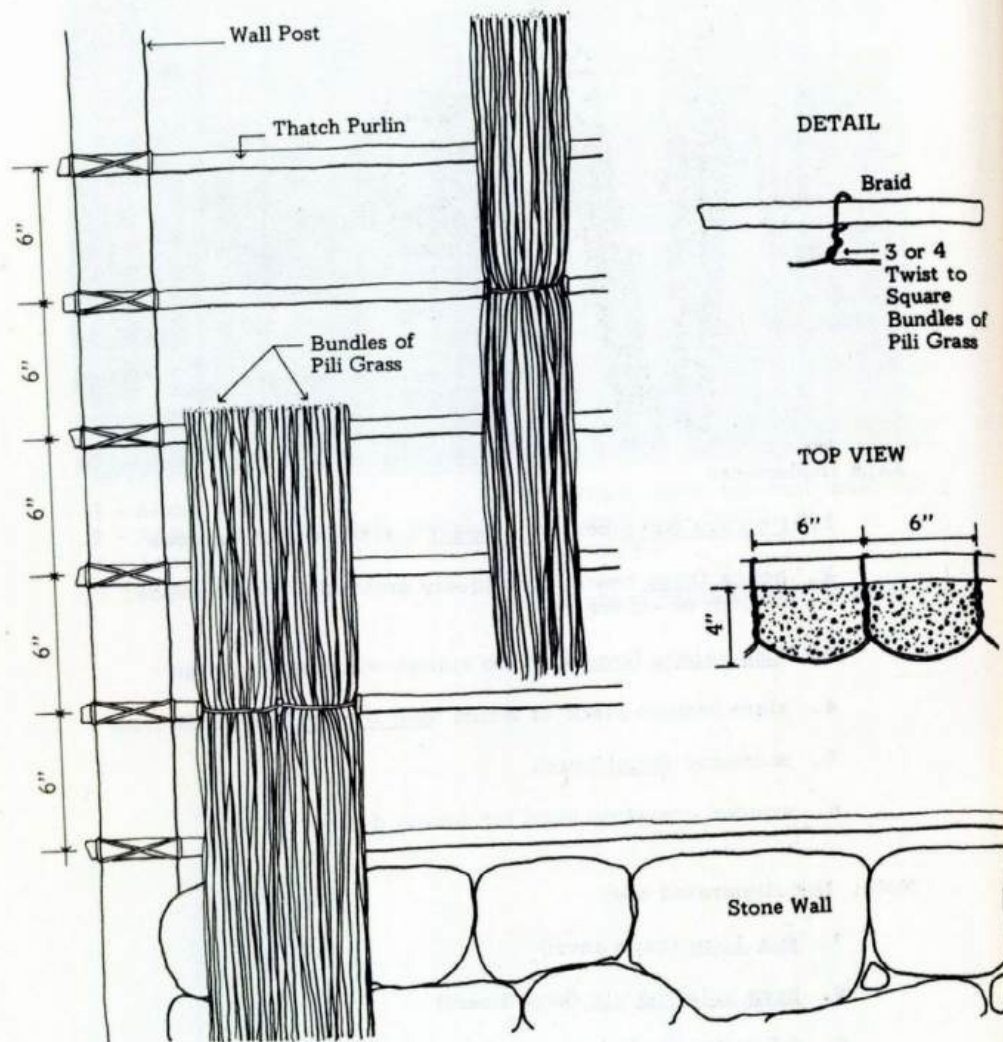


Kapa Implements

1. I'e kuku (kapa beater), pepehi surface with 6 grooves
2. hohoa (kapa beater), obliquely grooved on one surface, smooth on others
3. 'ohe kapala (kapa bamboo stamp) with stamp design
4. plain bamboo piece of which 'ohe kapala (# 3) made from
5. pandanus (hala) brush
6. wooden container used for mixing dyes

Note: Not illustrated are:

7. Kua kuku (kapa anvil)
8. papa hole kua ula (kapa board)
9. 'olulo (stamp ['ohe kapala] container) made from elongated cylindrical gourds or length of bamboo with node at the bottom end. Container usually had cord at opened end for suspension purposes.
10. kapa liners made from wood and bamboo were pressed on the kapa to stamp the lines.
11. ku'i humu kapa (needle) used to sew kapa; made of wood and bone.
12. kapa weights made from basalt to hold the kapa in place while it was drying.



Start at bottom and work upward.
Thatch purlin should be about one inch in diameter and any straight stick may be used.
The spacing of the thatch purlin may be varied according to the length of the Pili grass.
Braid may be made of 'uki'uki grass to bind the bundles of grass. Other material: Bark of Akia and Hau.
Start at left with a clove hitch or timber hitch. If clove hitch is used, be sure to take three or four twists on braid.

ref. Buck, Sir Peter Henry (Te Rangi Hiroa) "Arts and Crafts of Hawaii", II Houses, Honolulu, Bishop Museum Press, 1964.

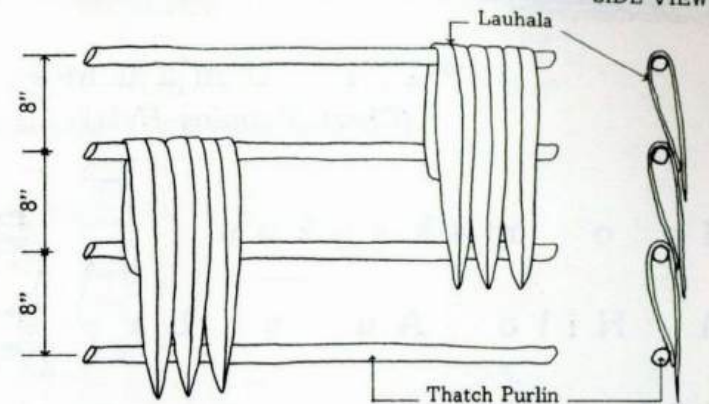
I. Fresh Leaves

To prepare lauhala cut fresh from tree and dry over fire.

Remove thorns from sides of leaf by slicing with sharp knife. Flatten leaves.

Soak in water to soften and make leaves flexible.

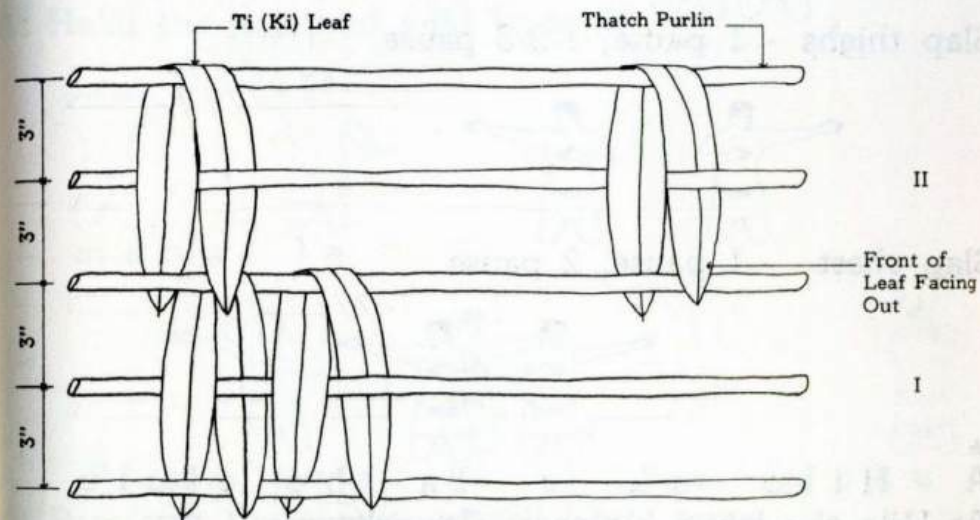
FRONT VIEW



II. Dry Leaves

When dry leaves are used, remove thorns from sides of leaf by slicing with sharp knife. Flatten leaves.

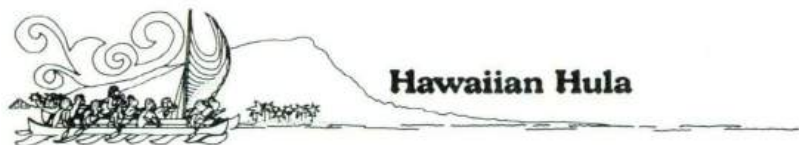
THATCHING WITH TI (KI) LEAVES



Start at bottom and work upward. Purlin should be about one-half inch to one inch in diameter and may be bamboo, koa haole, or any straight sticks.

Complete row I than row II and so on upward. Either dried or fresh Ti (Ki) leaves may be used for thatching.

ref. Buck, Sir Peter Henry (Te Rangi Hiroa) "Arts and Crafts of Hawaii", II Houses, Honolulu, Bishop Museum Press, 1964.



Hawaiian Hula

Pa'i Umauma
(Chest Slapping Hula)

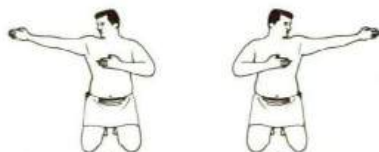
Ho'o mākaukau

A Hilo Au e La

Pā!



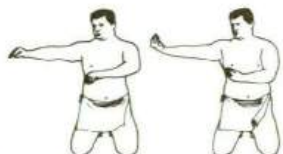
Slap thighs - 1 pause, 1-2-3 pause



Slap chest - 1 pause, 2 pause



*
A Hilo au e la ho'olulu
At Hilo the lehua blossoms flourish



ka lehua la



*
A Wailuku la i ka lua
At Wailuku a pit where people fall in



kanaka la



*
A Ha'ili au la i ke kula
At Ha'ili the haunt of wild birds



manu la



*
A Pana'ewa la i ka moku
At Pana'ewa the clumps of tall lehua trees



lehua la

*




 Ā Leleiwī au la 'ike i ke
 At Leleiwī I gaze at the sea



 kai la

*




 Ā Moloka'i la i ke āla
 At Moloka'i a narrow trail to travel in single file



 kahī la

*


 Ha'ina, ha'ina mai ka
 Tell, tell the refrain of the song

*
 puana no ka



 lani no he inoa
 for the chief


 He inoa no Kauikeaouli
 In honor of Kauikeaouli (Kamehameha the third)



 * Slap thighs 1 - 2 - 3 - pause

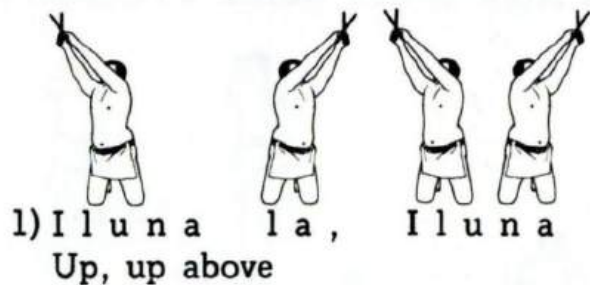
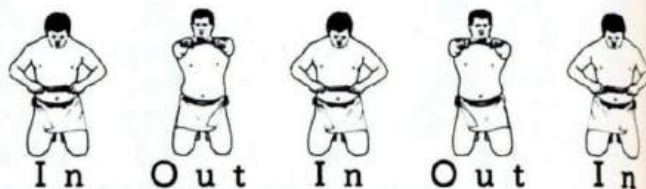
Ke Ao Nani
Hula Ka lā'au

Ho'o mākaukau!

Iluna la, iluna

Pā!

Kaholo



1) Iluna la, Iluna
Up, up above



Na manu o na lewa
Birds fly in the sky.

Kaholo



2) Ilalo la, Ilalo
Down, down below



Nā pua oka honua
Flowers grow from the ground

Kaholo



3) Iuka la, iuka
Upland, up in the uplands



Nā ulu lā' au
Forest trees grows

Kaholo



Hawaiian Musical Instruments

The old Hawaiians had a considerable assortment of sound producing instruments. Some produced musical sounds and others were for beating time for dancing.

String instruments were not common in ancient Hawaii being limited to the musical bow, a very primitive instrument. The ukulele evolved in more modern times from the Portuguese braga brought here by immigrants about 1879.

Illustrations beginning with FIGURE A through J show and explain the ten best known musical instruments of old Hawaii.

1. PŪ'ILI (bamboo rattles) used for hula pū'ili; see Figure B.
2. KĀ'EKE'EKE (bamboo pipes), also called 'ohe kā'eke'eke or pahūpahū; see Figure C.
3. KĀ LA'AU (sticks) used for stick hula; see Figure D.
4. 'ULILI (gourd musical instrument) used for hula; see Figures E and F.
5. 'OHE-HANO-IHU (nose flute), same as hano; see Figure G.
6. 'ŪKEKĒ (musical bow)
7. IPU (gourd drum), also called ipu pa'i (Lit., gourd to beat), ipu hula (two gourds sewn together, 'olo is the term for the long bottom gourd, heke for the top gourd); see Figure H.
8. 'ULI'ULI (gourd rattle) used for hula 'uli'uli, with colored feathers at top; see Figure I.
9. 'ULI'ULI (gourd rattle) used for hula 'uli'uli, with 'ie'ie (Freycinetia arborea) leaves used as a handle.
10. PŪ (sea shell wind instrument); see Figure J.

Other instruments not illustrated are:

NI'AU KANI (Jew's-Harp) lit., sounding coconut leaflet midrib.

IPU HOKIOKIO (gourd whistle) was played by blowing air through a nose hole and the sound controlled by usually three finger holes.

PU NIU (knee-drum) was made of a coconut shell with its stem end removed and covered with shark or surgeon fish skin on which a knee drum beater (ka, made of coconut sennit or dried ti-leaves) was struck in rhythm to a hula; the drum was attached above the knee and was known only to Hawaii in Polynesia.

PAHU HULA (wooden drums) made usually from coconut trunks and covered with shark skin; used to keep time to hula.

HULA 'ILI 'ILI (stone castanets) used by hula dancers.



4) I k a i l a ,
In the sea, the sea



i k a i



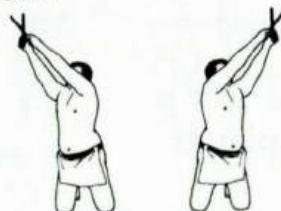
N ā i ' a o k a m o a n a
Ocean fishes swim



K a h o l o



5) H a ' i n a m a i k a p u a n a
Tell the refrain



A h e n a n i k e a o n e i
Of this beautiful world

K a h o l o



H e i n o a n o k e k a m a l i ' i
In honor of the children

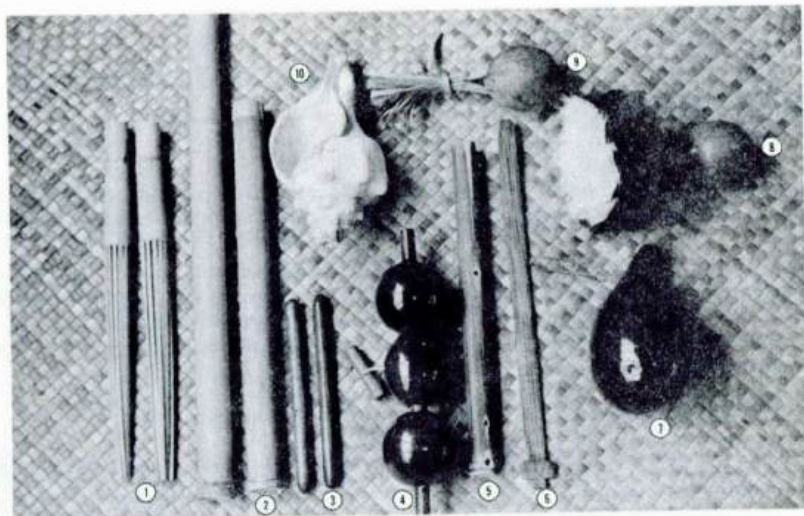


Figure A

Hawaiian Musical Instruments



Figure B

Pū'ili (Bamboo Rattles)

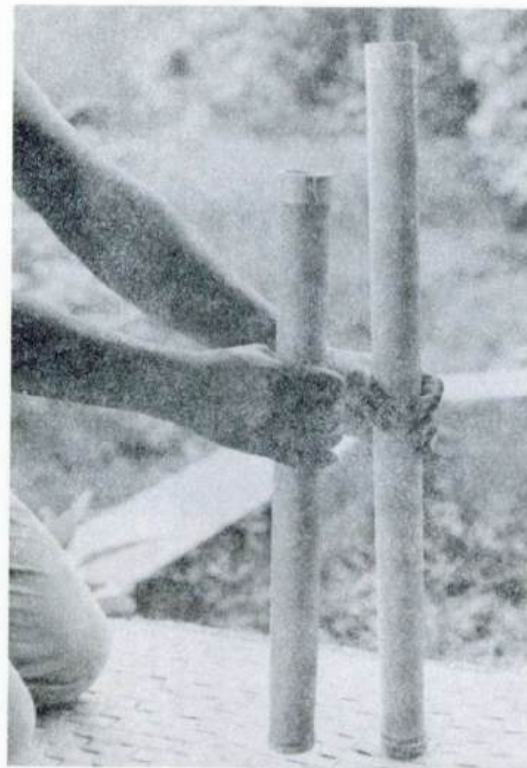


Figure C

Kā'eke'eke
(Bamboo Pipes)



Figure D

Kāla'au (Sticks)



Figure E

'Ūlilī (Gourd Musical Instrument)



Figure G

'Ohe-hano-ihu (Nose Flute)



Figure F

'Ūlilī (Gourd Musical Instrument)



Figure H

Ipu (Gourd Drum)



Figure I

'UH'ulF (Gourd Rattle)



Figure J

Pu (Seashell Wind Instrument)

OHE-HANO-IHU (Nose Flute)

Description: (See illustration C)

- Length range of flute - 10 to 22 inches
- Diameter of flute - 1-1.6 inches
- Finger holes (see illustration #2-5)
- Number of holes - 1 - 4; average 3 holes.
- Diameter of holes - 0.3 inch (average)
- Nose hole diameter - 0.3 inch (average), listed as #1 in illustration.

Instructions to make nose flute:

1. Select bamboo according to the diameter listed.
2. Be sure the length of the flute can be selected from a single section of a bamboo (node to node, see illustration A).
3. Use a hacksaw to cut your flute (see illustrations A and B). Be careful not to crack or split the flute.
4. Drill the nose hole close as possible to the inner side of the node which is closed (see illustration B); plane the hole area with a coral abrasive (flat file) so as to have a flat surface.
5. Drill the finger holes accordingly (see illustration C).

Note: the spaces between holes followed no set pattern but were matters of individual selection.

#2 - 5 are optional.

Short nose flutes (10 inches in length) are easiest to play; space between nose hole (illustration C, #1) and first finger hole (illustration C, #2) is 5 inches and space of 1 inch between two finger holes (illustration C, #3 and #4).

Long nose flutes (22 inches in length), space between nose hole (illustration C, #1) and the first finger hole (illustration C, #2) is 2.75 inches; between the two finger holes, 11.75 inches.

Illustrated Nose Flute, no matter what the length can be spaced accordingly; drill hole #4 half-way between both ends of flute; space of 1 inch between holes #3 and #4, and #4 and #5; space hole #2 about 2 inches from nose hole.

INSTRUCTIONS TO PLAY NOSE FLUTE:

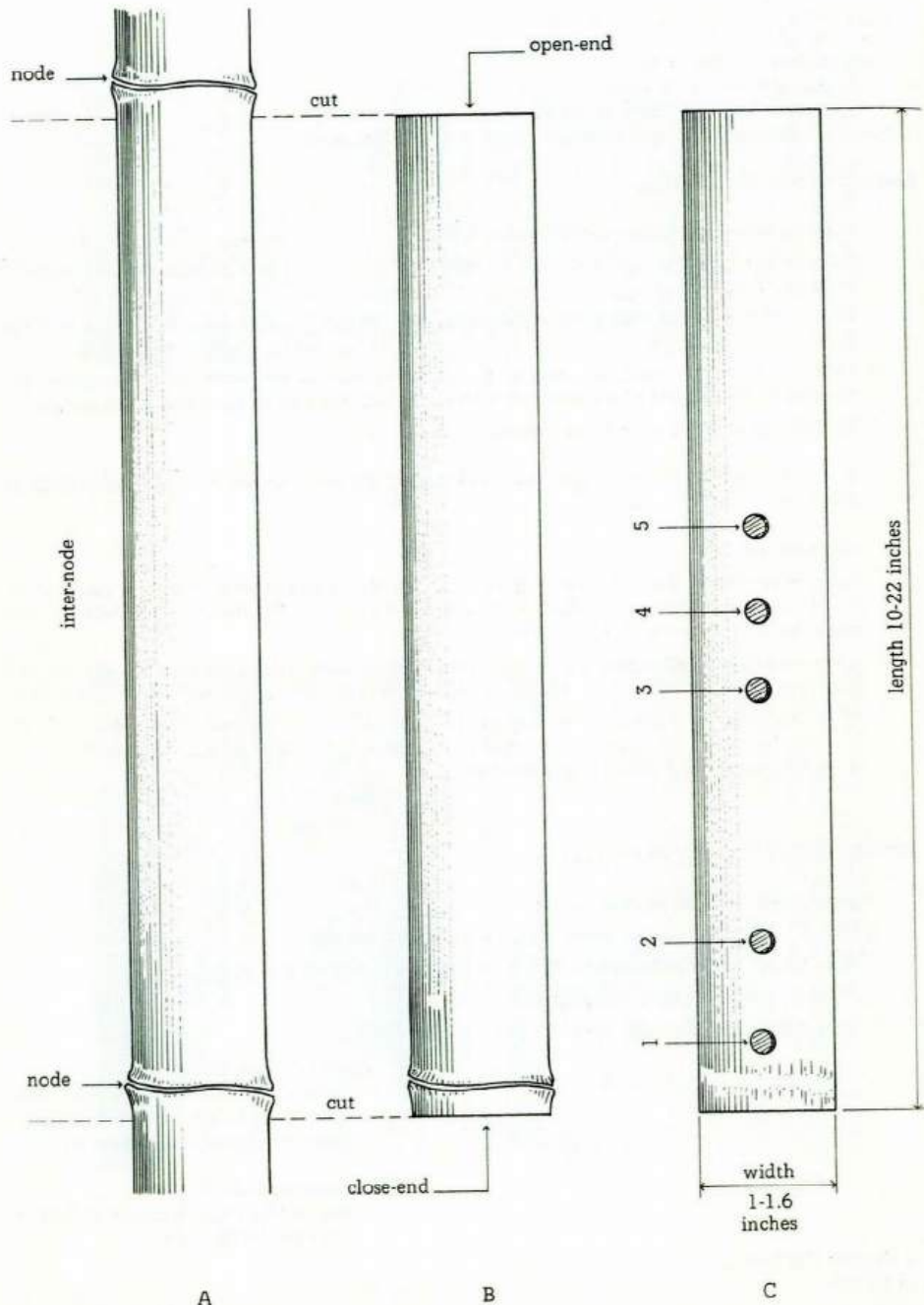
1. Nose hole held close to right nostril.
2. Left thumb closed the left nostril by pressing against left side.
3. Fore-fingers and thumb of right hand held the flute in a horizontal position.
4. Index finger of left hand will play on hole #2.
5. First 3 fingers of the right hand will play on holes #3 - 5.

Source of Information:

Peter H. Buck (Te Rangi Hiroa) 1957
Arts & Crafts of Hawaii: B.P. Bishop
Museum. Special Publication 45.

Helen H. Roberts 1926.
Ancient Hawaiian Music: B.P. Bishop
Museum, Bulletin 29.

By Richard Paglinawan
April 1970



Description: (See Illustrations #1 and #2)

Length range of rattle: 18 to 26 inches
Diameter of rattle: 1.5 to 2.0 inches
Length of handle (unsplit part): 5.5 to 8.0 inches
Interval between splits: 0.1 inches (average)

Instructions to make bamboo rattle:

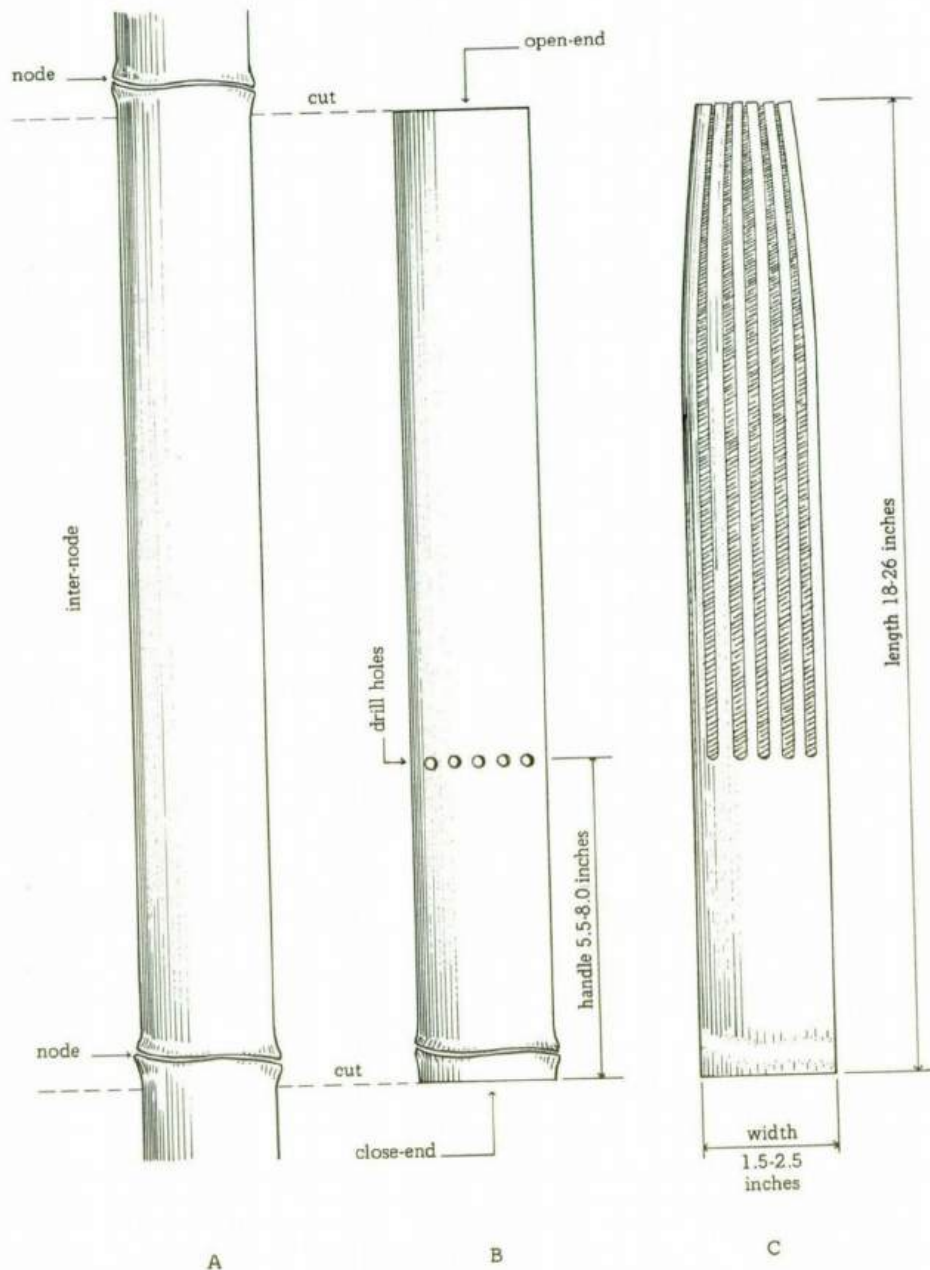
1. Select bamboo according to the diameter listed.
2. Be sure the length of the PU'ILI can be selected from a single section of a bamboo.
3. Use a hacksaw to cut your PU'ILI (see illustrations 1-A and 2-A). Be careful not to crack or split the bamboo.
4. Drill the holes by intervals of equal width (see illustrations 1-B and 2-B) or split with sharp blade, preferably with a razor blade.
5. Remove alternating sections (see illustrations 1-C and 2-C).

NOTE: Bamboo when split is dangerous as it is razor sharp. It was used for surgical purposes in ancient Hawaii.

Use of PU'ILI: The bamboo rattle was used in the HULA, called HULA PU'ILI.

Source of Information:
Peter H. Buck (Te Rangi Hiroa) 1957
Arts & Crafts of Hawaii. B.P. Bishop Museum
Special Publication 45.

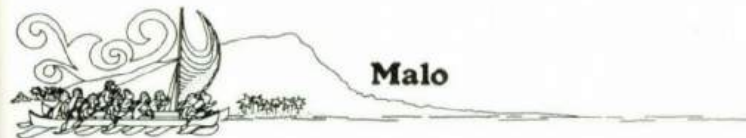
Richard Paglinawan
April 1970



A

B

C



(HAWAIIAN LOIN-CLOTH)

By: Richard Paglinawan
Aug/1970

SIZE:

15" (width) X 8' (length) for adults
15" (width) X 6' (length) for boys

MATERIAL:

1. Kapa (bark cloth made from wauke, mamaki, etc.)
2. Unbleached muslin, Sold at any dry goods store.
Costs approximately 3 yards for \$1.00 (modern use)

INSTRUCTIONS:

Dye malo using one of the following colors:

Red, yellow, light blue, or as is, unbleached

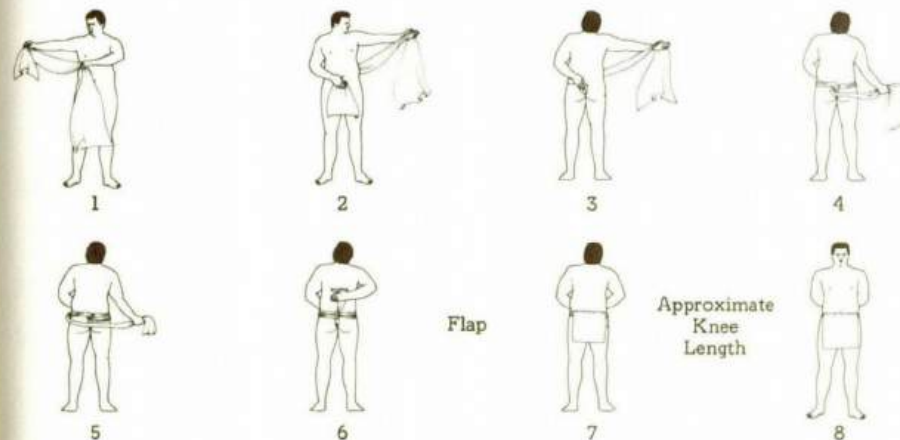
Decorate malo with the following designs (optional)

Triangles, chevrons, oblique and vertical lines, vertical and horizontal bars, lozenges and ellipses, rhombs and squares, circles, etc.

Ref: Te Rangi Hiroa (Peter H. Buck) 1957
Arts and Crafts of Hawaii
Bernice P. Bishop Museum Special
Publication 45

Note: Decorate malo using any design or combination of designs around the borders using a different color.
Be creative and artistic.

HOW TO TIE A MALO



Flap

Approximate
Knee
Length



Maui and The Alae Birds

(Based on the familiar Hawaiian Legend)

An original one-act play
by
Stanley Kapepa

Presented first by Hui Kukakuka
Aloha Council, BSA, Hawaiiana Workshop
September 1970 - Camp Pupukea

CAST OF CHARACTERS

MAUI	An adventurous boy who is determined to get the secret of fire so that it might benefit all men.
BROTHER # 1	Older brother who is sympathetic to Maui's adventures but only to a point.
BROTHER # 2	Older brother who is sympathetic to Maui's adventure but is much more impatient when it comes to persistence.
ALAE # 1	Confident that he is able to outsmart Maui.
ALAE # 2	Very nervous. He has more confidence in the cleverness of Maui than anybody else.
ALAE # 3	A little less nervous. He is easily influenced by Alae # 1.

Other Alae Birds (if they are used)

SYNOPSIS OF SCENES

ACT ONE

SCENE I:	Evening. In a clearing in a forest.
SCENE II:	Early evening four days later. The same clearing in a forest.
SCENE III:	Later that same evening. The same clearing in a forest.

The time is in ancient prehistoric time.

SCENE I

A clearing in a forest. As you look at the site, there is a wall of trees in background. To the left is a hau grove. To the right is a patch of taro. A group (3-5) of alae birds are sitting around the fire roasting and eating bananas. They are excited as they eat. Maui and his brothers are hiding in the brush to the left.

MAUI - (excited) Look at those birds! What are they doing?

BROTHER # 1 - Shhh! You'll scare them away.

(The birds are frightened. They flap their wings and hurriedly put out the fire. They exit stage left screeching and fluttering their wings. Maui rushes on stage followed by his brothers.)

BROTHER # 2 - You see. They've run away.

BROTHER # 1 - Maui, why did you have to talk so loud?

MAUI - Did you see what they were doing? They were doing something to the banana.

(They walk to site of fire. He picks up a piece of cooked banana and tastes it. He offers a piece to Brother # 1.)

This is good. Taste it.

BROTHER # 1 - It is good. Here taste it.

(He offers to Brother # 2.)

BROTHER # 2 - It tastes different. And it's warm.

MAUI - I wonder what they used to make it warm. Did you see it?

(Both brothers shake their heads.)

It was like a light. Those alae birds were holding the bananas over it.

MAUI (cont'd) - (He scatters coals.)

It's steaming. But it's not wet. Feel the heat. The banana smells different. It smells good.

(Eats another piece of cooked banana.)

Just think. If we could cook other foods....Can you imagine how a pig would taste when it is cooked like this? If I do nothing else before I die, I shall find the secret of the alae birds.

BROTHER # 1 - Forget it, Maui. Those birds are too smart for you.

BROTHER # 2 - Too smart and too fast. They can hear you coming a mile off.

MAUI - No they can't. If I wasn't so excited just now, I could have caught them.

BROTHER # 1 - Well, I still say they're too smart for you.

MAUI - I promise you. I'll get the secret from the alae birds.

BROTHER # 2 - Let's go home. It's getting late.

BROTHER # 1 - Come, Maui. Let's go.

(All three of them leave. On way out Maui looks back at smouldering fire and nods his head.)

SCENE II

Same clearing. Maui and brothers are hiding behind the brush.

MAUI - We've been hiding here for four days now. Still those alae birds haven't come back to cook their bananas.

BROTHER # 1 - I told you those birds were smart.

BROTHER # 2 - I'm tired of waiting. Let's go home. Every day has been the same. They fly overhead, but they never land.

(Maui looks at Brother # 2 startled.)

MAUI - That's it! That's it! Why didn't I think of that. They see us hiding here in the bushes. That's it! Listen to me. I've got an idea. Let's walk back to the canoe and paddle to the other side of the island. Then I'll get off and sneak back through the forest until I reach here.

BROTHER # 1 - No, Maui. Those alae birds are too smart.

BROTHER # 2 - (Angrily) I say forget about the whole thing. We've been waiting for the birds to come back for four days. I say let's go home right now.

BROTHER # 1 - I agree. Let's go home.

MAUI - But don't you realize how much we benefit if we get the secret from the alae? We could have better tasting food. You felt how warm the banana was. If we could get the secret from the alae, we can keep our bodies warm during the winter months when the cold air comes down the slopes of Mauna Kea.

BROTHER # 1 - Maui, I see all that. But the alae birds are too smart. You'll never catch any one of them.

MAUI - Maybe not. But I want to try again.

BROTHER # 2 - It's all right with me. But you're coming back by yourself. I've had enough of this nonsense.

BROTHER # 1 - I'm afraid the alae birds are making fools of us. Let's go, Maui. If you want to come back again, fine. You will come alone.

MAUI - All right. I'll come back by myself.

(They leave.)

SCENE III

Same clearing. The alae birds are sitting around a new fire roasting bananas.

ALAE # 1 - I thought that smart aleck Maui would never leave.

ALAE # 2 - I thought so too. I was getting scared. You know how clever he is.

ALAE # 3 - I'll say. Remember how he caught the sun and made him promise to slow down so his Mother's kapa could dry?

ALAE # 1 - Who'd ever think anybody could be smart enough or fast enough to catch the sun?

ALAE # 2 - Well, Maui was. That's why I'm still uneasy. I don't think he'll ever give up trying to catch us.

ALAE # 3 - Don't worry. Didn't we see him and his brothers go away?

ALAE # 2 - Still, I can't help feeling he's up to something.

ALAE # 1 - I don't think we have anything to worry about. They've given up. Even Maui got tired of waiting on us. Can you imagine that?!

(He laughs.)

ALAE # 2 - No, I can't. That Maui doesn't give up so easily, I tell you.

(Maui appears back stage right behind bushes.)

ALAE # 3 - I'll go and keep watch at the other side of the clearing. (points stage right) since the wind is coming from the other side.

ALAE # 2 - That's a good idea. We couldn't hear him or smell him if he sneaked up against the wind.

ALAE # 1 - Stop it both of you. You're beginning to sound like a couple of old ladies. Forget about Maui. Let's enjoy our fire and bananas. I don't want to hear another word about Maui.

(Alae # 1 gives cooked banana to each of the other birds. They chatter happily as they eat. Maui sneaks up closer toward center stage. He works his way closer cautiously. Suddenly he pounces on Alae # 1. There is great confusion and noise as Alae #2 and # 3 scatter offstage. Maui twists Alae #1's wing. Alae # 1 gives off a loud screech.)

MAUI - Now, my clever friend, you know what I want, don't you?

ALAE # 1 - No!

(Maui twists his wing tighter. Alae # 1 gives off a screech.)

MAUI - Well, this is what I want. Listen carefully. I want you to show me how to make this thing you call fire. Yes, I overheard you talking to your two friends. I want to know how to make fire.

ALAE # 1 - I cannot tell you. This secret is known only by us alae birds.

MAUI - This fact I know. But why should only the alae know the secret of fire. Man could benefit also. Just think what we could do with the heat that comes from fire. The secret, Alae!

(Maui twists his wing tighter. Alae # 1 screeches louder.)

MAUI - I will twist this wing off. Then I will start on the other one. Tell me the secret.

ALAE # 1 - No. No. Enough. Enough. I'll tell you the secret.

(Maui relaxes his hold on the bird.)

MAUI - I'm waiting, Alae.

ALAE # 1 - Rub two taro stalks together. Rub it hard enough for a few minutes. You'll get your fire.

(Maui moves to the edge of the clearing, holding on to Alae. He pulls two stalks of taro and rubs the two stalks together. Nothing happens.)

MAUI - Alae, I can't rub the two stalks together. They bend wherever I try to rub them. You lied to me. You foolish alae. I'm going to teach you a lesson you'll never forget.

(Maui wrenches Alae's wing and twists with great force. Alae screeches painfully.)

Tell me the secret. Now!

ALAE # 1 - All right! I'll tell! I'll tell!

(Alae is exhausted. He pants, trying to catch his breath.)

Rub two sticks together. Go get a branch from the hau tree.

(Maui goes to other edge of clearing and breaks off two branches. He continues to hold on to the bird that is trembling with fear.)

MAUI - Alae, I don't trust you. You lied to me once before. I think you're still lying to me.

ALAE # 1 - No. No. I'm telling you the truth. Here is the other stick. This is the iliahi.

MAUI - Come here.

(Maui grabs Alae's head and rubs the hau stick on his head until it bleeds.)

Tell me the truth. The truth!

ALAE # 1 - It is the truth. Maui, it is the truth!

MAUI - All right. If this doesn't work, Alae, I'm going to lose my patience. And you are going to be one dead Alae bird.

ALAE # 1 - I'm telling the truth. I'm telling the truth. You rub the iliahi on the hau.

(Maui, still holding on to Alae, rubs two sticks together.)

ALAE # 1 - Keep rubbing until you see smoke and sparks.

(Maui rubs. There is smoke and sparks.)

Let the sparks fall on the dried leaves.

(Maui lets a spark fall on some dead leaves. The leaves catch fire. Maui is excited.)

Blow on the spark until a fire starts.

(Maui blows on the spark. A flame starts.)

MAUI - (exultant) I have the secret of fire! I have the secret of fire! My people will never go cold during winter. They will have fire to keep them warm. Thank you, Alae. Thank you, Alae. You are free!

(Alae # 1 leaves stage left. He hobbles off sadly and in pain.)

MAUI - Go in peace, my friend. But remember this. If you forget everything else, please remember this. We shall always be indebted to you for this flame of life. Always.

(Maui leaves stage right, carrying a flaming wood.)

(Alae # 1 returns hobbling center stage with bleeding hand, from stage left.)

ALAE # 1 - What have I done? What have I done! I've given Maui the secret of fire. I've betrayed all the alae.

(Alae # 2 and # 3 enter stage right. They are excited.)

ALAE # 3 - Did you tell Maui the secret?

ALAE # 2 - You didn't, did you? (startled) What's that on you head?

ALAE # 1 - What?

(Alae # 2 moves forward and touches Alae # 1's forehead.)

ALAE # 2 - There's blood on your head.

ALAE # 1 - Is there? (He feels head) There's a stain on your head, too.

ALAE # 2 - On mine? What are you talking about?

ALAE # 3 - You both have red stains on your heads.

ALAE # 1 - So do you.

ALAE # 2 - Auwe!

(To Alae # 1)

You have betrayed all the alae. We have been punished because of you. Now we shall have to wear this mark of punishment forever.

ALAE # 1 - I am truly sorry. Forgive me, my brothers. But this mark need not be a mark of punishment. Now that Man has the secret of fire, we shall be long remembered for the good that we have done for all mankind. We have been selfish in the past. Today we have given just a little bit of ourselves. Just think of the countless generations of men who will benefit from our flame of life. I am proud of my mark.

(The other alae birds hug him, realizing the truth in his statement.)

THE END



Historical Sites & Trails

Pupukea, Oahu

This trail is established to expose participants to the rich lore and culture of the ancient Hawaiian civilization which existed in the Pupukea-Waimea sector of the island of Oahu. This trail is one of the requirements for the Hawaiiiana Medal.

The trail begins at Camp Pupukea and goes down Pupukea Road to Kamehameha Highway. Turn west and hike about 200 yards seaward to public beach. On the left side of the inlet is a finger of rocks jutting into the sea. In the water to the right of this out-cropping of rocks is KALUA-O-MAUA (Historical Site # 1).

Hike along beach towards Kahuku to the lava pan opposite Pupukea Fire Station. All along the lava pan may be found numerous MAKAPAPIPI (Historical Site # 2).

Continue on beach to next lava pan to a group of huge rocks called PELE'S FOLLOWERS (Historical Site # 3).

Back-track on beach to Pupukea Road. Hike up road, past the last turn of the grade. Turn right here onto Puu-O-Mahuka road. There is a large wooden sign to mark the temple road. Continue on this route to its end where PUU-O-MAHUKA HEIAU is located (Historical Site # 4).

Back-track on Puu-O-Mahuka road to Pupukea road, then back to Camp Pupukea.

Background for the establishing of a trail in this sector of the island of Oahu is covered in subsequent pages, which expound on its abundant historical significance.

THE LANDS OF PUPUKEA

From ancient times down to the reign of KAMEHAMEHA I certain lands were granted the KAHUNAS (priests of Hawaii) in keeping with the high esteem enjoyed by the Kahunas. The ancient kings of Oahu, specifically, KAHAHANA, KAHEKILI KALANI-KU-PULE were mentioned in mele (songs) as having set aside lands in the KOOLAULO District to the Kahunas. This practice also prevailed during the reign of KAMEHAMEHA I. These lands in Koolauloa included PUPUKEA, WAI-MEA, WAIHAOLE, and HAKIPU'U.

The lands of Pupukea were granted to the priesthood order of high chiefs called KUA'LII, one of the major priesthoods in the realm. Many chiefs belonged to this order. The rituals observed by them were those of the God LONOIKA'OU-A'LII. The KAPU LAMA and the KAPU LOULU ceremonies were observed at their heiau.

The forest, wild life and vegetation at Pupukea were ideally suited for the inhabitants of Waimea and the priests at PUU-O-MAHUKA heiau.

Stands of KOA (a native hardwood) provided timber for canoe making, paddles, spears, calabashes, surfboards, etc.; OHIA (a hardwood) for making idols, house posts and rafters, temple buildings, fuel, etc.; AHAKA (a hardwood) for canoe rails, bow and stern pieces, poi boards, paddles, etc.; KOPIKO (of the coffee family) for making KUA KUKU KAPA (tapa logs) and its charcoal for the black dye in tapa coloring; OLOMEA (a hardwood) for use in fire-by-friction; HAU (a lightwood) for making outriggers of canoes, also for use with the OLOMEA in fire-making; KUKUI (candlenut) for lamps and torches and black paint for canoes; OHE (bamboo) for knives and fishing poles; and the HALA (pandanus) for mats and sails.

The hills were covered with PILI (type of grass) which was used in thatching native huts.

WAUKE was available in quantity in the area for the making of fine KAPA (Tapa), as well as MAMAKE. The MAMAKE was used in making a coarse type of KAPA.

OLONA plants were abundant in the dark ravines of Pupukea and Waimea Valley. The fiber from the bark of the OLONA was made into cordage for fiber work, carrying nets, fish lines and fish nets. During the days of whaling ships in Hawaii, OLONA line brought fancy prices for the whalers discovered that OLONA cord was unmatched for toughness and durability.

ULU (breadfruit), UHI (yam), 'UAIA (sweet potato), MAI'A (banana), KALO (taro), PIA (arrowroot), NIU (coconut), KI (ti), KO (sugar cane) were cultivated in the Pupukea and Waimea areas to provide food for the natives.

In abundance were native plants in the wild, which were also a source of food such as OHIA AI (mountain apple), OHELO (berry), HALA (pandanus) fruit, HOWANE (the kernel from the LOULU palm), HAPU'U (tree fern), PALA (mules foot fern), HOI'I'O (fern), POPOLO (herb), etc.

Wildlife in the forests and nearby marshlands were mainly birds. Those killed for food included the 'ALAE (mud hen), KOLOA (duck), 'AUKU'U (night heron), KUKULUAE'O (stilt) and KOLEA (plover).

There were also native birds in the forests whose feathers were used in royal feather cloaks, capes, helmets and loin cloths; such birds as the 'O'O, MAMO, 'I'IWI and APAPANE.

Vegetation used in the practice of native medicine were either grown specially or were found in a wild state. Chief among these were: POPOLO, NONI, KOWALI, KUKUI, KUKAE PUAA, KOOKOOLAU, AWA, HAU, OHIA AI, OLENA, KALO, ALOALO, KOKI'O, 'AUHUHU, 'ILIMA, MOHIHI, LEHUA, IAMA, HINAHINA, etc.

Pupukea therefore was traversed often by the Kahunas, farmers, house-builders, canoe-makers, bird-catchers, feather-gatherers, hunters, women and others seeking from the land things for food, crafts, ornaments, utensils, etc.

WAIMEA VALLEY

Immediately west of the ridge at PUPUKEA (on the WAIALUA side) is the valley of WAIMEA. This canyon was inhabited by a large Hawaiian population until the late 1800's.

Waimea was a land grant by the kings to the priesthood of PA'AO, which with the KUALI'I priesthood comprised the two major ecclesiastical orders.

The order of HOLOA'E, during the reign of KAMEHAMEHA I, was descended from PA'AO. The much feared and venerated KAHUNA NUI (high priest) of Kamehameha I, known as HEWAHEWA, spent his declining years in Waimea. Hewahewa, who accompanied Kamehameha on his many conquests, was the high priest who conducted the rituals of human sacrifice on the eve of Kamehameha's battles to gain the favor of the war god, KUKAILIMOKU.

The soil at Waimea was very rich so agriculture flourished in the valley. Taro grown there was of a special variety which was renowned throughout the land as royal poi, PII-ALII (King's Desire); it was distinguished by its pinkish shade. The merchants of today would probably say that the Waimea growers "cornered the Alii trade" because their distinctive poi was much relished by chiefs, being the choicest of all varieties.

In addition to the rich soil, water was plentiful in the streams and the ocean in front of the valley had fish in abundance. There was also a liberal supply of salt nearby. The waters of the bay were reputed to be favored by KUULA, the fishermen's deity.

CAPTAIN JAMES COOK, the British explorer, and his ships lay off Waimea Bay on January 18, 1778, following a voyage up from Bora Bora. On February 27, 1779, following Cook's death, his ships, DISCOVERY and RESOLUTION, stopped at Waimea and obtained a supply of fresh water from Waimea river before continuing up to Kauai.

Thirteen years later, on May 11, 1792, CAPTAIN GEORGE VANCOUVER on the first of his three expeditions to Hawaii, also lay off Waimea Bay to obtain a supply of fresh water. A boat crew from the DAEDULUS, commanded by Lt. HERGEST, went upstream to replenish its water barrels. The crew landed at the western branch of the stream at a place known as KAIAMOANA. The natives attacked the crew at KALUAHOLE, which is a bluff on the Waialua side of the valley. One British seaman was killed there. The battle moved to KALIHEE (central bluff dividing the valley) and at a place named KAPA'U, Lt. HERGEST and Astronomer GOOCH were killed. The rest of the watering party escaped to their ship.

Disaster befell the village of Waimea when greed led the kings to indiscriminately harvest the hills back of Waimea and Pupukea of their stands of sandalwood. The forests were completely denuded and because all were put to work in gathering sandalwood, agricultural endeavors were forgotten. Famine came upon the island. 1894 was the year of the Great Flood at Waimea, when heavy rains caused the inundation of taro patches and other agricultural enterprises; homes were destroyed and people drowned. This, claimed the natives, was retribution from the gods for completely denuding the forests. Following repeated floods, the natives abandoned Waimea Valley.

Remnants of the old civilization may still be found in the valley. At various spots one can still see remains of terraces used in agriculture and walls of what could have been housesites. Many burial caves exist in the south side of Waimea Canyon.

PILIA'AMA STONE

On the Pupukea cliffside, back of the old stone quarry on the highway was a stone known as PILIA'AMA.

According to legend, Pilia'ama was a fisherman, an extremely handsome man and strong as an ox, who lived in the vicinity of Waimea. He was KONOHIKI (headman) to IHUKOKO and a KANE HII ALO (close companion) of KAPUEWAI (turbulent water).

One day, HIIAKA (sister of the Goddess PELE) and her companion (WAHI-NEOMAO) spied Pilia'ama fishing and called out to him to learn what kind of fish he was catching. Pilia'ama replied that he was catching some KALA, MOI, OIO, AHOLE, UHU, OPELU, MANINI, HINANE, and A'AMA. HIIAKA asked him for some 'O'OPUPO'OPA'A but Pilia'ama had none. When HIIAKA approached him, he ran away so Hiiaka gave chase. Pilia'ama then ran to the cliffside and disappeared among the rocks. All that remained to mark his presence there was a rock with his footprint and that of a crab (a'ama). The rock has been called PILIA'AMA ever since.

(The writer took a crew of Scouters to locate the Pilia'ama stone but was unable to find it. His surmise is that the stone fell victim to the quarry operations and is no longer in existence. The area is private land and completely overgrown with brush. This site is then mentioned only for the purpose of relating the legend of Pilia'ama and Hiiaka.)

Historical Site # 1

KALUA O MAUA

In the first inlet on the KAHUKU side of Waimea Bay are a number of stones in the water. One of these stones is known as KALUA O MAUA.

Kalua O Maua is supposed to have been a great fisherwoman who was a MO'O (water spirit) with ability to change her body form. One night she went torch fishing alone. Her husband looked for her from their home on the side of a hill and was not able to see her, so, he went searching for her. When he found her, she was in the form of a stone swimming in the water. The Hawaiians claim that fresh water may be found where this stone is.

This site can be reached through the public park fronting the inlet opposite Waimea Store.

Historical Site # 2

MAKAPAPIPI

On the PAPA (flat lava shelf) fronting the sea at Pupukea can be found numerous MAKAPAPIPI (salt pans). These salt pans were generally filled by the sea during the period of rough waves of the winter months. With the coming of spring and summer the water evaporated and left an ample harvest of salt. Salt was an important item in the diet of the natives, it being their principal relish.

This site can be reached through the public park fronting the beach opposite the Waimea Fire Station.

Historical Site # 3

PELE'S FOLLOWERS

On the large A'A (rough lava) PAPA (shelf) jutting into the sea at Pupukea is a group of huge stones. These boulders are supposed to be some of the followers of the GODDESS PELE, whom she turned into stones to immortalize them as they followed her from Kauai to Kilauea.

The stones represent the family of PAKAA. They include PAKAA, HINA ALU-ALUMOANA (Pakaa's wife), KUAPAKAA, OOPUHALAKO'A, HOLOHOLQUA, HOLO-HOLOMAKANI, KAALENUI and KAALEIKI.

The largest stone in the group is 15 feet high while the rest average around 10 feet. The stones are spread over the lava pan for approximately 100 yards. A good view of the group can be obtained by looking down at the beach from Pupukea hill.

This site can be approached through the public park fronting Waimea Fire Station.

Historical Site # 4

THE HEIAU (TEMPLE) OF PUU-O-MAHUKA

The most important historical site in the Pupukea area is the PUU-O-MAHUKA HEIAU. According to tradition, this heiau was constructed by the MENEHUNES, a legendary race of small people who built roads, fishponds and temples at night. The inference gathered from this version is that the temple was constructed in the dim past of Hawaiian history for the Menehunes are claimed by some Hawaiian historians to have been the first settlers of Hawaii, who were subsequently displaced by the Polynesian Hawaiians.

It is related that the fires lighted during the dedication of PUU-O-MAHUKA warmed the hills of the island of Kauai, 90 miles away. (The old Hawaiians also claimed that in ancient days the kahunas of the heiau of PUU-O-MAHUKA communicated with the priests at the HOLO-HOLO-KU Heiau on Kauai by striking an extraordinary rock called a "bell-stone"). Such a prodigious dedication indicates that Puu-O-Mahuka was a PO'O KANAKA Heiau or human sacrifice temple.

Tradition connects Puu-O-Mahuka with the famous martyr kahuna of Oahu, KAOPULUPULU, in the late 18th century, who predicted the inevitable conquest of Oahu by the white man with his prophecy, "The land is given to the sea." He was noted for many prophecies and wise counsel.

Puu-O-Mahuka is supposed to be where the bodies of the three crewmen of Captain Vancouver's DAEDALUS were taken in 1792 and sacrificed.

In reading the writings of several archeologists, one obtains the impression that the original structure has had several additions made to it.

A curious feature of the present heiau is the row of several niches in the upper inner wall of the middle enclosure. Since the temple was sought by some of the ALII (chiefs) of Oahu as a maternity place, it is believed that these curious niches were utilized by the chiefesses in giving birth to their children.

Tradition states that people seeking the advice of the priests of Puu-O-Mahuka were required to bring up stones in the size of the importance of the advice sought. This may account for some coral rocks being found in the enclosure.

According to one archeologist the small lower enclosure of the heiau is the last addition and was built to commemorate a priest's successful wager with an Alii; that being its only significance and having no relationship to religious rites.

The literal translation of Puu-O-Mahuka is "Hill of Escape." This leads the writer to believe that this heiau was also a place where a native could go to seek sanctuary.

Puu-O-Mahuka is the largest heiau on the island of Oahu. Its two larger walls combined are 520 feet in length; truly an immense structure in comparison to other heiaus on the island of Oahu.

This site can be reached by turning to the right as one goes up Pupukea Road after making the last hair-pin turn. There is a large wooden sign directing one to the heiau, which is situated at the end of the road.

From the heiau a person obtains one of the most breathtaking views of the North Shore and Waimea Valley.

PUU-O-MAHUKA HEIAU

Koolauloa-Pupukea

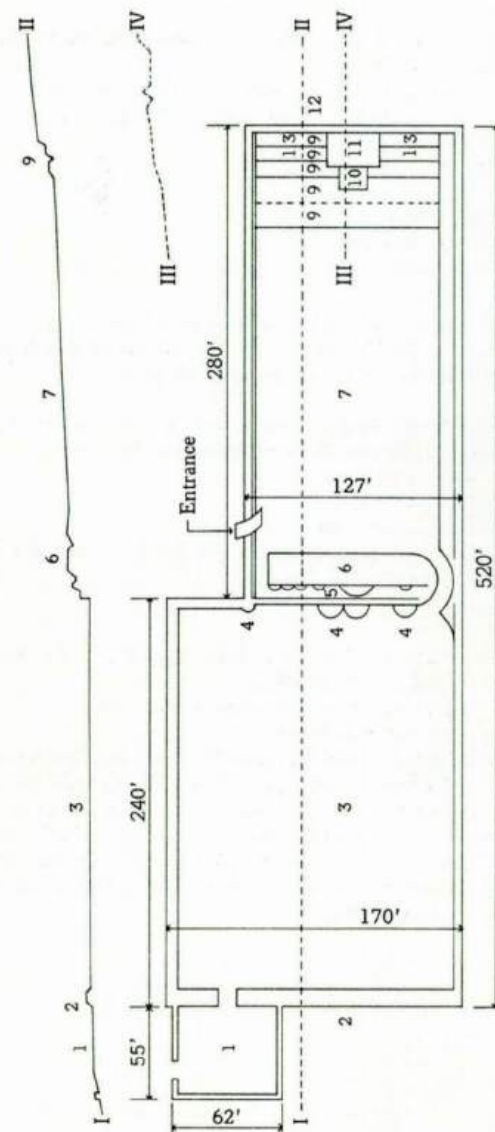
1. Small inclosure 55 by 62 ft. with surrounding walls 3 to 4 ft. high, 2 to 3 ft. wide, with pile of stones in the interior;
2. west wall, 6 ft. high on outside, 6 ft. wide, evenly faced with 1-foot stones;
3. inclosure 240 ft. by 170 ft., numerous small piles of stones and small walls scattered throughout the area, side walls average about 3 ft. high, 2 ft. wide;
4. three small, low terraces of stone at east end, varying in size and shape, possibly means of access between the two terraces;
5. row of about 7 niches broken and now very irregular;
6. earth platform, stone-faced, 20 by 96 ft., 2 ft. higher than floor of inclosure;
7. upper inclosure 280 by 127 ft.;
8. ledge or step of earth and stones, 10 ft. wide, 1 to 2 ft. higher than floor;
9. series of five earth terraces, less than 1 foot above each other, stone-faced, from 6 to 16 ft. in width;
10. small earth stone-faced terrace 12 by 15 ft., 3 ft. higher than terraces, adjoining platform 11;
11. dirt paved stone-faced platform 24 by 32 ft., 4 ft. higher than terrace 10;
12. narrow stone ledge 1.5 ft. wide;
13. single line of stones semi-circular in shape.

Roman numerals indicate cross sections.

KOOLAULOA

PUU-O-MAHUKA HEIAU

PUPUKEA



VISITING REQUIRED HISTORICAL SITES

For those earning the Hawaiiana recognition, locating and visiting the required sites on your island as noted hereafter and learning about them from descriptive legends is necessary. Seek out documented information from libraries, etc.; also from Hawaiians and other knowledgeable persons.

- a. On Oahu - The Trail begins at Kalua o Maua (Historical Site # 1) and ends at Pu'u o Mahuka (Historical Site # 4). See attached historical information for Pupukea.
- b. On Kauai - The trail will begin and end at Lydgate Park. The following Historical Sites:
 1. Hikina-a-ka-la Heiau (City of Refuge)
 2. Petroglyphs - mouth of Wailua River.
 3. Wailua Stream
 4. Holo-holo-ku Heiau
 5. Pohaku-piko
 6. Bell Stone
 7. Poliahu Heiau
 8. 'Opae-ka'a Falls
- c. On Hawaii - Honaunau City of Refuge, Kona District, administered by National Parks Service, Department of the Interior. Go to reception office for guide information.
- d. On Maui - Two (2) heiau sites located adjacent to Hawaiian Home Land, Paukukalo Project Wailuku District.
 1. Hale-ki'i Heiau
 2. Pihana HeiauOther Historical Sites Are:
 3. Ka-pani-wai-o-Iao Battle Field, Iao State Park, Wailuku
 4. Olowalu Petroglyphs

Trail Regulations:

The Scout Oath & Law will be the rules of conduct on the Trail.
Axes will not be carried on the Trail.
Trees, plants and wildlife will be left undisturbed.
Artifacts will be left where found.
Collecting of souvenirs from historical sites will not be permitted.
All "Kapu," "No Trespassing" and similar signs will be obeyed.
Private property will not be crossed without permission.
Entry to historical sites will be via public right of way only.
Pupukea Beach Park is recommended for picnic lunch. All trash must be carried back to camp if lunch is eaten at a place without trash cans.
Fires will not be permitted.

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