

HAWAII-LEGENDS
BALAZS FILE 3 OF 3
HAWAIIAN HISTORY

end of the entry following lani, I, sky):(PPN *langi*; PMP *langit*). This means that *langi* is the hypothetical reconstructed form in the Proto-Polynesian language spoken by the ancestors of the Hawaiians before the separation of the Polynesian peoples; this reconstruction is based largely on the form in use today in Tongan, Uvean, or Futunan, which languages have preserved more archaic features than any other Polynesian languages thus far recognized. Similarly, *langit* is the hypothetical reconstructed form in the Proto-Malayo-Polynesian language, the ancestor of Proto-Polynesian, spoken much earlier, before the separation of the Polynesian and other peoples from the Indonesians; this form can be reconstructed only when cognates are unmistakably present among Indonesian languages, as Javanese, Malay, Tagalog, or Malagasy. In the present work only those reconstructions are listed of which there can be little doubt, based on the present state of Malayo-Polynesian studies, and only those found in Indonesia as well as in Western Polynesia. A reconstruction is acceptable only if the meanings of the cognate forms in the related languages are similar, and if the sounds of the cognates in the various languages are in accord with certain tables of sound correspondences, as published by Dempwolff, Dyen, and Elbert. The symbols used are those established by Dyen for Proto-Malayo-Polynesian and by Elbert for Proto-Polynesian, except that *a* herein may be interpreted as Elbert's "a, or e before i" or "a, or o before u." The velar nasal is written "ng." [See Supplement D.]

It is impossible to tally the enormous number of man-hours behind a dictionary—the senior author has been working more than two decades assembling data. Some have questioned the propriety of "exposing the bones of the ancients," a Hawaiian expression of scorn for one who reveals the secrets of the ancestors. For the authors there have been dissatisfaction and frustration in the realization that in spite of years of dedicated work, it is impossible to record any language completely. How true this seems of Hawaiian, with its rich and varied background, its many idioms heretofore undescribed, and its ingenious and sophisticated use of figurative language. Thousands of pages have been printed in Hawaiian. These may be classified approximately as follows: (1) Texts concerned with ancient Hawaii, especially the chants and legends; they contain a wealth of names for stars, plants, fish, winds, rains, clouds, and objects of material culture. (2) Texts dealing with the period of the monarchy. With the coming of Christianity and the goods of modern civilization, hundreds of words were introduced into Hawaiian, mostly from English. (3) Texts published since Annexation, beginning with a translation of the Organic Act and continuing with names for technological advances and including recent vocabulary additions of World War II. The present work cannot hope to achieve complete

coverage of a history as rich and complex as this one. Many more years of work and more workers would have been needed. A complete lexicon is a picture of the whole of the life of today and of yesterday. But at least the present compilers can say, "Ua *ʻānāhi*: *ka māno wai o ko Hawai'i kūpuna*: the many sources of waters and life of Hawai'i's ancestors have been sought after."

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June, 1957

HAWAIIAN-ENGLISH DICTIONARY

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GEORGE H. DALAZ

A complete new feature of this dictionary is the incorporation of Proto-Polynesian and Proto-Malayo-Polynesian reconstructions by Lord Elbert. An example is the following (with source of the...)

task with determination to see it through. *Ko'u nono ahi i ho'okaha'u 'a me'iana o kah'i pu'u pu'u*, my kindness established on a lava hill. 2. Base of a quilt on which the pattern (*hu*) is applied; this base is above the layer of cotton or wool. The *pu* is below it.

Kahu'a. Name of a star.
kahua hale. House foundation or site.
kahua hana. Subject, as of a discussion, basis for work; foundation principles, as a political platform.

kahua hiki. Fire builder; to build and tend a fire.
kahua ho'ike'ike holoholona. Zoo.
kahua hohua. Steading course.

kahua ho'olele leo. Radiobroadcasting station. *Lid.*, site for making voice fly.
kahua ho'olulu. Meeting place. Cf. *ho'i ho'o'ia'ia*. *Lid.*, site for shelter.

kahua ho'olulu mokulele. Airport.
kahua ho'olulu mokulele. Airport.
kahua ho'olulu mokulele. Airport.

kahu 'ai. To cook taro or vegetable food; to keep the store of such food; to make pot; a keeper or cook. Cf. *kaha*, 2. Same as *kaha'ama* or *kahama*.

kahu 'aina. Headman of a land division. (A.P.)
kahua kaha Iewa. Air base.
kahua kahalahi. Fire station. *Lid.*, place quench fire.

kahu akua. One who takes care of an image or good; priest.
kahua le'a, **kahua le'ale'a**. Playground.
kahu ali'i. Royal guardian in the family of a high chief.

kahua 'ole. Ignoramus, one without background, trade, profession, knowledge.
kahua o Malu'o. Places of happiness, comfort, pleasure named for Malu'o, a mythical woman renowned for entertaining with music and for her ability in love magic).

kahua pa'a. Term arena, the solid earth. *Fig.*, security.
kahua pa'ani. Stadium; playground of any kind. *Lid.*, site for play.

kahu aupuni. Deputy or regent in the days of the monarchy. *Lid.*, government caretaker.
kahu 'ekaleka (*ekaleka*). Pastor of a church.
kahu hana. Foster parent (of adopted children).

kahu hapa. Shepherd; to tend sheep.
kahu ho'oponopono. Administrator.
kahu hapa. Shepherd; to tend sheep.

kahu ka'a. Coachman.
kahukahu. To offer food and prayers to a god or to the spirit of a defunct person. Cf. *ohe'ama kahukahu*.

kahu keli. One who tends a child, as a nurse.
kahu keli. Same as *pa'ehaki*.
kahu kula. Schoolmaster, school supervisor. Cf. *pa'oa o ka kahua kula*.

kahu kula hui. School superintendent.
kahuli. To overturn, overturn, capsize, upset.
ho'okahuli. Casualty/stimulative.

kahuli. 1. To change. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative.

kahuli. 2. To change. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative.

kahuli. 3. To change. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative.

kahuli. 4. To change. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative.

kahuli. 5. To change. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative. *Ue kahuli* be 'one, the successor is changed. *ho'okahuli*. Casualty/stimulative.

kahu wala. Wet nurse (also called *kahu wala*). (Kep. 127.)
kahu waiwai. Trustee, executor. *Lid.*, custodian of wealth or property.
kahu wala. Same as *kahu wala*. (Kep. 127.)

ka'i. 1. Sea, sea water, area near the sea; currents in the sea; insipid, brackish, tasteless. *J. Kai*, towards the sea. *Makani*, on the seaside, toward the sea, in the direction of the sea. *O kai*, of the lowland, of the sea, seaward. *Na kai*, of the shore dwellers. *Na kai'ama*, the eight seas in eight inhabited islands. *Kai'ama*, lower sea, i.e., western sea, where the sea sets. *Ue makani*, western sea. *Ue kai*, Kapa'i, the island of the western sea. *Ue kai*, Kapa'i, the island of the western sea. *Ue kai*, Kapa'i, the island of the western sea.

ka'i. 2. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 3. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 4. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 5. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 6. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 7. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 8. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 9. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 10. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 11. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 12. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 13. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 14. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 15. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 16. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 17. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 18. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 19. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

ka'i. 20. To lead, direct; to walk in a row; to walk deliberately, as in a procession, or as a child learning to walk; to come dancing out before an audience; the chant during which dancers appear and leave; to train, as for racing. (Malo 219.) Cf. *ole'ole'i*, *haka'i*, *Ke'i*, *uina*, to move in a race; *haka'i*, *Ke'i*, *uina*, to move in a race.

kai'au. To sit in silence, as at a meeting. Cf. *ma, silencia*.
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P343 Una. 1. shell of turtle or tortoise 2. Same as haka kō 'upena (net gawg or spacer) so called because some were made of turtle shell.

treadle. Papa hehi. Treadle-board hula, hula papa hehi.
 treason. Kipi. See treachery.
 treasurer. Ilea makamae. To treasure, pūhama.
 treasurer. Pu'ukū, hūono, kuena. Acting or deputy treasurer, hupo pu'ukū.
 treasury. Wāhona, wāhona kīhi, wāhona waiwai, wāhona moni.
 treat. 1. Attend to. Lapa'au (as the stick); hana; wahowaho (explode); — as a parent, ho'omakua. Treat your young brother kindly, hana maika'i 'ou i kou pōki'i. 2. Pleasure. Aia ho'ānu'ou, mea o hohoi ai. My treat, na'u o uku (for me to pay).
 treatment. Hana, noho.
 trendy. Palapala 'aeiike, ku'ikūhi.
 treble. Pēkolu.
 tree. Lā'ua, kumali'au, kumu. Tree or plant consisting of several stalks or roots, as banana, pandanus, kava, pū, ūpu. Top part of tree, ulu. Tip of tree, ānu. Fallen tree, kumu hīna, manuwī. Gather in trees, as birds, ho'olū'au. The tree of life, ka lū'au o ku oia.
 tree fern. See fern.
 tremble. Hā'alala, kapāhā. Also: naka, ulup'i (as with cold or fear); nana, kuokuani, 'opi, 'upa'upa'.
 tremendous. Nui hua 'ole, nui hewahewa, 'a'ole oiaua mai ka nui, 'a'ole oka'e mai ka nui.
 tremor. 'Oia'i, 'i, manuu. See earthquake.
 tremulous. Napa. See quiver.
 trench. 'A'uwaha, 'āwa'a, wa'a, wa'awa'a. To dig a trench, 'āi, hō'auwaha, 'āwa'a, ho'owa'a, ho'owa'ala, uwa'a.
 trepang. Loli (various kinds, PE 195). See sea cucumber.
 trespass. Komohewa, komo wala, 'ae'a, kahakū, 'a'e, 'a'e ku, hehikū. Forgive us our trespasses as we forgive those who trespass against us (Matthew 6:12), e kua mai ho'i iā mākou i ka mākou hewahala 'ana, me mākou e kua mai i ka pu'o i lawehala i ka mākou. See sin.
 trespasser. 'Ae'a haka'e, 'a'e kapu.
 tristle. Haka 'āhā, hāhā, āhaka, kaulanahaka.
 trial. Ho'okolo'oko (court); ho'io (attempt); pōpilikia (hardship). Poetic references to rain and storms may signify trial and tribulation. See lilo.
 triangle. Huinakolu. Right-angle triangle, huinakolu kāpono. Obtuse triangle, huinakolu pōkōu. Irregular triangle, huinakolu 'ao'ao like 'ole. Isosceles triangle, huinakolu 'ēua 'ao'ao like. Acute triangle, huinakolu 'oi. Equilateral triangle, huinakolu like. Triangle design on Nihoa mats, ni'ānu'u. Triangular sail, beko.
 tribe. Lūhū, lūhū pōi 'ohana, 'ālaa, 'ohana.
 tribulation. Pōpilikia. 'aha'aha. See trial.
 tribute. Ho'okupa, uku, 'āhau, 'āwae'āina. Tribute to a high chief, kuapōia'o. To assemble such tribute, ho'okupōia'o. Tribute from uplands, waiwai māhaka. We pay tribute to Caesar (Luke 20:22), ho'okupa mākou iā Kāisara.
 trick. Hana ma'āloa; hana 'āpiki (bad); hana kolobo, hana 'opu. Rare: 'ōpe'a, 'ōha'a, lima. Card trick, hana ma'āloa mo ka pu'u papa. For saying, PE ho'eko'iko'i.
 trickie. Kahe, kulu; paiki (obs.).
 tricycle. Ka'a hehi wāwae.
 Tridacna. 'Olepo-ūlu.
 trifle. Mea 'ole, mea 'ano 'ole, mea iki, mea hūhū, iki. Also: 'ōpīhīhī, pālan'ōia, mā'ūlu. Gaudy. A trifle lover, nui iki. Trifling affair, hana kulakala. To trifle, kuloha wala, pā'ani wala, ho'omea. See gotirū.
 trigger. Ki, kīeo, kīko.
 triggerfish. Humuhumu (various kinds, PE 85). Also: makumuku-waha-nui, 'u'i'ūwi, 'u'i-ūwi-ua.

trigonometry. Ana huinakolu.
 trill. Kapāhā, kīhōkīhī, kīpāpālo, kī'īhī, ha'a-hū. Trilling voice, ho'ānu'au'u (Hawaiian style).
 trillion. Kīhōna, kēhōna.
 trim. 1. Cut. 'Oki 'ōki, pa'pa'a. Also: pa'i kōhi, ma'o kōhi, 'āko, kīpīkīpī, amū; māhina (as the edge of a dress). 2. Decorate, Ho'ānu'i, ho'ōkīhōkī. 3. Neat. 'Auli'i, mikiol, popōha, pūānāhi, mōmō.
 trimmings. 1. Decorations. Na mea ho'ānu'i, na mea ānu'ānu'i; 'ūki (springs). 2. Cuddles. Na mea i 'ōki'ōki 'ia. Thatched-house trimmings, loha.
 trimly. Kūhūkū, kōkūāhi, kankolu. Holy Trimly, Akua Kūhūkū.
 trinket. Mea hūhū i ho'okīhōhōhi (ornamental); mea hūhū i māhūhū (toy).
 trio. Pēkolu, hīmeni ku pēkolu. Music trio, leokū pēkolu.
 trip. 1. Voyage. Hōhō'i. 2. Stumble. 'Ōkupa, ho'Ōkupa. Don't trip him, mai ho'Ōkupa iāa.
 tripe. 'Ōpō, 'ōpō 'āpīkīpī, 'ōpō hūhūhū, 'ōpō 'ōpī'ōpī, 'ōpō pūka 'upena. Beef tripe, 'ōpō pūka. Pig tripe, 'ōpō pū'a.
 triple. Kankolu.
 triplet. Pēkolu.
 tripper. Pīkōi, 'īkōi.
 trite. Pīkōwā.
 triumph. Lanakā, 'Ōhī pūloa, See firebrand, torch.
 trivial. 'Aho 'ole, mea 'ole. See trifle.
 Trochus shell. Pūpū-o-hū'upu, Hū'upu.
 troll. Hi (as for boats, 'ahi and kalia). Trolling line, 'āho kīhewa.
 trolley. Ka'a uia (electric).
 troops. Pū'āhi kōa.
 troopship. Moku hūhūhū kōa, moku lawe kōa.
 trophy. Hū'āhōna lanakā.
 tropic bird. Kō'a, 'ūlu, kō'a-ūlu, kō'a-kōa. For sayings, see cliff; PE pūma.
 Tropic of Cancer. Pū'āhi-ōlu-ānu.
 Tropic of Capricorn. Pū'āhi-ōlu-hōma.
 trot. Holo kīkū, holopaki, hūhū, hūhūhū. Trotting, hūhūhū.
 trouble. Pīkīka, pōpīkīka. Also: hīhīa, kaubīhī, ho'olūhī, pu'u, la'a, la'āha, no'ono'o 'iha'āha, 'ō'upe, olōhī'a. To cause trouble, ho'opīkīka, ho'ohīhīa, ho'opīkīka, 'imi hana, ho'ōlūhū'a, ho'ononi. In trouble, ku i ka pīkīka, 'āpīkīkī. 'Ōhī, nōhi, makana; kūpīkīkī (in dire trouble). Poetic references to rain or storms may signify trouble. For sayings, see bird, wall; PE hō'ōhī, pūhūmu.
 troubled. Kaumaha, hū'āhū, pīkīka.
 troublemaker. Mea ho'opīkīka, mea ho'ōhī pīkīka, 'imi 'opa, 'āhō.
 trough. Hūhūhū, hōloa'a, hē. Water trough, kua wai, hē wai; pū wai (rare). Food trough, kua'āhū trough, papa wai 'āi.
 troupe. Hūi. Hula troupe, pā hula.
 trousers. Lōle wāwae. Long trousers, lōle wāwae lōloa. Short trousers, lōle wāwae pōkōlo. Linen trousers, wāwae olōhī. Triangular piece inserted at base of bell-bottom trousers, pū'i.
 trowel. 'Ō'ō pāhāhāhā, kīa pa'i pūna, hama pūna; hāpalo (obs.).
 truancy. Hā'āhō kula.
 truant. Keiki hā'āhō kula.
 trace. Ho'opau kua, ho'omalolo kua. Trace-breakers, pale pīkīka.
 truck. Kulaka, ka'a kulaka, ka'a ukana.
 truck farm. Wahi ho'ōhū mea'ai mo ka mīkeke, mahina'ai.
 trudge. Kō'ole, kō'ole wāwae, kō'ō; — along, paki.

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true. 'Oia'to. Also: 'To, 'oia, k'u'to. maoli.
Come true, as a prophesy, ko 'i'o.
truly. Maoli. 'To, 'oia'to. Yours truly, me ka
'oia'to.
trump. Hull (in cards). To trump, kuman, hahau.
No trumps, 'o'ohu hull. Spades are trumps, ho
peki ka hull.
trumpet. Pā, pū ho'okani, pū kani, 'oiē. Conch-
shell trumpet, pū pahi. Trumpet of animal horn,
pupūhaha. Trumpet leading an army, pū ka'i.
trumpet fish. Nūā, uhu.
trumpet vine. Hūa-pala.
trundle bed. Moeka'a.
trunk. Pahu, pahu lolo (clothes); kumu (tree);
ihu (elephant); paūki kīno (body).
trunkfish. Pahu, moa, moamao.
trust. Hīlina'i, kīlolo, paulea, telepau.
trustee. Kahu waiwai.
trust territory. Na 'āina noho kahu 'ia.
trustworthy. Paulea 'ia.
truth. 'Oia'to, 'oia. Partial truth, 'ohohaha.
try. Ho'ā'o (example); ho'ōka'ia, ho'ōka'ia, hūlia
(make effort); — out, ho'opā; — in court, ho'o-
kolokolo.
T-shaped. 'Āmana.
tsunami. See tidal wave.
tub. Kapu.
tube. 'Oho. Suction tube, omo, 'ili omo wai.
tuber. Hūa; 'ā'a (as of taro, rare); bitter gem —
'ā'a'ā'a. To form a tuber, hūa, hū'o.
tuberculosis. Ma'i-'āi-āke, ākepau, hōki'i,
lewai, wai-'ōpua.
tuberoso. Kupaloke.
tuck. 'Alu (as in a dress); hū'a (as in a nest).
To tuck a tuck, tuck in, 'ōman, polu. Tuck
creeper, 'ālu. To tuck under, as a hen with chicks,
pāpā. The dog tucked in his tail, polu ka hūalo
o ka 'ālu.
Tuesday. Pō'ālua.
tuft. Pūpū. Tuft of dried ti leaves on scapular hair,
pūpua. Tufted, moa.
tug. Hūhū, kōni, kō, hūki.
tugboat. Mōkukōlo, kolomoku.
tug of war. Hūkihūki, pū'ume'ume.
tuition. Uku. School tuition, uku kula.
tumble. Hī'ole (from a height); hīna (tumble);
— down, kolupā, hūlo.
tumbler. Kī'aha.
tumor. 'To uhu, pu'upu'a kōko. Venereal tumor,
'ānako'i.
tunaut. Haunūēle, pōna'ana'a, kīpala'i, āluā'a,
'āle'āle, wawū. To cause tunaut, hū'āle'āle,
ho'āluā'a, ho'āluā'a, ho'āluā'a.
tuna. 'Ahi, hī'u-wēle, kaha-ūi; pālahā (small
variety).
tune. Leo, leo mele. To tune, ho'okani pono,
ho'oponopono.
tunnel. Ana puka, las pao, ālapao, kōnōa,
kōnōa puka.
turban. Kā'e'i po'o.
turbid. Lepolepe, lepo hūa'i. To render turbid,
hūku.
turbo shell. 'Ālōa.
turbulent. Hūlo'āto'a, 'ālo'āto'a, 'ole'olepi,
wīlā; kūpiki'o (as sea).
Tarin. Kullāo, Tarino.
Turk. Kūleka, Turēka.
Turkey. 1. The country. Kūleka, Turēka. 2. (Not
cop.) Poul, Pēlohū, palahū, pōkekeke.
turmeric. 'Oia, lēa; hū'ekai (used evo-
metrically).
turn. 1. Move. Hull; kē (as a rope for jumping);
— around, twist, resolve, wīli, kū'a, kē'awīli,
kūlapa, melo, hēle, wīlino'o, palawīli, 'ōpepe,

'ōmō, lēa'ōlo, uē, oī, kū'āpōla, kū'a wālo,
kū'o; — aside, 'āni, hūli, ho'āpā, ho'ōkūli, kīno,
kūpao, kū'a'a, ho'ōhā, kōpa, kīlaha, kōpa,
kīlōpa, kōho, kaha lou, kaha'ā, pō'a, pēu,
pōkūa, pōpōka, palai, pāweo, kō; pūnū'āka
(obs.); — over, kīhūi, pū, 'owālu; kīwāwāwa
(repeatedly); pūhūhū, kaka'a, pēu; pūlope (obs.);
— inside out, lōle; — towards, māliu, kōkōi;
— this way and that, hōu hōwa; — and rush,
hūlmōka; — into, hū, kē 2. Also: hūli,
hūhūli, hūhūhūli, ho'ōhūli, lōli, ho'ōke'e, pūma.
Turn the back, hūli kua; 'ōkōkōi (as in anger).
Turn back, hūli hōpa. Turn in two ways or
vice, hūli lūa. Turn and lose in sleep, moe 'ino,
mōkūhūa. Night, turn, mā ka 'āka, wīli.
2. Time. Mānawa. In turn, take turns, mā'āhele;
I kēkēli a i kēkēli āka. This is your turn, kōu
mānawa kēka, kē'ōe ia wāli. To read in turn,
hūhūhū kū'āhōa.
turncoat. Lōle lūa, māka'a, kumakala; lepōlūa
(obs.).
turning. Hūlūa, kū'a, lāwīli, melo, melamela.
Motions of turning things, kō'ūm'āni, 'ōpe-
lope. Turning point, hūliāu, kaha'a.
turnip. 'Uala-pīlāu, ānāū.
turnkey. Wīlāki.
turnstile. Puka ponihū, puka uai.
turnstone. 'Ākekeke, kēke.
turpentine. Kapenakina, tapenakina, 'āia ho'o-
mālo'o pāna.
turtle. Hōnu (various kinds and sayings, PE
79-78); 'ea. Dark greenish meat in a turtle, hū'an,
'to hū'an. Turtle shell, mā. 'ea. Turtle coloring,
hūhūli hōnu. Turtle markings on back, māka'a.
Turtle back, ho'ōmāka'ūli. Turtle, turtle, come
up to breathe, a hōnu, a hōnu, a pūhā (turtle
back). See turtle dove.
turtledove. Kūhukūhū. The voice of the turtle,
ka lōo o ke kūhukūhū. See dove.
Tuscaloosa. Kūka'āka'a, Tusakalua.
Tuscany. Kūka'āni, Tuskani.
tusk. Niho, kū'i. Pig tusk, niho pua'a.
tutor. Kumu a'o, kumu. To tutor, a'o.
twelve. 'Umi kūmūlūa, 'ūmi kumamūlūa; 'ekela
kūma.
twenty. Iwakūlūa.
twenty-eight. Iwakūlūa kūmūwalo, iwakūlūa
kumamūwalo.
twenty-five. Iwakūlūa kūmūlūma, iwakūlūa ku-
mamūlūma. Twenty-five cents, hūpāhē.
twenty-four. Iwakūlūa kūmūhū, iwakūlūa ku-
mamūhū.
twenty-nine. Iwakūlūa kūmūlūa, iwakūlūa
kumamūlūa.
twenty-one. Iwakūlūa kūmūkūli, iwakūlūa
kumamūkūli.
twenty-seven. Iwakūlūa kūmūhūka, iwakūlūa
kumamūhūka.
twenty-six. Iwakūlūa kūmūlōo, iwakūlūa ku-
mamūlōo.
twenty-three. Iwakūlūa kūmūkōlo, iwakūlūa
kumamūkōlo.
twenty-two. Iwakūlūa kūmūlūa, iwakūlūa ku-
mamūlūa.
twice. Pēlūa, lūa, 'ālua, 'ālua, 'ālua mānawa,
kūalūa. To do twice, ho'ōlūa. Twice as much,
pāpālu. For example, PE pēlūa.
twig. Lēli 'ū'aku. Twig, w'āli'āu.
twilight. Mōtehu, mālohūhū, pūlohūhū,
pūlohūhū, hū'a, mā'o. Rare: mālohūhū,
mālohūhū, mā'ā'ā'o.
twill. 'O'ono, ho'ōhōwahōwa; kūlia.
twin. Mēhōo, māhāna, kūlūa, pūlūa. Twin peats,
māhāna pū'a.
twine. Kūalūa, kūlia kūalūa. To twine, 'oi,
'owā, kōni, hūli, ho'ōhūli.
twinkle. 'Imo, 'āmo, 'āmo'āmo, 'ūki, pūpi;
nakīli (obs.). Twinkling star, hōkū 'imo'imo.

P441 hana ka. Redup. of mika 1/2 marked in sections, as a turtle's back
 B66M A. 2 Bark used in dyeing, as hīl kōhūi, hīl kōfōa, hīl nōni. The dark-brown dye made
 from this bark, a tapa dyed with hīl; to dye with hīl.

SYLVIA H. BARNETT

Any of the native birds, large or small, land or sea, were considered good food, though some species were caught primarily for their feathers. The smaller birds with yellow, red, black, or green feathers, which were used for capes and cloaks, were caught in the moulting season by professional fowlers, who used bird lime made from breadfruit gum (*kepa*) or *kukui* tree gum (*pilaki*). The Hawaiians did not believe in killing the birds that grew the golden feathers, hence the few yellow feathers of the 'o'o [*Moko* (*Acrulocercus nobilis*)] and the *mamo* (*Drepanis pacifica*) were plucked without damage to the birds, which were liberated to grow more feathers for another plucking. However, some 'o'o were killed for their black body feathers. The 'i'iwi (*Vestiaria coccinea*) and the 'apapane (*Himatione sanguinea*), too extensively covered with red feathers to survive plucking, were killed, skinned, and eaten.

Birds with larger feathers were caught to provide feathers for fly switches and large ceremonial standards, both termed *kahihi*. Of these birds, the largest was the Hawaiian goose, or *nene* [*Branta* (*Nesochen*) *sandwicensis*], which was also excellent for eating. Malo (1951, pp. 37-40) lists the names of 32 species of birds which were eaten. Among them are the mudhen, or 'a'ae (*Fulica americana sandwicensis*); the wild duck (*ko'oa*); the night heron, or 'auku'u (*Nycticorax nycticorax hawaii*); a stilt, or *kukuhac'o* (*Himationopus himantopus knudseni*); a wader (*kioea*), the bristle-thighed curlew (*Numenius tahitiensis*); and the plover, or *kolea* (*Pluvialis dominica fulva*).

A number of sea birds were caught with nets and lines, others were taken by hand on rookeries. Expeditions were made to the rocky islets of Kaula and Nihoa to procure sea birds, which were eaten despite a fishy flavor.

Malo states that nets with a wide mouth were set to catch birds on their way to their nests and also that snares were set. He mentions the use of a bird pole (*kiea*) but gives no details; and he says that the rather primitive method of pelting with stones was used to catch mudhens, wild ducks, herons, stilts, and waders. Plovers, he writes, were attracted by whistling, but he does not describe the rest of the process.

FISHES

Fishes (*'ea*), like birds, were all eaten, for there were no poisonous ones as there are in some parts of Polynesia. An exception, perhaps, is the porcupine fish (*'o'opuhue*), the gall of which is poisonous; but if the gall bladder is carefully removed without spilling the gall, the flesh may be eaten without danger and has a delicious flavor. A crab (*kumimi*) and a species of sea turtle (*'ea*) are also said to be poisonous.

Malo (1951, pp. 45-47) lists the fishes according to various characteristics. As he sums up their values as food, it is interesting to note his divisions, which are given in the following list (table 1). For the actual names of the individual fish, the reader is referred to Malo.

Table 1.—Malo's Fish Divisions

CHARACTERISTICS	NUMBER IN DIVISION	REMARKS
small fry along the shore	14	food
with hard protuberances	23	excellent eating
with flattened bodies	22	good eating
bodies greatly flattened	6	
bodies with silvery color	15	good eating
with long bodies	9	used as food
bodies with red color	15	wholesome food

Malo (1951, p. 47) classes "fish with long fins like wings" together: the flying fish (*tolou'u malou*), rays (*hikimau*), *pukiki'i*, *lape*, *hahakua*, and the *halepo*. All are used as food but are not of the finest flavor. He mentions that the shark (*mamo*) provided the skin for covering drum heads, but Malo does not mention its food value. Of the *makinahi* (dolphin) and the *kahala* he remarks that they "are quite unlike other fishes" in shape but are excellent eating.

Malo (1951, p. 46) classes the octopus group with fishes and says that the octopus (*ke'e*) and squid (*make'e*) are highly esteemed for food. He adds that the *he'emakoko* is eaten but that the flesh is bitter.

The turtle he classes as a sea animal, distinguishing between the *houu*, which is excellent food, and the 'ea, which is poisonous. Sea mammals are classed as "fish which breathe on the surface of the ocean." These include the porpoise (*nai'a*, *na'ao*, *pa'au*), the sperm whale (*pa'aoa*), and other whales (*kokola*). When cast ashore, they were "held to be the property of the king." The flesh was eaten. (See Malo, 1951, p. 47.)

CRUSTACEANS AND SHELLFISH

All crustaceans are esteemed as food except the poisonous *kumimi* crab. Malo (1951, p. 45) alludes to them as fishes having feet with prongs, and he lists 13 by name. Chief among them are crayfish (*ula*), crabs (*papa'i*), and fresh-water shrimp (*'opee*). Echinoderms are eaten, and they are classed by Malo as fish beset with spines. He enumerates them as 'ina, *hawa'e*, *wana*, *ha'u'uke'uke*, and *haku'e*.

Shellfish which are large enough to repay the work of extracting the contents are eaten. Malo lists 19 names, among them *pipipi* (*Nerita* sp.), *puk'o'okani* (conch), *'olepe* (a bivalve), *leho* (cowrie), and 'opihi (limpets).

PLANTS

INDIGENOUS PLANTS

Indigenous plants which supplied any form of food were utilized by the Menehune settlers. Anything edible in the form of pith, root tuber, corn, fruit, or

applied directly to the cloth. Perhaps an inventive artist dipped the geometric pattern on his tapa beater lightly into the dye and pressed it on the cloth. Perhaps the result was up to his expectation, but he found the tapa beater too heavy and clumsy for good work. It was a logical and easy step to carve a geometrical pattern on a lighter and smaller piece of wood. Thus block printing was invented.

The first blocks, or stamps, were made of wood which had to be split out of the solid block and whittled down with stone tools. Another inventive genius saw the labor saving possibilities of bamboo, which was easily split into suitable strips, required no trimming down as regards thickness, and had an inner, unglazed surface which was easy to carve. Any length of stamp could be obtained; but the width was determined by the lateral curve of the cylindrical bamboo, as the surface to be applied to the cloth had to be flat. Thus narrow bamboo strips became the accepted material for making the carved stamps by which color decoration was applied to tapa cloth in the new process of block printing.

The stamp blocks were of two types, one with geometrical motifs and the other with straight lines. In the Museum records, those with geometrical patterns have been termed bamboo stamps and those with lines bamboo liners. However, both types were also made of wood other than bamboo. I will refer to them as tapa stamps and tapa liners.

TAPA STAMPS

The stamps made from bamboo were termed *'ohé kapala* ('*ohé*, bamboo; *kapala*, to stamp). The Museum collection contains 262 bamboo stamps and these, with a number in the Honolulu Academy of Arts, I have studied as to structure and design. The average thickness of the bamboo strips is 0.2 inch, but some are trimmed down to 0.1 inch. The length ranges from 11 to 19 inches. The width of the carved end varies, ranging from 0.1 to 0.8 inch, with the majority 0.2 and 0.3 inch. The lengths range from 1 to 5.4 inches. The uncarved handle is usually of the same width as the stamp, but in very narrow stamps the handle is wider; and in very wide stamps (0.8 inch) the handle is trimmed down to 0.6 inch. The end of the handle sometimes includes the thick part formed by a node, affording a better grip. An occasional stamp has a piece of tapa wrapped around the end of the handle to improve the grip. (See figure 130.)

Evidently some craftsmen continued to make stamps of a dark wood. One such stamp in the Museum collection (10350) is 13.4 inches long with the stamp part 2.3 inches long, 0.4 inch wide, and 0.2 inch thick. The stamp pattern of 12 chevrons and six lozenges is very neatly executed (fig. 131, *a*). The wood is trimmed off to a round handle 0.25 inch in diameter.

One stamp in the Museum collection (7724) consists of a bamboo handle with the design cut out of a turtle-shell plate. The bamboo strip forming the handle

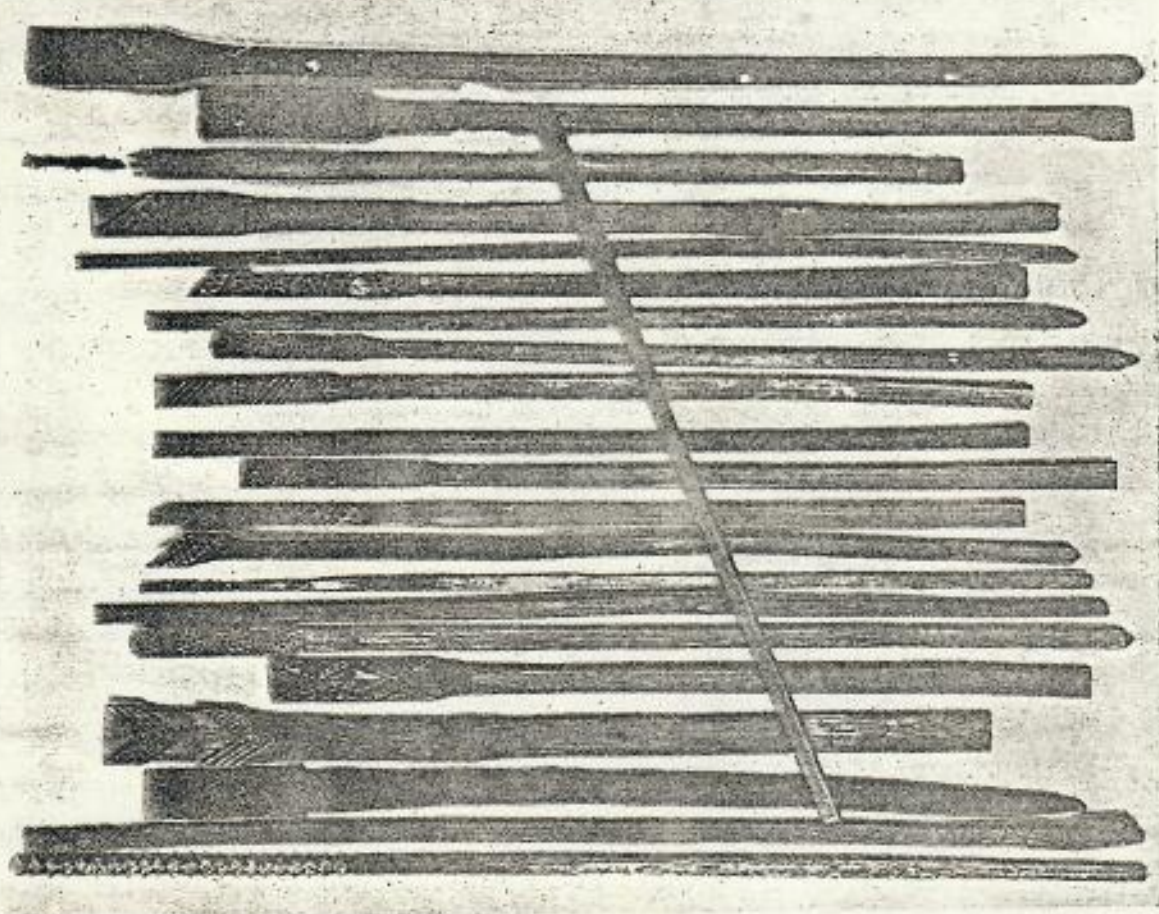


FIGURE 130.—Bamboo tapa stamps.

of Block Printing

is 0.3 inch wide, trimmed at one end into a narrow prong 0.1 inch wide. The turtle-shell plate—1.3 inches long, 0.3 inch wide, and 1 mm. thick—is notched on each side to form nine lozenges and a short distal projection. The plate is laid on the outer, shiny surface of the bamboo prong; the end projection of the plate is tied to the prong with a fine thread; and the thread is carried in spiral turns at the back of the prong to pass transversely over the front in the notches between the lozenges. The thread is finally tied to the prong below the last lozenge, and the plate is thus firmly fixed to the handle. (See figure 131, *b*.)

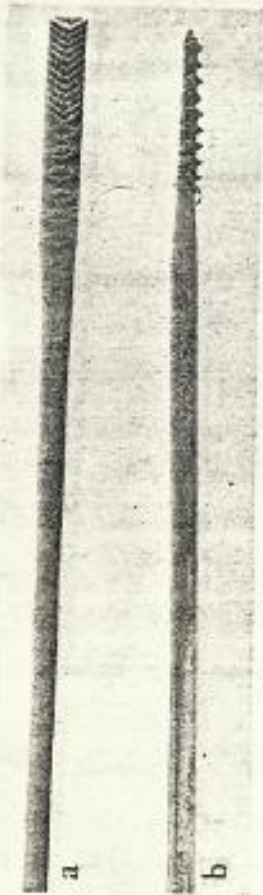


FIGURE 131.—Tara stamps: *a*, wood; *b*, turtle shell.

STAMP CONTAINERS

Bamboo stamps were kept in a container formed of a length of bamboo with a node closing the bottom end. One such container in the Museum is a bamboo internode 16.25 inches long; with the bottom, closing node, this makes a total of 18.5 inches. The diameter of the tube is 2.1 inches. The open end has a cord suspensory loop, the ends being passed inward through opposite holes below the rim and fixed with overhand knots on the inner side of the tube (fig. 132).

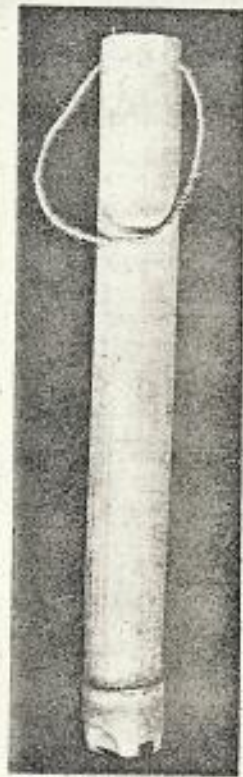


FIGURE 132.—Stamp container.

Kamakau in describing the bamboo stamps, speaks of "na 'olulo ua paha i na 'ohu kapala" (the 'olulo filled with the bamboo stamps). Andrews' dictionary (1865) gives 'olulo as a long gourd, so it is evident that long cylindrical gourds, probably of small size, were also used as containers for tapa stamps.

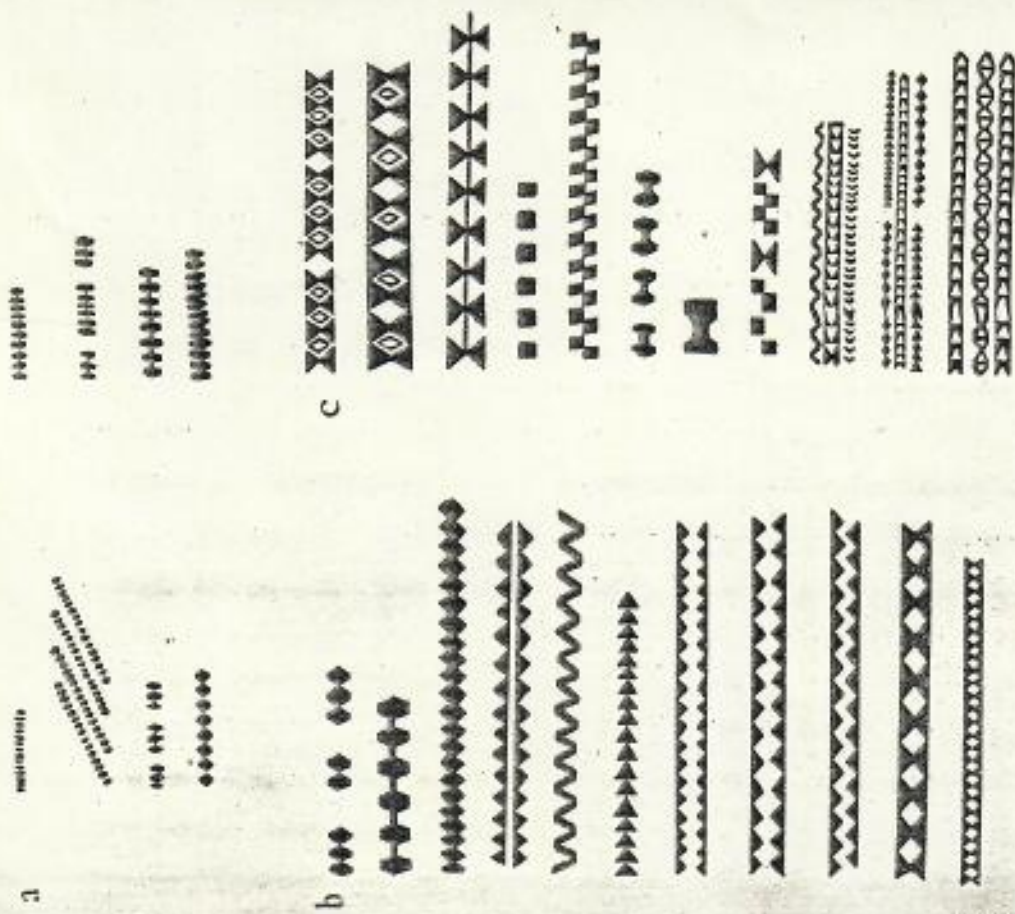


FIGURE 133.—Stamp designs: *a*, *b*, small notches, producing geometrical designs; *c*, incised triangles, producing varying designs.

(2) Direct pegging: Sometimes one, more usually two, holes were bored transversely across the handle slot, the slot being deep enough to allow sufficient space above and below the holes. The tooth was probably fitted temporarily in the slot to allow its base to be marked through the holes by sticks dipped in wet mud or some stain. The tooth was removed and holes drilled through the marked spots. On returning it to the socket, pegs of hard wood trimmed to fit the holes exactly were driven through from side to side and the projecting ends trimmed

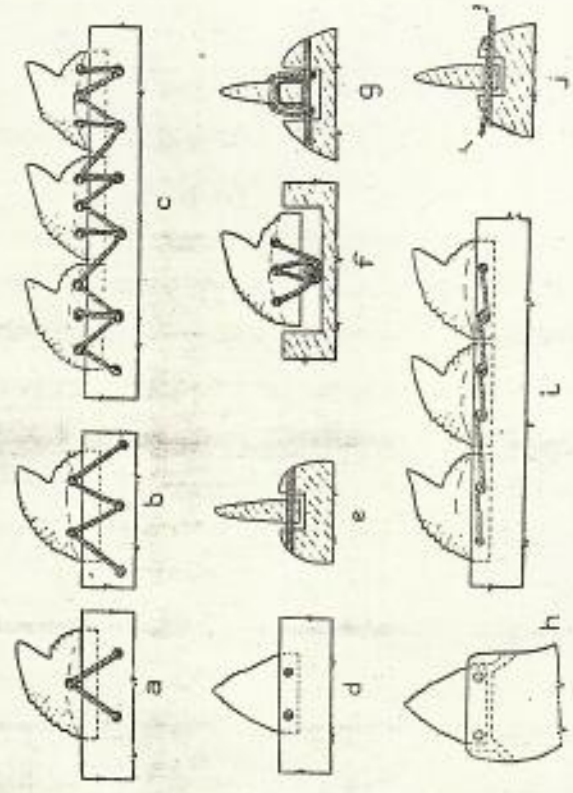


FIGURE 286.—Shark-tooth implements, showing fixation of teeth: a, lacing, simple V-pattern; b, lacing, M-pattern; c, continuous lacing; d, pegging; e, cross section of pegging; f, lashing to a peg; g, lashing to peg in longitudinal section; h, anchoring to a plug; i, sewing; j, cross-section view of sewing, showing overcrossing threads (1, 2).

off close (fig. 286, d, e). Pegging was next to lacing in frequency of use, and it was utilized in both the single and the multiple tooth implements.

(3) Lashing to a peg: This method occurs in a knuckle-duster type of implement collected by Vancouver and now in the British Museum (Van. 265). As described by Digby, the handle socket is deep and a hole is drilled across the socket below the base of the tooth. A peg is driven across the socket and a lashing thread is passed in turn through three holes in the tooth base and around the peg (fig. 286, f, g). Numerous small wedges are used to steady the tooth in the socket, each tooth having its own individual socket.

(4) Anchoring to a plug: This method, described by Digby as occurring in an implement with a curved handle in the British Museum (2043), is not very clear. The tooth has a hole at each end of the base, and it is set into

with the cartilaginous base. This left enough of the base below the holes to be set in the slots made for them in the handles. Some shark teeth, such as those of the large triangular form, were bored through the basal part below the enamel so as to be covered when set in the handle slots.

The handles were mostly of hard wood such as *kauila*, and slots were cut in them to fit exactly the base of the teeth to be imbedded in them. In some implements, the teeth were to the side of the handle; in others, to the end of the handle. Small holes corresponding in size to those through the teeth were drilled transversely across the wooden slot or below the bottom of the slot. They usually numbered two to three. The various forms of handle are shown in figures 287, 289.

Bone was also used for handles. The human bones utilized were the clavicle and the humerus. Dog bone was also used, the front part of the jaw bone providing a bent handle for one type of instrument. Turtle shell shaped into a ring handle with a braid of *olona* fiber was a base to which teeth were attached.

Fine wooden pegs and fine *olona* cord fixed the teeth to the handle. Some implements bear traces of gum that has been used in the handle slots to set the teeth, and in others small wooden wedges have been inserted for a similar purpose.

FIXATION OF TEETH

I am indebted to Adrian Digby of the British Museum for furnishing me with the notes and drawings that he made in a study of the shark-tooth implements in the British Museum. The technique used in the Hawaiian implements consists of four forms, and it would appear that these forms cover all the methods that were used in Hawaii. The five Hawaiian methods named and described by Digby are as follows:

(1) Lacing: This term is very appropriate, as it represents the lacing with an *olona* two-ply thread between two sets of holes, one through the teeth and the other through the wooden handle below the slot in which the teeth are set. The pattern formed by the lacing thread varies, naturally, with the number of holes in each set and their relative positions. The simplest pattern is a V formed by one hole through the tooth and two holes through the wood (fig. 286, a). A W-pattern is formed by two through the tooth and three through the wood or vice versa (fig. 286, b, c). If the end pairs of holes are directly opposite each other, an M-figure will result instead of a W. An even figure results from three holes through both tooth and wood. Extra turns to other holes may mar the regularity of the pattern but do not affect the firmness of the lacings. Digby figures a fixation through four holes in the tooth and two through the wood. A pattern may differ on the obverse, owing to extra turns made to bring the thread into the position required for continuing the lacing. With multiple teeth, the lacing is continuous from tooth to tooth. The pattern is not so important as is the use of *olona* for lacing two sets of holes.

Shark tooth

2. The knuckle-duster
3. The fisherman's knife

the end of the handle. The fiber thread passes through a hole in the tooth and then through twin tunnels emerging imperceptibly on each side of the wooden shaft (fig. 286, *h*). No mention is made of a plug but perhaps plugs were driven into the twin tunnels to anchor the thread that passed through the hole.

(5). Sewing: This method is based on one multiple-tooth implement in the British Museum (78, 11-1, 595) which, though labeled Tahiti, is attributed by Digby to Hawaii. The implement has 38 teeth which are set bilaterally in a groove along each edge of the long blunt-ended blade. Each tooth has two holes through the base which correspond with similar holes drilled across the groove as in the pegging technique. Instead of pegs, a string passes through the holes and as the technique appears continuous, it is probable that two strings were used, one on each side to cross at each hole. Sewing is thus a good term (fig. 286, *i, j*). The handle of the implement is flared, with a square hole for the fiber loop, and the evidence as to the locality confirms Hawaii.

TYPES OF IMPLEMENTS

It is easier to recognize the different types of implements by their form than by technique. They may be divided into four main classes: one-tooth implements with a lateral attachment, one-tooth implements with an end attachment, two-tooth implements with end attachments, and multiple-tooth implements. These main divisions again divide into 16 types.

One-tooth Implements, Lateral Attachment

Short handle, median attachment. Three specimens of this type in Bishop Museum have short handles that range from 2.6 to 3.1 inches, with rounded ends a little over half an inch in diameter, and with the middle part a little thicker and flatter. A lengthwise slot was made on one side in the middle to fit the base of the triangular shark teeth that were used in all three implements and also in a fourth specimen, in the Rome Museum. Two holes were bored transversely across the slot and wooden pegs were driven through them and similar holes in the base of the tooth. On the side of the handle opposite the tooth, a finger loop of *olona* was fixed, as shown in figure 287, *a*. These short handled implements are definitely known as *letomano*, but I do not know whether the term applies to all shark-tooth implements. The term is evidently derived from *lei* (whale-tooth ivory) and *mano* (shark), with the possessive *o* linking the two together.

Long handle, attachment near end. A good specimen is shown in figure 287, *b*, in which the handle is 12.25 inches long and the tooth is attached 1 inch from the end. A slight variation occurs in an old specimen found in a cave in Kohala, Hawaii. The handle, affected by dry rot, is 6.7 inches long and the

tooth is attached as close to the end as possible. A unique form in which the tooth was attached to the outer end of a collar bone was found, together with other rare artifacts, in Forbes Cave, Kawaihae, Hawaii (fig. 287, *c*).

One-tooth Implements, End Attachment

Straight bone handle. A specimen in Rome labeled by Giglioli has the handle formed of a human humerus cut off square above the lower expanded end for the attachment of a single tooth. The shaft is wrapped with human-hair braid and the head of the bone forms a convenient grip (fig. 287, *d*). The



FIGURE 287.—Shark-tooth implements: *a*, short handle, median tooth attachment; *b*, long handle, attachment near end; *c*, collar-bone handle; *d*, human-bone handle with hair braid; *e*, curved wooden handle; *f*, thin wooden handle, Cook's voyage; *g*, handle made from dog's jaw bone, British Museum; *h*, *i*, Jussenge-shaped handle, model; *j*, turtle-shell ring handle; *k*, crescent-shaped handle, Oldman collection; *l*, crescent-shaped handle, Vienna; *m*, crescent-shaped handle, double bar; *n*, straight handle.

method of fixing the tooth is not clear. The implement is stated to have been obtained in Hawaii in 1886. Two implements with similar shafts are in the Backmore Museum, Salisbury. The larger one, 16 inches long, figured by Edge-Parington (1890, 1-53-2) has the humerus ornamented with rings of turtle shell; and as this form of ornamentation was frequently used with the handles of Hawaiian fly whisks (*kahilis*), the identification of the implement as Hawaiian seems to be beyond question. The second Salisbury specimen, 11 inches long, also described by Edge-Parington (1890, 1-53-3), has the humerus shaft

engraved with four narrow bands of crossed lines evenly spaced over the shaft. Thus the use of the human upper arm bone as a handle for a shark-tooth implement is proved by three specimens. In all three, the lower end of the bone is cut off for the tooth attachment. The shaft is decorated differently in each implement; some with hair braid, ornamenting with turtle-shell disks, and incising the bone.

Curved wooden handle. A single specimen figured by Oldman (1940, vol. 49, pl. 127) and described as a carving tool, has a handle of what is apparently a naturally curved rod of hard wood which is seized for a short distance at the tooth end with a fiber cord. A cord loop is attached through a hole in the end of the handle (fig. 287, *e*). Though Oldman states that the locality is unknown, the best shape was utilized in other implements identified as Hawaiian.

Obtuse-angled shaft. A neat type of implement has a handle with two limbs meeting at an obtuse angle and sometimes more nearly at a right angle. The tooth limb is wide and flattened from side to side, and the handle limb is narrower and rounder in section. The type was first figured by Cook (1784, Atlas, pl. 67, no. 2) and, speaking of Hawaiians, he says (1784, vol. 2, p. 239): "They have also little instruments made of a single shark's tooth, some of which are fixed to the fore part of a dog's jaw bone, and also to a thin wooden handle of the same shape; and at the other end there is a piece of string fastened through a small perforation. These serve as knives occasionally and are perhaps used in carving."

Omitting the specimen figured by Cook and here reproduced in figure 287, *f*, 10 implements were available for study distributed as follows: British Museum, five; Oldman collection, two; and one each at Vienna, Bern, and Lille. The implement at Bern was collected by Webber on Cook's third voyage, and the Vienna specimen dates from the same voyage. Thus the localization of this type to Hawaii is beyond doubt.

The use of the fore part of a dog's jaw bone is borne out by two out of 10 implements having bone handles, one in the British Museum (2045) and one at Lille (19058-3). In both, the single tooth is fixed to the handle by a fibrous cord passing through holes in the tooth and in the handle below the inset base of the tooth. The British Museum specimen has one hole through the tooth and two through the bone, and as a result, the lashing forms a simple V-pattern (fig. 287, *g*). The Lille specimen appears to have three holes through the tooth and three through the bone, with a more complicated lashing pattern. The proximal end of the handle is plain without any raised rim, and a hole is pierced through near the end for a string loop. The method of fixing the cord loop in the British Museum was drawn for me by Adrian Digby, and it is typically Hawaiian in that the ends of a length of string are passed through the hole from opposite sides and tied with overhand knots to prevent their slipping back.

The wooden handles resemble the bone ones in general principle, but as the craftsmen had a freer field in wood than in bone, the tooth limb is usually wider and the proximal end of the handle limb is usually slightly flared or may have a neat marginal rim (fig. 287, *f*). A socket for the tooth is made in the end of the tooth limb. All the specimens are laced through holes in the teeth and in the handle. The V-pattern is used once with one hole through the tooth and two through the wood. The reversed W-pattern with two holes through the tooth and three through the wood occurs in four implements; and in one other, the pattern is direct with three holes through the tooth and two through the wood. In another implement, the W-pattern has extra limbs, there being three holes through the tooth and three through the wood. Two implements have three holes each through the tooth and the wood, and in the remaining two implements the lacing pattern cannot be clearly made out. Two implements in the British Museum have two teeth each and one has a triangular iron tooth laced with the W-pattern. The greatest length of the instruments between tooth and handle but ranges from 3 inches to 7.6 inches.

Lozenge-shaped handle. A curious lozenge-shaped handle with knobs at three angles and a tooth at the fourth in the Berlin Museum für Volkerkunde was figured by Brigham (1898, p. 17, fig. 22), and a model was made locally for Bishop Museum. The model has three holes through the tooth and three through the wood, and a cord is used for the lashing (fig. 287, *h*). Two other models in Bishop Museum have lozenge-shaped handles but lack knobs at the angles (fig. 287, *i*).

Turtle-shell ring handle. Two specimens collected by Webber are in the Bern Museum. The handle consists of a piece of turtle shell 18 mm. wide which is bent round into a circle about 25 mm. in diameter with the two ends turned outward to enclose the base of a shark tooth (fig. 287, *j*). Though I saw them, I unfortunately did not make a detailed note of the tooth fixation. However, from a drawing, it appears that there were three holes through the tooth and four through the turtle shell below the tooth base, with a fine cord run in zigzag between the two sets of holes. Another specimen is figured by Portlock (1789, p. 294).

Two-tooth Implements, End Attachments

Crescent-shaped. Omitting the obtuse-angled implements with two teeth because they are set close together as a variation of the commoner, one-tooth implement, there is a definite type with a curved handle and a single tooth set at each end. A good specimen is in the Oldman collection (no. B10), one is in the British Museum (2043), and a third is in Vienna. The Oldman specimen is shown in figure 287, *k*. The British Museum specimen is 1.25 inches longer and the teeth are set in the same way but the fastening, according to a letter from Digby, is by fiber twist passing through a hole in each end of the base of the

on ornaments

other end (fig. 337, a). In some bracelets the tip ends were cut off probably to make the sets of even length. In a Bishop Museum specimen (7740) the length of each of the reduced tusks is 2.5 inches (fig. 337, b).

A further refinement was to cut off both ends near the tip end so that the pieces were solid with just a trace of the tusk hollow showing at the lower ends. In a specimen in Bishop Museum (1305) there are 23 pieces, 1.6 inches long, drilled with two holes 0.9 inch apart. A thick piece of turtle shell cut to the same shape as the tusk sections is inserted in the middle of the bracelet (fig. 337, c).

Bracelets with full-length tusks are the most common in Museum collections, and some of these are authentic old specimens. The specimen shown in figure 337, a is similar to the one collected by Cook and illustrated in the Atlas of his third voyage (1784, pl. 67, no. 5). Another similar bracelet in the Pigorini prehistoric and ethnographic museum, Rome, is stated by E. H. Giglioli to have been collected by Cook at Kealakekua Bay, Hawaii, in January 1779. Two others, in the Peabody Museum at Salem, are said to have been obtained from Captain Nathaniel Silsbee in 1800.

TURTLE-SHELL BRACELETS

Turtle-shell bracelets termed *kape'e* 'ea were made of thin plates of turtle shell cut to an even length, convex on one side and concave in the middle part on the other. The heights of the plates in different specimens range from 1.25 to 1.9 inches, and the widths above and below the middle concavity average 0.4 inch. The plates are slightly thicker on the concave side, but they are so thin that it took 20 plates to form an inch of width in one Bishop Museum specimen. Single bone plates of the same shape and size as the turtle-shell plates are spaced at intervals and show up white against a black background. Two holes are drilled through each plate and a cord is threaded through with the same technique as that used in the boar-tusk bracelets. The plates are arranged in a similar way, with the convex side inward so that the thicker, outer part of the plates causes them to form a concave lateral curve to fit around the wrist.

The antiquity of turtle-shell bracelets is vouched for by a specimen in the Berne Museum, Switzerland, collected by Webber, the artist on Cook's third expedition, and by one in the Pigorini prehistoric and ethnographic museum in Rome, which Giglioli says was collected by Cook probably on Atooi (Kauai). In describing the Rome specimen, Giglioli writes "... in the middle are 5 similar plates of tridacna, all uniform, smooth on top and beneath, somewhat convex on the inside, and deeply concave at the middle, the leaves have two holes through which two cords hold them together." As there is no *Tridacna* shell in Hawaii, the pieces alluded to are probably bone or part of a boar's tusk.

Two fine specimens in Bishop Museum show a marked advance on the form described above, for pieces of bone or boar's tusk, while following the shape of

12. Ornaments - Personal Adornment

the turtle-shell plates, are lengthened into knobs at each end which are carved in the form of human heads. One bracelet (1304) is composed of thin turtle-shell plates .9 inches high in the middle, grading down to 1.6 inches at the ends. Three crescentic bone pieces are carved with the chins directed outward and

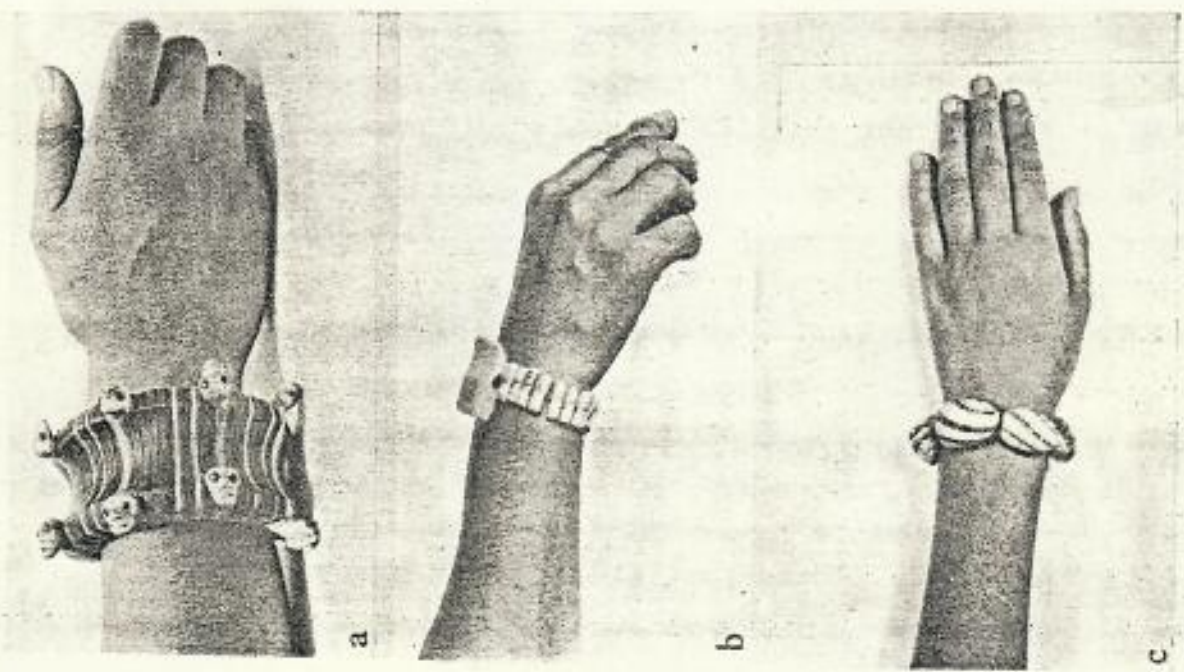


FIGURE 338.—Bracelets: a, turtle shell; b, bone; c, Merita.

IVORY TURTLES

Ivory ornaments carved in the shape of a turtle are described by King (Cook, 1789, vol. 3, pl. 139) as follows: "At Atooi [Kauai], some of the women wore little figures of the turtle, neatly formed of wood or ivory, tied to their fingers in the manner we wear rings. Why this animal is thus particularly distinguished, I leave to the conjectures of the curious."

A specimen in the British Museum, figured by Edge-Partington (1890, 1-55-14), is 0.75 inch long. The head and four flippers are shown as five small projections.

A larger specimen, in Bishop Museum (C.9371), is made of ivory (fig. 339a). The well-shaped body is convexly curved on the upper surface and flat on the under surface. The flippers, which are indicated on the under surface by

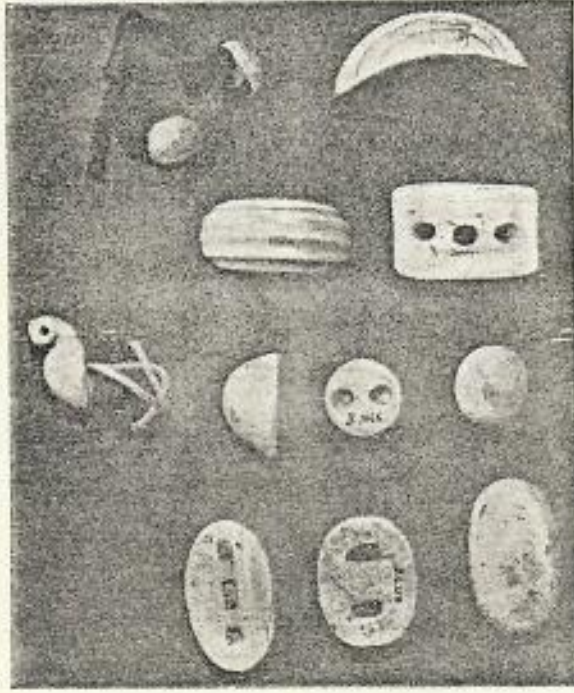


FIGURE 339.—Wrist ornaments: a, ivory turtle; b, assorted ivory ornaments.

grooved lines, do not project from the sides as in the finger ornament. The realistically shaped head, however, projects forward. It has a neck constriction and a notched mouth and eyes formed by the two ends of a transverse hole which passes completely through the head. On the under surface, holes on each side of the median line are cut obliquely to meet and their ends form the means by which a cord could be passed through. The length of the turtle figure is 1.5 inches, the width 1.35 inches, and the thickness 0.6 inch. As this ornament was too large for attachment to a finger, it must have been a wrist ornament.

have pieces of turtle shell inserted in eye sockets. A fourth bone piece is slightly longer, with the heads inclined to the side and without turtle-shell eyes. The four curved bone pieces are spaced evenly between the multiple turtle-shell pieces, and pieces of boar's tusk of the same height as the turtle-shell pieces bound the bracelet at each end. Single plates of thin bone of the same height and shape as the turtle shell are also spaced between the carved bone pieces, showing up white against the dark background of turtle shell. All the pieces are drilled with two holes and threaded with cord in the same way as the boar-tusk bracelets. The thinner convex edges of the pieces give the completed bracelet a circular curve with the convex side facing inward (fig. 338, a).

A second bracelet (1303) is also ornamented with five carved bone pieces but the crowns of the heads turn outward. The height of each of the bone pieces is 1.7 inches, and the shorter turtle shell pieces are 1.25 inches high.

BONE BRACELET

The parts of a unique bracelet were excavated from an old burial ground at Mokuapu, Oahu. They are 17 small pieces of white bone, all 0.75 inch high, 0.2 inch wide, and 0.3 inch thick. Each piece has a wide transverse groove on one side and a single hole from side to side through the middle, and each has a natural wide hole throughout its length which resembles the medullary canal of long bones. The bones are evidently the small bones, or phalanges, of human fingers with the two ends cut off.¹¹ In addition, there is a large, rectangular piece of whale ivory 1.4 inches high, 0.8 inch wide, and 0.5 inch thick, with the lower edge inclined slightly outward. The small bones had evidently been strung on a single cord with the larger ivory piece in the middle and with the grooves to the outer side of the circle. The assembled pieces (C.8939) are shown in figure 338, b.

The outer grooves have affinity in structure with the outer grooves in the turtle-shell bracelets, and both forms were evidently derived from the larger but simpler boar-tusk bracelets.

SHELL BRACELETS

The shell bracelets in the Museum collection are made from *Nerita* and *Cypraea* shells. In 23 *Nerita* shell bracelets the number of shells ranges from one to 12, depending upon the size of the shells. They are bored and strung in the same way as the necklaces (fig. 338, c). The *Cypraea*-shell bracelets are fewer and each has only three or four shells.

Some of the bracelets in the collection are very modern, with the threaded sets of shell sewed onto black velvet bands fitted at the ends with metal hooks and eyes. Some of these which are too long for bracelets were evidently clasped around the neck as neck bands.

¹¹ Enayri believes these to be pig tusks rather than bones—Editor.

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to certain families. Their feathers were used for *kahili*, but probably were never eaten; being flesh eaters, their flavor would be rank. They are caught by means of poles (*kia*) or sticks smeared with gum, by the use of nets or what we call "blinds," or in nets made with a wide mouth into which the birds would walk on their way to roost. Rails (*moho*), which are able to fly, were caught in their nesting holes and were eaten.

BIRDS OF THE FOREST

The *'o'u*, a honeyeater, "some of the size of young chickens," were eaten by means of a gummed stick. They were delicious to eat. Their green feathers were used in making feather capes and *lei*. *Oma'o*, which were about the size and black, were caught with a bird stick or with a snare, were "good eating." *O'o*, black honeyeaters, and *mano* or black honeyeaters, were smaller and were eaten, but were hunted (with bird sticks) for their feathers, which were prized for making large royal *kahili*. Feathers found underneath the tail were used in making feather capes or *lei* to be worn by *alii*. The red feathers of the *'i'iwi* were favorites of other capes. The birds were captured with the bird stick and were eaten. Birds mentioned whose feathers were prized and their flesh eaten were *pepepe*, *'akihii poleua*, *'ula*, *'u'a*, *'akohohole*, *uu*, *'omakihii*, and *'akihii-ole*. *'I'iwi* were eaten but their feathers were not used. The almost wingless *'olee*, or mud hen, was a sizable bird. It was venerated in families and was eaten by some people. It was chased into its swampy nest and pelted with stones.

It is also said that wild ducks (*kolou*) were pelted with stones. "It is fine to see Herons (*'auku'u*) were also killed with stones, as were stilts (*hukua*) and *kioca* (waders). One of the most delicious birds for eating was migratory golden plover (*kolou*); hunters lured them by whistling with their mouths, and caught them by hand.

SEA BIRDS

Sea birds were known as "ocean divers" (*'aukuai*). *Kiki* (a bird similar to *'o'o* (puffin), *'auku* (petrel), and *'o'u'o'u* were caught with hook and line. The long tail feathers of the tropic bird (*koa'e*) were used in making *kahili*, and the flesh was eaten, although it tasted fishy. The *'oio* (*noio*) was good eating. How it was caught we are not told. "All of these dwell in the mountains by night, but during the day fly out to sea to for food." Other large sea birds which were eaten and whose feathers were used for *kahili* and in decorating images of gods were the *ka'upu* (gannet), the *'u* (booby), the *moli* (Laysan albatross) and the *'iwa* (frigate bird). They were taken mostly on the small islands, Kaula and Niihau, northwest of

An interesting technique of catching sea birds on the Hamakua coast of Hawaii is described by Emerson (Malou, 1903, p. 116, Note 7): "The people of Pualiki . . . were wont to make a smudge fire at night on the coast, and as the birds flew in from the sea, coming into the reek of the smoke they became bewildered and were easily caught in scoop-nets."

Birds were cooked by broiling over hot stones. There is no mention of collecting and eating birds' eggs. Evidently Hawaiians had the same distaste for them as for chicken eggs.

An informant of Mrs. Pukui, Charles Alona, in 1939 said that *'auw'u* (*'auw'u*) birds (petrels) used to be caught on Manana (Rabbit Island) off Waimanalo, Oahu. They were delicious broiled on hot coals, or when cooked in *ti* leaves with young taro leaves (*iu'au*) and stems (*haha*). The fat of the bird worked into the greens and made them delicious. When too many birds were caught they were salted until needed, then were allowed to soak a little while to remove the excessive saltiness and were wrapped in *ti* leaves and cooked. Sometimes the birds were dried and later broiled. Whichever way the *'auw'u* was served it was said to be delicious.

Rice (1923, pp. 47-48) records a legend of Kanai concerning the petrel, or *'auw'u* bird, the great gray-feathered sea bird with white breast whose name is the sound of its croaking call. Lahi, a boy living in Waimaha Valley, refused all food except the flesh of birds, but as most birds were small it was a problem to know how to satisfy his hunger, so he and his uncle repaired to the sea cliffs where the *'auw'u* nested. There they saw that the birds were well cared for and increased, but they also had their fill of roasted birds, "the size of chickens." Lahi had superhuman powers and became known as Bird-man, but was not known to assume bird form as did Lepe-a-moa, the chicken girl whose story is told in a previous section. "Moa and the Pele Migration."

GRASSHOPPERS

'Uhini, grasshoppers, which fed on *kuhane pu'a'a* grass in the lower forest zone in Ka'u, and doubtless elsewhere, were caught, strung on the flower stems of the grass, and broiled for food. After the area where *kuhane pu'a'a* grew was cleared and sugar cane was planted, the *'uhini* became extinct.

FISH

To supplement their protein diet beyond the unpredictable results of seasonal deep-sea fishing, the Hawaiians of old resorted to the systematic breeding and nurturing of fish, a process which may be called fish farming. These enterprises varied from small individual efforts to large-scale cooperative undertakings directed by ruling chiefs, and varied also according to locality and natural advantages. The most spectacular of these were the

Native Planters in old Hawaii
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F.S. Craigiehill Handy and Elizabeth Green Handy
with the collaboration of Mary Kawena Pukui 1972

the place of that name on Kauai, whose pandanus trees reminded her of those in her new home. Here there were also breadfruit trees, sweet-potato plantations, and many *kukui* and *kon* trees. People from the beaches liked to rest in the shade of these trees, cooking breadfruit, roasting *kukui* nuts, and preparing pandanus leaves for mat making.

Farther inland was Mohopilo. Here coconuts were grown for the chiefs. The place took its name from the growth of many *pilo* (red hibiscus) shrubs there. *Moho* referred to the unfurling of the blossoms. *Moho* also means to "sneak through," referring to people (men) spying through the bushes (perhaps at girls adorning their hair with hibiscus blossoms?).

HONU'APO

Honu'apo was originally Honu-'apo, meaning "Embraced land"—that is, land embraced by a *kapa*. There is a cave there that was once a place of refuge (*pu'uhouua*), hence it was *kapa*. One passage runs under the present warehouse and opens toward the sea. Another opening is at Kawelohea and still another at Pohina, the cliff bordering the bay in the southwest. Some of this cliff slid into the sea during the 1868 earthquake. The cave runs a good distance inland, and *wauke* trees grew close to the opening at the *manak* end. Fresh water is still found in the cave, but not as much as formerly.

Another translation of the name is *Honu* (turtle)-*'apo* (to grasp), which is said to come from the fact that this was the place where sea turtles were caught.

On the Kona side of Honu'apo just below the ascent up to Pohina is Paepae, which was terraced (*paepae*) with flat stones to make the climb easier. These terraces were destroyed when the road coming down to Honu'apo was graded.

There is a place east of Honu'apo below Ka'alaiku named Hokuu-kano which means strong shoulders; it is said to have been named for the god Kane's broad shoulders when he went about working among the people long ago. Men of that place are said to be strong, with muscular, tough shoulders.

Honu'apo is one of the two most favorable localities along the Ka'u coast from the point of view of fishing and canoe landing. It was here that Hutchinson Plantation built a dock and warehouse. It also has the only sizable fish-pond in this area (Fig. 50).

It was, undoubtedly, one of the largest shore-line communities in Ka'u in old Hawaiian times, second only to Punalu'u. Springs formed the pond, which empties into the bay, so the people had an ample supply of fresh water. The soil of the flatlands and hillsides inland from the bay is excellent for cultivation. From the point of view of gardening it is certainly superior to Punalu'u. In 1846 Lyman (1846, pp. 9, 10) observed that "The hills back of it are cultivated with sweet potatoes, taro, etc., as are also the sloping hills

which lie back 2 or 3 miles from the coast all the way from Punalu'u." Honu'apo is described by him as a pleasant village set among coconut trees, with a canoe landing.

The bay is fringed to the southeast by a low cliff in whose caves remains of *alfi* were hidden away in ancient times.

In 1823, when the first missionary tour of the island of Hawaii was described by Ellis, the group on leaving Waiohimi had proceeded northward, paralleling the coast at a distance of about 1½ miles inland, past several populous villages. Then their course led down toward the shore, to Honu'apo,

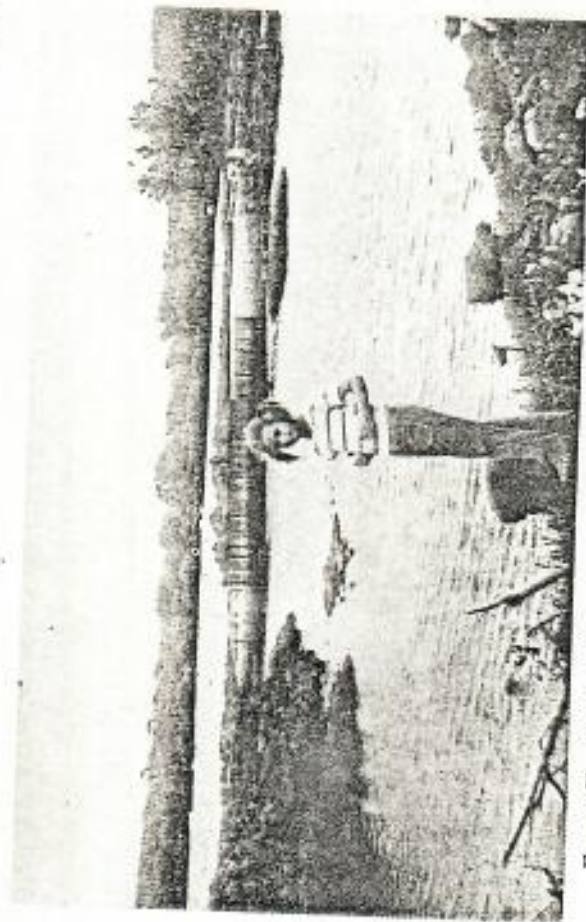


FIGURE 50.—Fishpond, Honu'apo, Ka'u, Hawaii, 1954 (photo by Marion Kelly).

a miniature bay formed by a tongue of lava jutting out into the sea. Here they describe "an extensive and populous village, standing on a level bed of lava" (Ellis, 1825, pp. 102-106). So great was the excitement of the inhabitants that the visitors concluded that they had seldom if ever seen foreigners before.

In the sea below the precipice (Pohina) the missionaries were shown a rock named "Kawelohea" (Kawelohea) and told a legend connected with it, but Ellis does not tell us what the legend was.

NINOLE

Ninole lies between Honu'apo and Punalu'u to the northeast. Lyman (1846, pp. 9, 10) mentions the hamlet situated beside its black-pebble beach as one of "a succession of small villages" along this coast whose inhabitants were "extensively engaged in fishing." The coastal road, which remains intact

to this day, had "been built with great labor by levelling a path [across the rough 'a'a lava flow] 4 or 5 feet broad, lining it on each side with a wall some two feet high, and covering it with a layer of sand from the neighboring beach." It had been much improved since Ellis traversed it coming down from Hilea 23 years before.

There are here at Ninole the most abundant springs that are to be found anywhere along the coast line, gushing out into a pond on all three sides inshore, flowing out just under the surface of the *pahoehoe* which surrounds the pond named Hilo'e (Fig. 51). These springs, called Puhaui, form an inner pond which empties into another enclosed area by the sea which is tidal in level. The old name of the springs was Puaihau, meaning "Bubbling-icy-water." Their waters are very cold. All attempts to tap these springs have been unsuccessful because of the hardness of the overlying basalt. A third pond borders the second on the Puna'u side, fed evidently by another set of springs named Kanuhea which keep it filled to a higher level than the main pool. In old Hawaiian times a village undoubtedly perched on the rocky area surrounding the ponds, and many years ago, in post-missionary times, there was a schoolhouse on the high level rock on the west side of the main pond.

The land flanking the shore is very rocky, with little soil for cultivation, and the gulch inland of the ponds is subject to severe freshets in the rainy season. Any cultivation here would have depended on hand irrigation, as the locality has very sparse rainfall, and the sun is scorching. However, the hinterland of Ninole is rich *kula* land with abundant rainfall, where sweet-potato gardens must have been numerous on the lower slopes, and taro, banana, and sugar cane on the higher *kula uka*.

It was in upper Ninole that land was anciently set aside for the *kanawa*, or outcasts, to dwell on. There they cultivated their foods. These people were not permitted to marry outside their caste, and it was their destiny to be killed as human sacrifices, as needed, for the war god Ku. They may have been the descendants of war captives; or, Mrs. Pukui points out, they may have been the remnant of an earlier population that was defeated by the invading Hawaiians who came from Kahiki. The *kanawa* were allowed to fish in the pond by the shore and offshore, and they must have gotten their drinking water at one of the springs.

After the abolition of the system of *kapu* the *kanawa* merged with the rest of the population, generally by moving to other districts, for the local people of Ka'u did not forget who had *kanawa* blood. The older *kanawa* undoubtedly continued to live in Ninole and died as outcasts, because their status was indelibly imprinted on their foreheads by special marks. Persons so marked were referred to as *kanawa lae-puni*, slaves with bound foreheads, or *kanawa nikoni*, pricked slaves (Malo, 1903, pp. 99, 101).

A legend relates that Ninole was the name of a beautiful woman who was

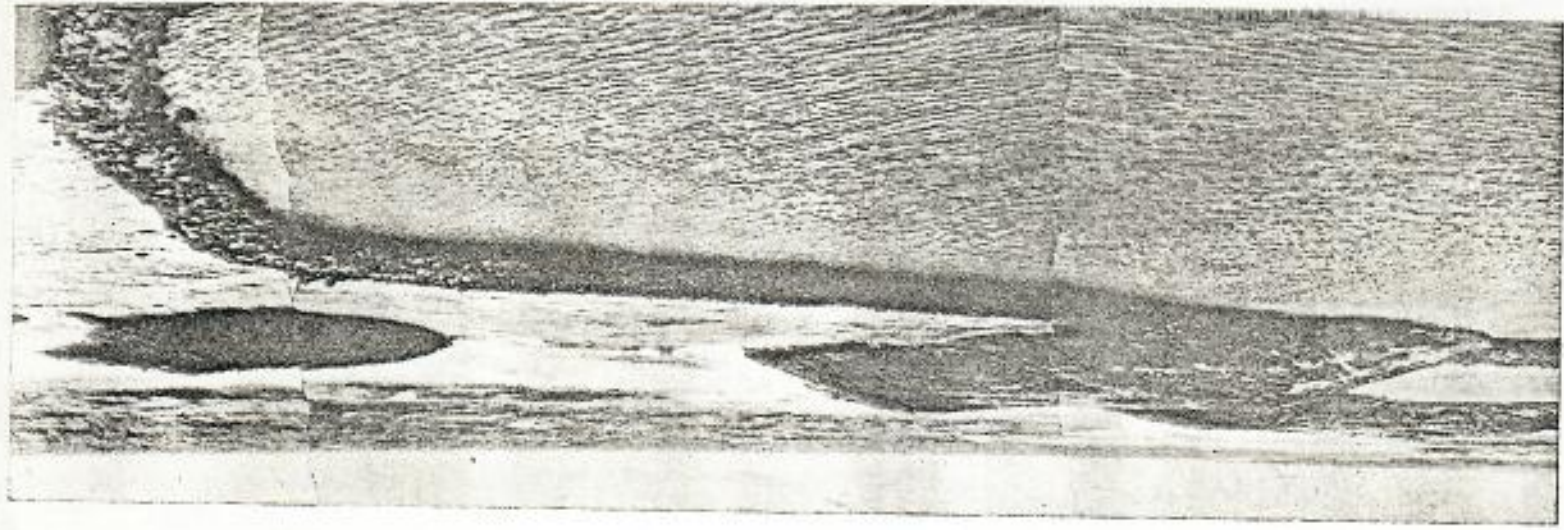


FIGURE 51.—Fishpond at Ninole, Ka'u, Hawaii, 1939.

the daughter of the cannibal woman Kaikapu. Ninole was beautiful but cruel. While she and her mother lived by the pools, the people of Punalu'u were afraid to go there for water.

The spring on the east side of the Ninole ponds was named Kau-wale, meaning "Useless-landing." Here is why it was so named. Ninole the ogress used to go to the beach near this spring, where she could be seen by men passing in canoes. She would beckon to them and they would come ashore. She invited them to eat, and led them to the cave in which her mother lived. When they entered, the cave mouth would close. The men were trapped; some were eaten, some were tormented and starved.

PUNALU'U

Punalu'u is the name of a bay with a beach which, viewed from the sea, would perhaps have appealed more than any other along this coast to Polynesian migrants from the south as a place for a landing and first settlement. It is deep and sheltered enough to be shielded somewhat from the prevailing winds, and it has a beach on which fishing canoes can comfortably land in normal weather. Chester Lyman, in 1846 found it "romantically situated on the beach, shut in in part by a rough lava stream." This bay is also the best in Ka'u for sheltering beached canoes. Now it is mounded quite high, and thrust back; formerly it was more extensive. But still it has survived the tidal waves which have swept other beaches away completely.

Punalu'u means "Diving spring," and takes its name from the fact that for their drinking water the natives had to dive (*ho'a*) down in the bay to an underwater spring (*pona*) some ways out from the shore. A man would take gourds out to the place and dive under. When he came to the fresh cold water near the bottom of the bay, he would unstop his containers, fill them, then surface and bring them to shore. In ancient times the Punalu'u people went to the springs at Ninole for their drinking water until the ogress Kaikapu settled there. Then they learned to dive for water in the bay. Some 50 yards in from the beach is a pond that now is stagnant, but formerly it was large and had ample fresh water from a deep spring named Ka-wai-hu-o-kaunila. In the old days the spring was *kapu* and used only for drinking purposes.

A legend relates that there was a time when stormy weather prevented the men from diving for water. There were two supernatural turtles who had come out of the ocean to Punalu'u: Honu-po'o-kea (Turtle-with-white-head), the mother; and Honu'-ea (Turtle-with-reddish-brown-shell), the father. The mother gave birth to an object resembling a piece of *kaunila* wood, which she buried in the sand to be hatched out by the sun. Then they dug into the earth and made a spring, then returned to the sea. When it was time for her "egg" to hatch, Honu-po'o-kea returned. When the thing she had laid did hatch it was a turtle the color of polished *kaunila* wood. Mother and

daughter lived in the spring until the baby turtle grew up. The young turtle was named Kaula. The spring came to be named "The-rising-water-of-Kaula." The turtle girl was able to assume human form and play with the young folk, but would become a turtle again when she went back into the spring. When bubbles came up in the spring, people knew the turtle girl was asleep in her home. Children used to catch fish and shrimps in the spring, and Kaula watched lest the little ones fall in. The people loved Kaula for this and because her spring gave them drinking water. They never used her water for any other purposes.

In and around the pond whose water came from the spring the folk of Punalu'u were able to grow good wet taro. This is the only place in Ka'u besides Waiohinu where *kalo zawi* could be grown. There is a quaint legend about the flight of two taro plants from Kona to Punalu'u. Here is Kawena Pukui's version of the story, and her interpretation.

Big-Taro and Little-Taro grew in Kona, Hawaii, in a patch owned by a man named Laka.

One day, the sound of wood-chopping was heard and both knew that he was at Lani-pae, preparing fuel for his *imu*.

"Listen," said Big-Taro, "Laka is cutting wood and I know that he is planning to put us in the *imu*."

"Not I," declared Little-Taro, "for when I am uprooted, the smallness of my root will be noticed and I will be pushed into the earth again. But you are large and will not be spared."

"Let us flee before the *imu* is lighted," suggested Big-Taro, and so the two flew to Punalu'u, in Ka'u. There they settled down and took root again in a spot known as Kabo-mi-ne-Kalo-iki (Big-Taro and Little-Taro) since that day.

This old tale has been mentioned as a "children's legend" by *Hawaii* writers of our old tales, but I feel that there is more to it than something to amuse little folks.

The old saying *Ko kaula kaula o ka 'oiau* ("The-taro-planted-on-the-hand") was applied to the hereditary chief of the locality. He was responsible for the life and welfare of his people, hence the term.

Perhaps an invading chief (Laka) came to Kona and Big-Taro, the ruler, and Little-Taro, his personal *kaun* or attendant, were taken captives and subjugated. The victor became their chief and they his unwilling subjects. Whether they wanted to or not, they "grew in his patch."

Then the day came when certain activities on the part of Laka, the chief, warned them of their coming deaths as human sacrifices. Both "Taros," decided to escape (fly) to Ka'u. The escape was successful and the two settled, unmolested for the rest of their lives, in Punalu'u.

On the shore, not far from their new home, is a spot called Lani-pae (Chief's landing) and I guess that they escaped by canoe to this landing place.

The Lani-pae in Kona might have been Laka's landing place, and the one in Ka'u that of the two "Taros" who sought refuge there.

This is just my *mama'o* (opinion) on the subject. (Pukui notes.)

The area of the beach and the old lava flow that flank s Punalu'u is low and flat, and here many coconut trees flourish. This is, in fact, the only place

in Ka'u where coconut trees flourish today, although formerly they were numerous at Honu'apo. A hump of lava to the east of the village protects the trees from the relentless trade winds that sweep Ka'u's *kula kai* and *kaha kai* (coastal plains and seashores). Under the trees at Punalu'u are the houses of Hawaiian families who still live there.

From the high black-sand dune of the broad beach one may look directly inland and westward up to the two round hills called Makanau and Pu'u 'Embe, in the *ohu'ou'a* of Hilea (Fig. 52). The interior community of Hilea and the shore community of Punalu'u were closely related, peopled probably by one *'ohana* or family stock. Between the two places foods and other materials of local productions flowed. The two adjoining *ohu'ou'a* of Hilea-nui and Hilea-iki had no favorable coastal outlet as did Nihoie and Punalu'u.

Punalu'u appears to have been second only to Waiohine in population in early times. It does not, however, seem to have been the place of residence of any notable *alii* within the historic period. This is probably because, despite its favorable features, it was, and is, not notable for the catching of large fish, such as *uha*, *mahimahi*, and *abu*. It was these that attracted the *alii* to Wai-o-'Ahu-kini and South Point. Punalu'u was not a prize to be coveted, thanks to its stability and persistence, even to this day, as a native community. This community may also have been looked at with some aversion by other *alii* because of the chief who lived at Punalu'u and was driving his people like slaves to build his war *heiau* on Makanau and lost his life because of it.

HILEA

In the heart of the *kula uka* or upper piedmont area inland from Punalu'u was the prosperous village of Hilea in the *ohu'ou'a* of Hilea-nui. Ellis' party, following the rough trail inland from Honu'apo, found the village pleasantly situated. On the slopes toward the sea from Hilea were numerous plantations of dry taro, sweet potato, sugar cane and banana, while mountainward on the rain-watered lands below Makanau and Pu'uiki were extensive plantings of mountain taro, the *memaki* variety for which Hilea was famous. Here also were bananas, arrowroot, turmeric, yams, paper mulberry, *olona*, and bamboo. In fact this was probably the single richest inland area for native horticulture before it became depopulated. The most recent extension of sugar planting of Hutchinson Plantation is in this area. This, like salubrious Waiohine, was favored by *alii* as a place to live, in preference to the hot, dry beach sites.

This is not only productive land, and cool, but protected from winds by surrounding highlands. Forest trails made it accessible both to Kona and Hilo, and even Puna, by way of Kilanea. The *alii* who controlled this area was in a strategic position: the land gave his people ample supplies of food and supported a numerous population, while at the same time timber for making canoes and other purposes was easily accessible.

The flatlands below the forest area west of Makanau, and between that

little plateau and Pu'u 'Embe, and beyond these two hills toward the mountains, are said formerly to have been extensively cultivated. This was *kula uka* or upland plain, fringing the *awa* where forest taro was also planted. Between Makanau and Pu'u 'Embe, in Kalehua (now called Wood Valley), the *kula uka* gradually becomes less well watered, but following the rainy season would undoubtedly have been planted with sweet potatoes. There is, however, no surface evidence of planting areas marked with stone borders as at Kama'oa.

Kalo 'eka'eka, meaning "dirty *kalo* [taro]" was a saying that had reference to the fact that taro grown by Hilea people was dirty or had a muddy taste, perhaps because of freshets that flooded the dry-taro areas of that inland section of the country. The saying arose in this way. Once when the *alii* was vacationing at Punalu'u it was the duty of the people living mountainward



FIGURE 52.—Kalehua (Wood Valley) flanked by Makanau, at left, and Pu'u 'Embe, at right, Hilea, Ka'u, Hawaii.

to provide him and his court with *poi*. The chief's steward always examined carefully the foods that were brought. The quality of all the *poi* was good except that from Hilea, and this was always dirty (*'eka'eka*). Ever after Hilea people were taunted by those from other parts of Ka'u with the saying *Hilea i kalo 'eka'eka*, "Hilea of the dirty taro."

Mauka of Hilea is Waikalona (formerly Wai-a-ka-olona), which was in the olden days the most famous place for *olona* plantations. Upland taro also flourished here.

Still farther up in the valley was the great stone which was venerated as Ku-nauna (Mountain Ku) who controlled the rain in this area.

In the story of the 1868 earthquake, the writer quoted speaks of Hilea-uka (Upland Hilea) and Hilea-kai (Seaward Hilea). The reference is to the areas above and below the village, both agriculturally rich.

The story related below concerning Ku-nauna is given by N. B. Emerson

(1915, pp. 201, 211-212). This great stone was one of the forest forms of the god Ku (Ēreket). Other forms were Ku-moku-hali'i (Ku-island-spreader), god of canoe builders; Ku-pulu-pulu (Ku-giant-fern-tree); Ku-ala-na-wao (Ku-of-the-forest-paths); Ku-pa'ai-ke'e (Ku-striking-with-beveled-adz), and others (see Malo, 1903, p. 113). Actually for every activity in the forest, in farming, family life, and fishing, those who worshiped Ku had to invoke one or another of the forms or epithets applied to Ku.

This is Emerson's (1915) version of the story of Ku-mauna:

Ku-mauna, a rain-god of the great local fame and power; now represented by a monolithic boulder about thirty feet high, partly overgrown with ferns and moss, situated in the lower edge of the forest-belt, that lies to the south . . . of Mauna-Kea, deserves more than passing mention. The region in which this rock is situated is declared by vulcanologists to have been one vast caldera and must have been the scene of tremendous disturbances.

Up to the present time the Hawaiians have continued to hold Ku-mauna in great reverence mingled with fear. The following modern instance is not only a true story, and interesting, but also furnishes an illustration of the attitude of mind of the Hawaiian people generally,—or many of them—towards their old gods.

During a period of severe drought in the district of Kau, Hawaii, a gentleman named [John Searle], while hunting in the neighborhood of the rock that bears the name Ku-mauna, took occasion to go out of his way and visit the rock. Standing before the rocky mass and calling it by name, he used towards it insulting and taunting epithets, professing to hold it responsible for the drought that was distressing the land. He concluded his tirade by discharging his rifle point blank against the face of the rock, resulting in the detachment of a considerable fragment.

The villagers in the employ of Mr. Searle, who were assisting in the hunt, horrified at the sacrilegious act, at once set spurs to their horses and made off, predicting the dire consequences from the rash act of Mr. Searle.

Now for the deponent: Within about ten days of this occurrence, the valley, on one side of which Mr. Searle had his residence, was visited by a violent rain-storm—such as would in popular speech be termed a cloudburst. There was a mighty freshet, the waters of which reached so high as to flood his garden and threaten the safety of his house, which he saved only by the most strenuous exertion. The land which had been his garden was almost entirely washed away and in its place was deposited a pell-mell of stones.

Needless to say, that, by the natives, this incident was and is regarded to this day as conclusive evidence of the divine power of Ku-mauna and of his wrath at the audacious person who insulted him. Special significance is attached to the fact that as part of Ku-mauna's reprisal the place that had been a garden was turned into a field of rocks. The only wonder is that Mr. Searle got off with so light a punishment.

The abrupt hill named Makannu is interesting geologically, in that it and the neighboring Pu'u Tenuke are vestigial remains of the very ancient volcano out of which flowed the basalt that lies underneath all the surface soil of Kāma'oa and Ka I,ae.

Historically it is likewise interesting. It was there that the last native-born high chief of Ka'u, Keoua, made his final surrender to the warriors sent by the conquering Kamelaunaha. On this flat-topped little mountain are the

remains of a war temple that was built long before Keoua's time by the *Ahi* *Nui*, Kohai-ka-lani, who dwelt at Panalu'u, he who was sent dirty *poi* from the upland, and who was later killed by a clever ruse suggested by a priest.

The workers from Panalu'u and Hilea and all the area thereabouts had become exhausted from carrying thousands of baskets of pebbles from the beaches to spread on the pavement of the new *keimu*. The last straw came as an order to drag up the steep mountainside a great log of *ohi'a* from which was to be carved the image of the war god. The hated *Ahi* was standing below on the path, urging the straining men on as they hauled up the log with ropes. At a prearranged signal, the workers let go of the ropes and the great log went rushing down the slope, crushing the hateful Kohai-ka-lani beneath it. This is an instance of righteous revolt against a tyrannical chief, as notable as the more common devotion to a beloved one.

Sugar cane is now planted on the flat top of Makannu where once sweet potatoes flourished.

Pu'u 'Eaube (Caterpillar Hill) must likewise have had sweet-potato plantations on its top, for according to legend it was there that Ku-muhua, the god of caterpillars took his human bride and fed her on potato leaves (see section "Lore behind 'Uala Rituals," in Part Two).

KAPAPALA

Between the northeasterly *ohi'opohā* of Kapapala and Kilauea, the upland area of active volcanic craters, there was never any cultivation, so far as we could learn. Below Kao-iki Pali the country is covered with lava, and in the forests above the *poi* from Kapapala to Ohaika the bird snarers or feather hunters had their huts, but no taro was grown. On the land flanking the present Kapapala Ranch, which is now in sugar cane, dry taro used to be grown on the sloping *kaia*, on the steep hillside of gulches, and in the forest lying behind. Forest taro was here referred to as *ihu le'au* (forest growth), and that on steep slopes as *hiina* (climbing).

The same type of planting was typical of Makakupu and Ka'ala'ala, and notably in and on the slopes of what is now Wood Valley, in Hilea (which is now a homestead area). Concerning this entire upland section, Ellis (1825, pp. 105, 115, 120-121) wrote:

After traveling about an hour, we came to Kapauka, a pleasant village, belonging to [the chief] Naika. As we passed through it, we found tall rows of sugar-cane lining the path on either side. . . . We . . . resumed our journey over the same verdant country, frequently crossing small valleys and water courses, which, however, were all dry. The land, though very good, was but partially cultivated, till we came to Kaarara, where we passed through large fields of taro and potatoes, with sugar-cane and plantains growing very luxuriantly. . . . we passed on through a continued succession of plantations, all in a high state of cultivation.

The lava is decomposed to a considerable depth, and is mingled with prolific soil,

Pū-hawawa and to save the family of his friend he drops the kaula stone into a pool and the fish swarm into the pool. The first fish that the chief eats slips down his throat whole and chokes him to death.

LEGEND OF AIAI

The first fishing ground marked out by Aiai is that of the Hole-of-the-uluu where the great eel hid. A second lies between Hamoa and Hanuoo in Hana, where fish are caught by letting down baskets into the sea. A third is Koa-uli in the deep sea. A fourth is the famous akule fishing ground at Wana-ula mentioned above. At Honomale he places three pebbles and they form a ridge where awoweo fish gather. At Waiolu he sets up on a rocky islet the stone Paka to attract fish. From the cliff of Pūhi-ai he directs the luring of the great octopus from its hole off Waiūa-nui by means of the magic cowry shell and the monster is still to be seen turned to stone with one arm missing, broken off in the struggle. Leaving Hana, he establishes fishing stations and altars along the coast all around the island as far as Kīpahulu. At the famous fishing ground (Ko'a-nui) in the sea of Maullī he meets the fisherman Kane-ukua and presents him with the fish he has just caught and gives him charge of the grounds, bidding him establish the custom of giving the first fish caught to any stranger passing by canoe. Another famous station and altar is at Kahiki-ula.

At Hākiowā on Kahoōlawe he establishes a square-walled kaula like a heiau, set on a bluff looking off to sea. On Lanai he fishes for aku at cape Kaunolu and there (some say) finds Kane-āpuā fishing. At cape Kaena a stone which he has marked turns into a turtle and this is how turtles came to Hawaiian waters and why they come to the beach to lay their eggs, and this is the reason for the name Polihua for the beach near Paonai. On Molokai he lands at Punakou, kicks mullet spawn ashore with his foot at Kaunakakai, and at Waialū where Kōona lived and where he finds the people neglecting to preserve the young fish, he causes all the shrimps to disappear and then reveals their retreat to a lad to whom he takes a fancy. This is a rocky ledge called Kōki and hence the saying "Kōki of Waialū is the ladder to the shrimps." Kalaupapa is still a famous fishing ground be-

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Beckwith, M. Hawaiian Mythology
University of Hawaii Press 1970

cause of the stone Aiai left there. A good place for fishing with hook and line on Molokai is between Cape-of-the-dog and Cape-of-the-tree.

On Oahu, Aiai lands at Makapu'u and makes the stone Mālei the fish stone for the ulu fish of that place. Other stones are set up at grounds for different kinds of fish. The ulu is the common fish as far as Hanauua. At Ka-loa-hole the whole fish run. The fish still spawn about a round sandstone (called Pomāhakeone) which Aiai placed outside Kōhūhūi. It is Aiai's son Pūia who, instructed by Aiai, sets up the Kou stone for Honolulu and Kaunakapili; the kaula at Kapahu; a stone at Hanapouli in Ewa; and the kaula Aluana at Waipio. The fishing ground outside Kākeles is named Hāni-o; grounds for Waiānae are Kua and Maunahāhāi; for Waimea, Kamāhāno; for Lāienaloo, Kōhūhūna. The two, father and son, visit Kauai and Niihau and finally Hawaii, where the most noted fishing grounds are Poo-a, Kāhaka, and Olēlomoana in Kōna; Kālae in Kau; Kū-paken in Pūna; I in Hilo.¹⁵

STORY OF PŪIA-IKI

(a) *Thrum version.* At Kakaako, Aiai lives with a friendly man named Apua. The chief Kon is a skilful aku fisher at his grounds from Mamala to Moanalua. At Hanakaināma lives Pūia and she seeks Aiai for a husband and they have a son Pūiaiki. One day while she is busy gathering oopu and opae the child cries and when he asks his wife to attend to it she answers him saucily. Aiai prays and a storm raises a freshet which carries away fish and child downstream. He sees Kīhāle, daughter of Kōu, pick up a large oopu from the stream and recognizes his child transformed into a fish. The chiefess makes a pet of it and feeds it on seaweed. One day she is amazed to find a man and child in its place. She determines to have the child reared to become her husband, and this comes to pass. When she reproaches him for doing nothing but sleep, he sends her to ask for fish-hooks from her father, but burns as useless the innumerable

¹⁵ Thrum, *Tales*, 215-249 (from the Hawaiian of Mōkōn Mann); Thomas Walshko, sheriff for Hana district, Maui, June 10, 1930 (and other local informants); For. Col. 5: 172-173; J. Emerson, *HHS Papers* 2: 17-20; Ellis, *Tour*, 88.

Puni-malo is the red lover of a girl of Waianae, Oahu. Her brothers discover that he is an eel-man, fight him, and hurl his body against the cliff, where it is to be seen today.³⁸

Puhi and Lohi (Eel and Sea cucumber) turn into handsome men and court two girls. Their father watches the two men turn into fish again, catches them in a net, cooks them, and serves them up to the two girls. The girls vomit, one a tiny eel and the other a sea-cucumber, which the father burns to ashes. These are the children they would have had by the two lovers.³⁹

Animal forms associated with the many-bodied Pele family are the mo'o, the brindled dog, the opou fish. A brown-haired woman (ehu) belongs to the Pele family and may be Pele herself or one of her spirit followers in human form. Brindled dogs are called ilio mo'o to this day. The fresh-water opou fish (*Eleotris fusca*) looks something like a mo'o and hence should not be eaten by any family who have a mo'o aumakua. Molokai and West Maui people fear to eat it. The oku-hekuhe or owau variety of the goby fish (opou) is one of the forms of the god Kane-lau-apua, according to Emerson. In Tahiti, goby fish are thought to be possessed by the spirits of premature births.⁴⁰ The following stories are told of the double nature of the goby fish. Many similar tales teach a wholesome respect for those potential favorites of deity whose gods resent cruelty or greed in their treatment.

STORIES OF OFFENDED AUMAKUA

A man of Molokai catches a dish of opou of the o-kuhekuhe or o-wau variety. He bundles the fish up in ti leaves and lays them on the fire to broil. A voice speaks from the bundle and he flees in fright.⁴¹

Ka-hinano (Pandanus blossom) catches a dish of goby fish, cleans and salts them, then goes after material for mat weaving.

38. McAllister, *Bul.* 104: 117-119.

39. Green and Pukui, 170-173. 40. Henry, 390.

41. Green and Pukui, 173-177; N. Emerson, *Pele*, 194 note c.

A brown haired woman comes to the house, calls to the fish, and replaces them alive in the creek.⁴²

(a) Pae is the name of a brindled dog that used to come from the Koolau hills on Oahu to the villages at the sea. The chief's servants one day catch the dog and are carrying her away to bake for a feast when a brown-haired (ohu) woman appears and calls the dog to her. The tying strings drop off, and woman and dog disappear in a pool.⁴³

(b) A spirit dog of kindly nature named Pae lives on Hawaii. She is once playing about in her dog body when an old couple catch and fatten her for a feast. A brindled dog comes to her aid at the last moment. They kill the old people and make their way to Oahu, where they live in the Nuuanu valley and Pae becomes "the dog of Koolau."⁴⁴

(a. *concerns*)

A turtle kupua named Ka-wai-uehina is picked up and brought home by an old couple. The children play with it and poke out an eye. The mother has a dream in which a beautiful woman with one eye inflamed begs her to take the turtle back to its home in the Waikua river in Hilo, Hawaii.⁴⁵

Manoana, a woman of Molokai, eats squid eagerly. Once when she has cut up a squid and placed the tentacles on a tree to dry she hears a voice say, "Eat the tentacles but spare the head!" and the squid jumps into the spring and disappears.⁴⁶

Puni-he'e (Squid lover) has an inordinate fondness for squid. A neighbor warns him to beware lest the gods be angry. One day the squid comes to life in the pot and hangs itself over the door, and Puni-he'e flees in terror.⁴⁷

Kumu-hana, a bird hunter, recklessly slaughters the plover (kolea) even when he does not need them to eat. His neighbor, who worships the plover god Kumu-kahi and has been made ill

42. Green, 111-112.

43. Green and Pukui, 173.

44. Green and Pukui, 173. 45. Pukui MS.

46. Green and Pukui, 173. 47. Green, 46-47.

43. *Ibid.*, 48-49.

45. Pukui MS.

47. Green, 46-47.

From Pukui's?

Pukui, My Kamehameha

Legend of Kamehameha and Queen Keoupa
(Text and Translation)
Emerson 1936

from the cliff is caught by Kana and propped with a pebble to check its progress (or the canoe turned aside to avoid a thirteenth reef). Niheu lands, breaks down a barricade of ohi and ti leaves, and would have escaped with his mother from the house. Hale-aki had not the birds hold of his sacred hair and Hina attempts to raise himself above the hill and the two contestants stretch themselves up into the blue sky. Kana's body becomes like a spider web and to prevent starving he lays himself across to Hawaii, and puts his head in at his grandmother's door. As his feet become plump again with her feeding, Niheu cuts at them with his stone axe to remind him of his task. Uli tells him that the hill Haupu is a giant turtle named Ka-honu-ani-mae-leka (or -mae) whose stretching power lies in its dippers. He breaks these off, crushes its back to pieces, and brings Hina back to her husband. From the pieces of the hill Haupu come the turtles today in Hawaiian waters.

(b) *Rice version.* Haka-lani-leo (Listener to the heavenly voice), child of Ku and Uli, weds Haka, ruling chief of Hilo district, and has ten giant sons, then a dwarfish son Niheu with strength and cunning beyond his brothers, and finally Kana, born in the shape of a rope and flung into the pigpen. Uli comes and carries it away to the uplands where she places it in a calabash of water and in a few days it develops into a child and in forty days has acquired forty feet in length and large bright eyes like the moon. Kooloewa abducts the beautiful Hakalanileo while she is out surfing and carries her away in his canoe to Haupu. The husband appeals to her sons, but Niheu is the only one able to tell where she is hidden and as his strength is good only for his own island he is unable to avenge his father on the Molokai chief. Kana appears among them in the form of a child and easily catches in his arms a great fish over which they are contesting in strength. His brothers bind him, but Uli appears and at her bidding he breaks the bonds. Niheu is now encouraged by this new supporter to attempt the Molokai expedition. He tries to fell a tree for canoes but each morning the tree is replaced, until Uli teaches him to make an offering to his ancestors and the forest god Kaikupake'e is caught and made to prom-

XXXIII

THE KANA LEGEND

KANA, the stretching kupua, is the hero of a number of local legends explaining gashes in the contour of an island, or markings like a footprint in the rocks, or displacement of rock ledges as in some convulsion of nature. He travels about the islands destroying evil kupua, makes a journey to the entrance to the underworld to restore the stolen sun to his people, and, in association with his mischievous kupua brother Niheu (Sand crab), restores to her home and husband his mother Hina who has been abducted by a Molokai chief called Kapepe'e-kauila (The jagged lightning) and carried away to his home on the hill Haupu.

LEGEND OF KANA AND THE RESCUE OF HINA

(a) *Former versions.* The firstborn of Hakalanileo and Hina is born in the form of a rope and brought up by his grandmother Uli in the uplands of Pi'ihonus back of Hilo in a house called Halau-ololo. As the child grows, the house has to be lengthened from mountain to sea in order to contain him. The chief Kapepe'ekauila sails over on the hill Haupu to the island of Mokuola off Hilo bay. Hina climbs upon the hill to take a look about and is borne off to Molokai to become the wife of the Molokai chief. Her husband appeals to his son Niheu, who sends him to Kana, at the sight of whose eyes the father flees terrified. Kana joins the war party, but twice the weight of his hand sinks canoes prepared by all the canoe builders of Hawaii. Finally Uli digs up the canoe Kau-mai-elieli in the uplands of Paliuli. In vain the prophet Moi, brother of Nuakea, warns the Molokai chief of defeat. Kapepe'e trusts to his warriors to defend the hill. The messenger birds Kolea (Plover) and Ulihi (Snipe) are sent to reconnoiter and the warrior snout-fish Ke-au-leina-kahi (or a monster turtle) is despatched to destroy the canoe. The warrior is slain with the club Wawa-i-ka-Jani and a huge rock rolled

ise and for the building. In two days all is complete. Kana in rope form joins Niheu for the hunting and allows the canoe to run so swiftly over the shoulders of the giant brothers that all are knocked down and crushed to death. With a single helper called Stone the two brothers set out. The chief's bird scouts find the track of a giant on the sand but see no war party. In spite of Mo-i's warning the Molokai chief trusts to the stretching powers of Haupu and to his warrior swordfish. Stone kills the fish, Niheu falls when five hairs are pulled from his head, and Kana tries the stretching contest with the hill Haupu, using each of his five bodies in succession—human, rope, convolvulus vine, bananas, and spider web. Fed and instructed by Uli, as in the other version, he crushes the backs of the turtles and so breaks their stretching power.

(c) *Forbes version.* The hairy chief Ka-pepe'e-kaula desires the beautiful Hina (or Hoohoakalani) and when she and her husband Hakaisileo come to live on the east side of Haupu he takes her for his wife and has all his hairs plucked out to please her. The deserted husband goes to seek a strong man to restore his wife to him but finds even such kupua heroes as Kana-lala-walu, Niulohiki, Kaulu, and Lonokaeho unequal to the task. His kupua son Niheu fails also in bush-pulling and canoe-building tests, but his son Kana merely scratches about in the sand and a double canoe called Kaumueli is ready to set sail. The two brothers embark and while Kana sleeps, Niheu with Kana's rod Waka-i-iani crushes down a ledge on which the canoe runs aground, wards off a wall of water, a monster fish, a sharp-toothed shark, and a turtle, all warriors sent against them by the Molokai chief. In the morning they free the canoe from entangling trees. Niheu, however, fails to capture his mother and the stretching contest follows. One of Kana's legs is named Keanea, the other Kaipanea. It is by pruning the kamani trees that Kapepe'e causes the hill to stretch upward. When these trees are destroyed the power of Haupu is ended.¹

1. For. Col. 4: 436-449; 5: 518-521; 6: 158, 489-491; Pol. Race 2: 80-83; Rice, 93-102, 105; Thurun (from Forbes), *Tales*, 63-73; Malo, 298-301; Kalakaua, 67-94, 503; Dickey, *HHS Reports* 25: 21.

A comparison of the incidents in this story with similar fiction in the South Seas shows that the legend is not native to Hawaii, however exactly localized and firmly fixed in Hawaiian chronology, but reflects social customs or story themes found also in other parts of the Pacific.

The swimming hill Haupu as the means of the abduction has parallels in other groups. In a Tongan story the chief's rock at his bathing pool hears him wish for Hina from Samoa. It goes away to Samoa, its top covered with sweet-smelling herbs. Hina moves her sleeping mat to the rock and is carried back to the Tongan chief.² In Barotonga it is said of Tinirau, "If he desired to visit any island, his island would take him there."³ In Mangaia, Tinirau calls his island Motu-tapu to shore and embarks upon it.⁴ In Dobu, Nuakekepoa-ki's "underwater swift-moving rock is still one of the terrors of the seas to all bold sailors who hug the reef between Dobu and the Trobriands." By means of it he carries off a beauty of Tarawa whom men have courted in vain.⁵ The case of Anaelike and her swimming island in Hawaiian romance is similar to these instances. The fact that the word moku, meaning "cut off," is used for both an island and a ship may have given impulse to this myth of the navigable island. The Maori Nga-i-tahu tradition is that "some of the mountains which we now see were ships in days gone by."

The stabilization of the hill Haupu is represented as depending upon either cutting the flippers of the turtle upon which it rests or thinning out the kamani trees that grow at the water's edge. A note in Malo records an emigrated folk-tale about the hill Haupu to the effect that the hill sinks and rises again due to the movements of a giant turtle, and only by killing the turtle can the disturbance be stopped. Mo-i, the kupua ruler of Molokai, refuses to do this and the plovers accordingly tear out his eyes and are banished to the barren hill of Maakuewa.⁶ In San Cristoval a turtle holds up a rock at Haunani. When an earthquake occurs it clasps the rock, otherwise the island would go under.⁷ The legend of the island

2. Collocott, *Bol.* 46: 27-28. 3. *JPS* 8: 118-119.

4. Buck, *Bul.* 122: 12. 5. Fortune, 267-270.

6. Malo, 126-127 note 29. 7. Fox, 183-184.

Copy, C. E. * The Story of the Page
London 1924

his sister-wife for a former alliance in Kahiki, and the girl, who has traveled to meet him clinging to the tip of a stretching tree, follows him across the sea on the back of a friendly turtle just as Hainakolo is conveyed on the back of her mo'ō ancestress.

ROMANCE OF LAUKIAMANUIKAHIKI *

Makioeoe, a visiting chief from Kuaihelani to Kaui, leaves Hina with child by him and gives her a whaletooth necklace, a bracelet, and a feather cape as recognition tokens and bids her name the child Leu-kia-manu-i-kahiki (Leaf for bird trapping in Kahiki) and send the child to him in a red canoe attended by servants clothed in red. In Kuaihelani he makes a bathing pool and plants a garden for the child's arrival. A beautiful girl is born and brought up on Kauai without knowledge of her origin, until her supposed father scolds her for giving away food too lavishly. Learning the truth, she refuses to go by sea to Kuaihelani and two old grandmothers roasting bananas cause a bamboo to sprout, to the tip of which she clings until she is dropped at the chief's home in Kuaihelani. There she adopts a girl friend and the two string flowers in the garden planted for the chief's daughter and bathe in its sacred pool, where a turtle comes and rubs her back. She is not recognized and an oven is ordered built for the girl's death, but an aunt in owl form chants her name and lineage and displays the tokens, and the chief recognizes his daughter.

Light radiates from her as she sleeps at night. She becomes the wife of the chief's son Kabiki-ula when he comes to visit his father. On his return to his first wife at Kabiki-ku she is insoluble and follows him riding upon a friendly turtle. At Kahiki-ku she takes the form of an old woman and enters the service of the household, recognized only by her former husband. His wife Ka-hala-okole-pu'upu'u treats her with ignominy. She does pretended service only and eventually burns down the house and consumes all in it except her half-brother, whom she then deserts and returns to Kuaihelani.¹³

13. For. Col. 4: 596-609.

ROMANCE OF UWEUWELAKERUA

Uweu-kehehu is the son of Ku and Hina on Hawaii. Kaue and Kanaloa are his gods. He is kept under strict tapu as a high chief. Olopana on Kauai has declared that his daughter Lu'ukia shall have no other husband than he. One day when ku and Hina have gone oopu fishing in the Waikuku river, the boy goes to Kalopulepule river to sail his boat and floods wash him out to sea. He is transformed into a fish and swims to Kauai. Fishermen catch him and bring him to Lu'ukia. He becomes her lover in secret. When this is discovered, Olopana in anger banishes the two to the barren country of Mana where none but spirits dwell. He does not recognize the boy's rank because he has expected him to come in a royal red canoe manned by a company of paddlers. The spirits supply the two with all things needful and Mana becomes a fertile land where the hearts of the people are stolen by kindness so that they follow to share their chiefs' exile. The boy is finally recognized and becomes ruling chief of Kauai. The two plant a famous coconut grove at Kamalewa and build the heiau of Lelemana.¹⁴

ROMANCE OF HOAMAKEREKULA

Hoamake-i-ke-kula (Companion in suffering on the plain) is a chiefess of high rank and faultless beauty born in Oioia-paiho, Kohala district. Her mother Pili bears first to the high chief Ho'oleipalaoa the son Waikuuala, then this girl is born in the shape of a taro plant and thrown out upon the rubbish heap. Makapa'ala, Pili's mother, has a prophetic dream and, guided by a rainbow, finds the child, wraps her in red bark cloth, and in twenty days she has attained perfection of form. She is kept under strict tapu, but one day when she and her companion are stringing blossoms in the woods, the elepaio bird comes to them with a song and, turning into a handsome man, hides the girl in mist from her companion and lures her away to a young chief named Ka-lama-ula (Red torch) living with his sister Ka-nabele-i-ka-uka-waokole (Thicket on the forest upland), children of the chief of Kawaihae. His rank does not satisfy her

14. For. Col. 5: 192-199.

Hawai
DU 624.5
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Life in old Hawaii

"Nawai the Net Maker" Carter, Caroline

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NAWAI THE NET MAKER

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Nawai leaned back against the tree to rest. "I forgot to feed them," he said. "Get some of the coconuts piled near my imu, break them and feed the pigs, you three," and Nawai continued scraping.

Maile led the way and soon the three were watching the pigs devour coconuts. "Nawai ought to feed his pigs himself," Noe repeated as Maile left them.

"Oh, he is working!" Kaiki laughed. "Nawai is the laziest man in this village. When he does work we must not interrupt him."

"Let's watch him then," Noe suggested. The two returned to Nawai's work yard and squatted quietly on the grass beside him.

Olona shoots had been cut in moist mountain gulches where they grew abundantly. The bark had been slit, peeled and soaked much as *wauke* bark was peeled and soaked for *kapa* making. As the two boys watched, Nawai tied moist bark to one end of a long smooth narrow board and scraped it with a turtle shell. This separated the long fibers from each other and the coarse outer bark. It was fascinating to watch the swift movement of the scraper. "Nawai's hands aren't like those of a wooden image today!" thought Kaiki remembering a remark of the overseer.

Noe had much the same thought. "I have seen other men scrape, but no one worked so well as Nawai," he said in a low voice. "I wonder if it is hard to learn?"

Nawai looked up. "Want to try?" he questioned.

"Oh yes!"

Nawai rose and stretched, then showed Noe how to sit at the end of the long board. Noe must hold the blade of the scraper against the bark. "Now scrape toward you," Nawai directed.

fibers. "Like a waterfall," he told himself. He saw many balls of twisted fiber. "All this for nets?" the boys asked. "Oh, Nawai, how many nets are you going to make?"

Nawai laughed. "I don't know," he replied. "People give me cord and I think about the net that I shall make. Maybe I start, but net making is slow. I stop to rest or swim or I must go with others to the upland. When I return I start another net."

Kaiki examined the balls of cord. "This is coarse and strong," he said. "You don't use this for a fish net."

"Yes." Nawai spread a half-finished net before the boy. "Sometimes fishermen use a net to capture a shark or turtle. Such a net must be very strong. And here is one for catching tiny bait fish."

"Why the cord is almost as fine as spider web!" Kaiki exclaimed, "and the mesh is very small. How do you make it even?"

"Watch," and Nawai took tools from a small covered gourd. He seated himself just inside the doorway where the light was good. Kaiki listened reverently to his prayer, then watched as Nawai's shuttle flew, knotting fine cord into small meshes.

"Noe, come!" Kaiki called, and the two watched the flying shuttle as Nawai formed the mesh, measuring each opening with a tiny wooden gauge held in his left hand.

"That's enough for today," he said at last. "The light grows dim," and he rose to put away tools and net.

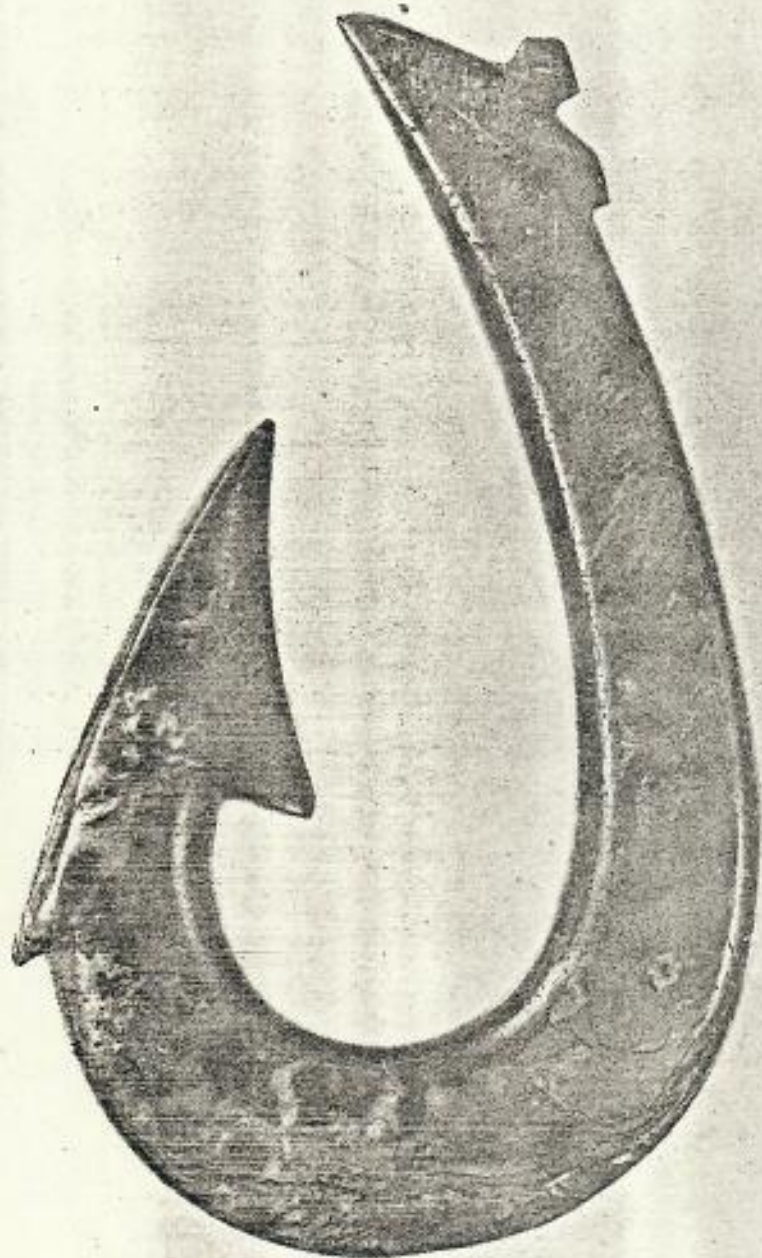
"See that dark cloud!" exclaimed Kaiki going out. "I'll help you carry in your things. It's going to rain."

"The rain will please the pigs," Noe said. "They like a muddy place."

"We all like coolness," Nawai answered. He had carried his scraping board and now went to look after the pigs. "This is my pet," he added, scratching the brown pig's back.

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Polynesian Art Lott, Edward H.
The King of Ives Volume I



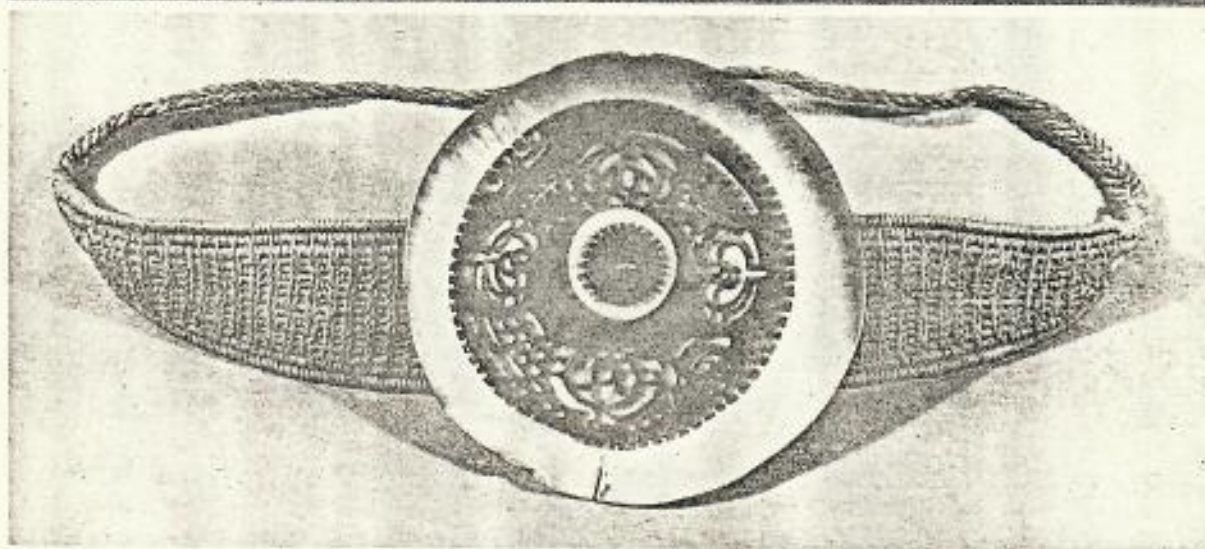
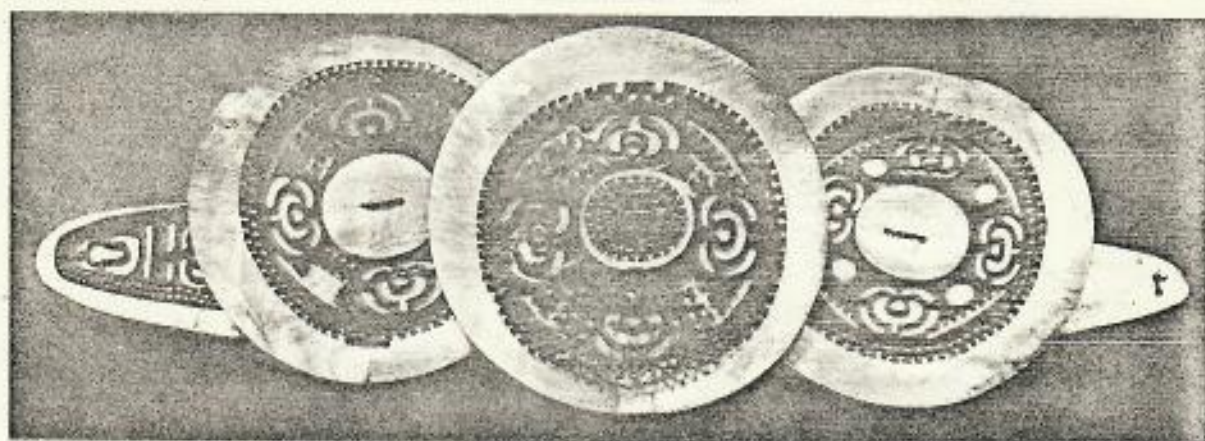
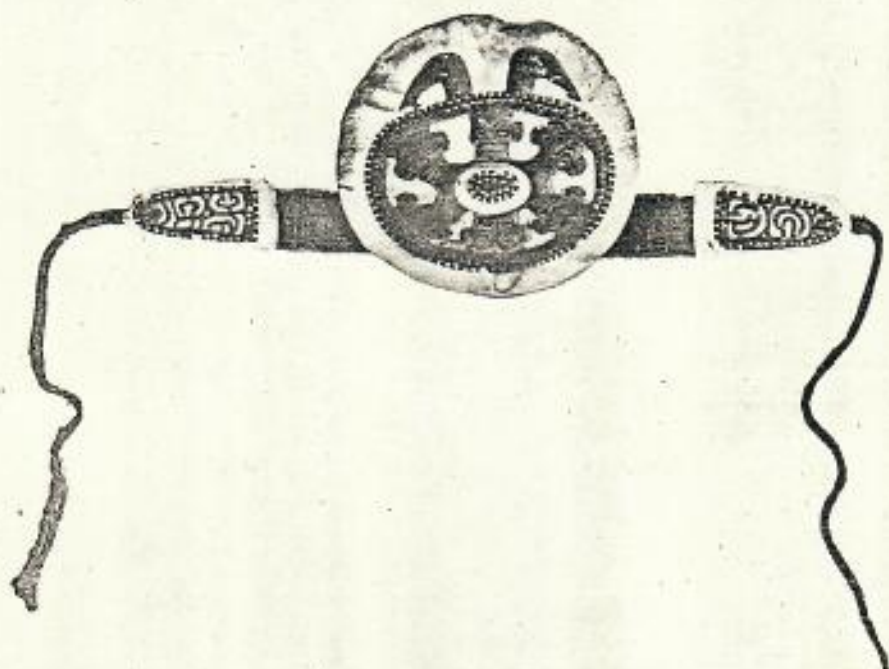
Fishing, then as now, was one of the most important "domestic" occupations of the Polynesian. He brought his knowledge of it from his ancient homelands in Asia and he developed it in an incredible number of techniques: fish traps or weirs of stone and stakes, fish poisoning, fishnets of lengths and types that are unbelievable, night fishing with torches, hand fishing, spear fishing, and so on and on. His equipment was not what we of the modern trawler might call elab-

Turtle shell fishhook, Hawaii (Smithsonian)



Tiki heads of tortoise shell alternate with wedges of white clam shell on this typical Hiva headdress. It was always worn sloping downwards although some early illustrators and engravers, receiving specimens in their European studios, drew them flaring upward like their own traditional crowns. They too are plentiful and deserving of careful comparison.

*Tortoise and shell Coronet, Hiva
Plumetia, photo Charles L. H. C.*



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Acquired by Thos G. Thrum
Chicago - A.C. McClure & Co 1921
a collection of native legends

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the one to the other. The maiden was a sweet flower of Hawaiian beauty. Her glossy brown, spotless body "shone like the clear sun rising out of Haleakala." Her flowing, curly hair, bound by a wreath of lehua blossoms, streamed forth as she ran "like the surf crests scudding before the wind." And the starry eyes of the beautiful daughter of Uaua blinded the young warrior, so that he was called Makakehau, or Misty Eyes.

The Hawaiian brave feared that the comeliness of his dear captive would cause her to be coveted by the chiefs of the land. His soul yearned to keep her all to himself. He said: "Let us go to the clear waters of Kaluhu. There we will fish together for the kala and the aku, and there I will spear the turtle. I will hide you, my beloved, forever in the cave of Malauca. Or, we will dwell together in the great ravine of Palawai, where we will eat the young of the uwau bird, and we will bake them in ki leaf with the sweet pala fern root. The ohelo berries of the mountains will refresh my love. We will drink of the cool waters of Maunalei. I will thatch a hut in the thicket of Kaohai for our resting place, and we shall love on till the stars die."

The meies tell of their love in the Pulou ravine, where they caught the bright iwi birds, and the scarlet apapani. Ah, what sweet joys in the banana groves of Waialeakua, where the lovers saw naught so beautiful as themselves! But the "misty eyes" were soon to be made dim by weeping, and dimmer, till the drowning brine should close them forevermore.

Makakehau left his love one day in the cave of Malauca while he went to the mountain spring to fill the water-gourds with sweet water. This cavern yawns at the base of the overhanging bluff that overtops the rock of Puupehe. The sea surges far within, but there is an inner space which the expert swimmer can reach, and where Puupehe had often rested and baked the *kouu*, or sea turtle, for her absent lover.

This was the season for the *kouua*, the terrific storm that comes up from the equator and hurls the ocean in increased volume upon the southern shores of the Hawaiian Islands. Makakehau beheld from the rock springs of Pulou the vanguard of a great kona,—scuds of rain and thick mist, rushing with a howling wind, across the valley of Palawai. He knew the storm would fill the cave with the sea and kill his love. He flung aside his calabashes of water and ran down the steep, then across the great valley and beyond its rim he rushed, through the buffetings of the storm, with an agonized heart, down the hill slope to the shore.

The sea was up indeed. The yeasty foam of mad surging waves whitened the shore. The thundering buffet of the charging billows chorused with the howl of the tempest. Ah! where should Misty Eyes find his love in this blinding storm? A rushing mountain of sea filled the mouth of Malauca, and the pent-up air hurled back the invading torrent with bubbling roar, blowing forth great streams of spray. This was a war of matter, a battle of the elements to thrill with pleasure the hearts of strong men. But with one's

IN Mokapu: Its History and Archaeological Past by Robert M. Bowen 129-138

Archaeological History
The observations of Otto Finsch (1879 pp 326-31) although not specifically concerned with Mokapu

otto
(1879 pp 326-31) although not specifically
Bericht über die Insel Oahu.
Zeitschrift für Ethnologie 11: 326-31

Peninsula, are important in the archaeological history of windward Oahu and have an important bearing on the Mokapu site. They are not only detailed but, to my knowledge, also the earliest.

Finsch spent four days at Waimanalo, just eight miles southeast of Mokapu, taking notes on exposed sand burials in wind-blown pockets edging Waimanalo Bay. He estimated that at the time of his visit the coast was inhabited by barely fifty people, but that it had evidently supported a much larger population in the past, as evidenced by the many stone walls surrounding once cultivated fields and irrigation ditches. Depopulation, he concluded, was the result of smallpox and measles epidemics which struck the area in the 1830s and 1840s. He also concluded, and rightly so, that the skeletons were "by no means the signs of an old battlefield, as they [the contemporary inhabitants] are so apt to suppose here."

Skeletons were found in extended positions on their backs and sides and in flexed positions on their sides. Finsch gives no information or orientation, sex, or age, except that "The children's skulls all fall to pieces."

No European artifacts were associated with the dead. Finsch explains this by saying, "It is only a few years since Europeans set foot here, and this part of the coast has remained untouched by them. Thus far, no ships, except very small boats, have landed at this very shallow and dangerous bay." Bird bones and broken crab claws were found near the burials, and two bird bones were sent to Europe for identification. One was "probably" the breastbone of a fowl and the other belonged to a goose, possibly the Hawaiian *nene*, *Anser sandvicensis*. Several tortoise shells were recovered as well as fish teeth. There were no associated domestic animal bones, except cow and horse crania on the surface.

The collection of specific archaeological information about Mokapu and its population began more than 30 years after Finsch's study when, in 1912, artifacts from the peninsula were first accessioned by John F. G. Stokes, curator of collections at Bishop Museum. He was actively engaged in expanding the museum's archaeological and ethnological holdings by encouraging local collectors to hunt for surface artifacts with the understanding that significant items would be purchased. An adz from Mokapu was sold to the museum on April 19, 1912, by a Chinese resident, Lam Zi Sun. During the next two

years this collector brought in more Mokapu artifacts, which were also purchased. Included were poi pounders, polishing stones, game stones, grindstones, adzes, slingstones, a coral fishhook file, a stone mirror, a stone gouge, and a sinker. In 1914 another Mokapu resident, Nam Chay Sing, brought more slingstones, polishing stones, and adzes, another sinker, and a shell ornament (#11748) to the museum.

Three years later, MacCaughy and Austin (1917, pp. 180-96), professors of biology and astronomy at the College of Hawaii, visited the peninsula. While crossing land divisions they found "no traces of their boundaries, no vestiges of former industry. Long ago their native occupants, like those of Nu'u-anu, had dwindled and vanished." MacCaughy and Austin described the fishponds as being large arms of Kaneohe Bay cut off from the sea by heavy stone walls. The wall of Nuupia Pond was from 4 to 6 feet wide with an average height of about 5 feet and at high tide stood about 18 inches above the water. It was constructed of two laid stone walls, and the central part between the walls was filled with earth and loose rubble.

From Puu Hawaiiiloa, they surveyed the plain, which then was a treeless pasture marked by cattle trails, with grazing herds of horses, mules, and cattle. Between Puu Hawaiiiloa and Pyramid Rock they saw "a scattering meshwork of low stone walls, irregularly spread over the plain, and in ruins. The longer we looked, the more extensive we found these ruins to be. Later in the morning we transversed this tract, and satisfied ourselves that in the days of ancient Hawaii, Mo-kapu had been the site of several villages."

On the summit of Pali Kilo they found a maze of ruins—walls forming enclosures and irregular patterns. Among the ruins were traces of a temple, which, according to Thrum, was of the husbandry class. Near Pyramid Rock they saw fish gods represented by two lava rocks, about two feet high and mounted on a low platform. Adjacent to Kaluapuhi Pond they observed the remnants of Hawaiian salt pans.

Although MacCaughy and Austin described the dunes in detail, they were evidently unaware of the burials they contained. "These dunes are sufficiently grassed on the leeward slopes," they said, "to exclude them from the typical 'white' class, although their seaward faces are glaring white. So far as we could observe, their movement with the wind is not

Early Hawaiians
An initial study of skeletal remains from Mokapu, Oahu
Charles E. Snow The Univ. Press of Kentucky 1999

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settlers is discussed by Newman. The final paper is a summary by Kay of the development of our knowledge of Hawaiian natural history from the discovery of the Islands in 1778 by Captain Cook to the twentieth century.

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iversity of Hawaii
iv Press of Hawaii
Honolulu 1972
QH198 A1K39 653 pp

A Natural History of the Hawaiian Islands
Edited by E. Alison Kay

MAN IN THE PREHISTORIC HAWAIIAN ECOSYSTEM

T. Stell Newman¹

Man is a supreme egotist. We often consider ourselves to be separate from the rest of nature, and, in fact, superior to it. This point of view is changing as it becomes clearer that a close relationship exists between mankind and the rest of the world--witness the present concern with population growth and pollution. Overpopulation and pollution affect both man and the rest of nature, illustrating that man is an active ingredient in nature. People generally have yet to realize, however, the extent to which the rest of nature affects man.

This article applies the "ecosystem concept" to the study of prehistoric Hawaiians and prehistoric Hawaii, as an illustration that man as a part of nature affects, and is affected by, the whole. Odum has defined the ecosystem as

any area of nature that includes living organisms and nonliving substances interacting to produce an exchange of materials between the living and non-living parts. . . . The ecosystem is the basic functional unit in ecology, since it includes both organisms (biotic communities) and abiotic environment, each influencing the properties of the other. . . . [1959:10-11]

This paper describes a portion of the Hawaiian ecosystem during the period when Hawaii was occupied

¹Archeologist, Division of State Parks, Department of Land and Natural Resources, State of Hawaii.

solely by Polynesians. The focus is on the relationships between man and the rest of the ecosystem that may be seen through a study of Hawaiian fishing and farming. Fishing and farming formed the primary subsistence base for the Hawaiians and show most clearly that the Hawaiians were a part of the general Hawaiian ecosystem.

CULTURE

Although there is always an interplay between the biological nature of man and the ecosystem of which he is a part, the Hawaiians inhabited the Hawaiian ecosystem for such a relatively short time that probably little genetic change occurred. On the other hand, the Hawaiian way of life, or culture, both influenced and was influenced by the Hawaiian ecosystem.

Man's culture allows him, as an intelligent animal, to pass knowledge, attitudes, and behavior patterns from one generation to the next, enabling knowledge to accumulate over time. Culture is essentially an ecological adaptation that provides the means for extracting from an ecosystem almost all that is required for the adequate support of human life. It must be remembered that culture is more than technology; it includes also patterns of behavior, social groupings, and mental attitudes. All these are part of man's cultural adaptation to nature. Two factors act in concert to shape the particular culture that will be held by any group of men: (1) the specific cultural heritage of the accumulated knowledge, mental attitudes, and patterns of behavior, and (2) the specific nature of the ecosystem of which that culture is a part.

A study of the interaction between Hawaiians and the remainder of the Hawaiian ecosystem is most readily accomplished through an understanding of the ancestral culture brought to Hawaii, the ways in which that culture was adaptive in the Hawaiian ecosystem, the

qualities of the ecosystem that constrained and channeled Hawaiian culture, and the effects of Hawaiian culture on the ecosystem.

THE CULTURE BROUGHT BY THE POLYNESIAN SETTLERS

The initial settlers of the Hawaiian Islands were Polynesians who seem to have come from the Marquesas Islands of Central Polynesia in the fifth to seventh centuries A.D. These migrants did not arrive in Hawaii with mental vacuums; they brought an Oceanic culture that had developed during several thousand years of migration from Southeast Asia.

The migration to Hawaii and to Polynesia was possible only because the ancestors of both were seafaring people who passed down their knowledge from generation to generation. During the movement across the Pacific from Asia, knowledge of boats, the sea, navigation, and fishing was continually developed and refined, to be woven into the fabric from which Polynesian culture emerged when the islands of Eastern Oceania were reached.

The ancestors of the Polynesians brought from their homeland an extensive inventory of useful plants: food plants such as taro, yams, and breadfruit; fiber plants such as the paper mulberry; and medicinal plants of many varieties. The food plants were the basis of a well-developed agricultural economy, although the primary farming implement was a simple digging stick. The people using these digging sticks, however, developed a vast knowledge about farming techniques, engineering, plant adaptations, and environmental factors affecting their crops. This cultural knowledge accumulated over many generations and enabled the Polynesians to have a highly effective agriculture.

Domesticated land animals were also part of the economy of the ancestral stock from which the Polynesians derived. The pig and the dog were probably brought from

the Southeast Asian mainland, while the jungle cock, or chicken, may have come from there or from Southeast Asian islands and Melanesia. The pig, dog, and chicken were the only domesticated animals of these people and of their Polynesian and Hawaiian descendants. However, these animals provided valuable supplementary food and they were carefully bred and raised.

Besides these plants and animals, techniques for exploitation of land and sea, and other facets of Oceanic economy, the early voyagers crossing the Pacific to Polynesia brought with them a body of accumulated knowledge, a heritage of particular ways of thinking and patterns of behavior, as well as attitudes toward one another and toward nature. These cultural factors worked in concert to produce Polynesian culture--and this was the culture brought by the first settlers to Hawaii. Their culture emphasized fishing and farming, with some dependence upon domesticated animals. Virtually all other aspects of Polynesian culture, such as social organization, religions, and politics, were related to these basic adaptations to island ecosystems.

The first settlers in Hawaii brought a culture already well adapted to island living and based on the exploitation of the sea and the land. It is not known, nor is it knowable, if the first settlers in Hawaii brought with them all the useful plants and animals carried across the Pacific by their ancestors. It is known, however, that all (plus the sweet potato from South America) were present in Hawaii by the time Captain Cook arrived in A.D. 1778.

PRE-POLYNESIAN HAWAIIAN ECOSYSTEM

It would have been very difficult for the first Hawaiians to survive in Hawaii had they been totally dependent upon land resources, for little land food was available in Hawaii at the time of their arrival.

Scholars such as Zimmerman (1965) indicate that none of the major plants or land animals used for food by the Polynesians were present in Hawaii when the settlers arrived. *Pandanus (hala)* and edible ferns were about the only plant foods available, while birds and the bat were practically the only land animals suitable for food.

Unlike the foodless land, the sea abounded in food for the settlers. Furthermore, the settlers with their Polynesian culture knew how to exploit efficiently the marine resources of the sea. Thus, the first settlers in Hawaii must have depended almost entirely upon the sea and its products for their subsistence. This would have been the case even had the initial settlers brought food plants and domesticated animals with them, for it would have been necessary to hoard and tend the plants and animals carefully for a number of years before they could be used as food. This almost total dependence upon the sea would have lasted until crops were growing well and the domesticated animals were reproducing in sufficient numbers. Only then could the land be exploited for Hawaiian subsistence needs.

The food crops eventually became well enough developed, however, and the Hawaiians then shifted from a sea-oriented to a land-oriented economy. By the time of Captain Cook's arrival, the main emphasis of Hawaiian subsistence was upon land foods, although the sea continued to produce a substantial portion of their diet.

HAWAIIAN SEA EXPLOITATION

Although little specific information exists on prehistoric Hawaiian sea exploitation practices, there is no reason to expect them to have been substantially different from practices described for the time of contact in 1778 (Newman 1970). A reconstruction of marine exploitation practices at the time of European

contact would include: (1) hand collection, (2) poisoning, (3) snaring, (4) spearing, (5) basket traps, (6) nets, (7) fishhooks and line, (8) fishponds.

Hand Collection

Hand collection was practiced in shallow water, both on the surface and by diving. Some types of fish were caught by hand in shallow pools as well as by divers in underwater caves. Other food items collected by hand included crabs, lobsters, eels, sea urchins, sea cucumbers, shellfish, octopi, shrimp, and seaweed. Much of this type of exploitation was practiced at night, particularly for mobile fauna.

Poisoning

Poisonous plants used were *akuku* (*Tephrosia purpuræa*) or '*ākia* (*Wikstroemia sandwicensis*). The plants were collected and brought to the area to be fished. There they were placed on a suitable rock surface and pounded thoroughly just before use. Divers stuffed the pounded fibers into an underwater cave which had been sealed earlier to trap the fish inside. After a few minutes, the dead fish were retrieved from the cave; the poison did not affect the fish as human food if the fish were properly cleaned.

Snaring

Eels and lobsters were often caught by snaring. A noose on a pole was placed in front of an eel hole and bait was placed outside; when the eel stuck its head outside the hole and through the noose to get the bait, the noose was drawn tight and the eel brought to the surface with the pole. To snare lobster, a noose attached to a long pole with a forked end was lowered near bait, and the line was slipped under the tail of the lobster.

Spearing

Fish spears were about 6 feet long (2 meters), made of a hard wood, and used underwater by a diver who positioned himself on the bottom and impaled fish on the spear as they came close. It was possible to spear more than one fish per dive by allowing the fish to slip down the spear after they were pierced. Use of spears above the surface of the water was restricted to spearing turtles, octopi, and fish mesmerized by torchlight at night in shallow water.

Basket Traps

Relatively few basket traps were made, and most were used by women to catch shrimp and fish in shallow water. The traps were woven from fresh vines or flexible branches into box-shaped designs. In one common technique, a simple basket was lowered to the bottom in shallow water, often with a bait of pounded shrimp inside; when fish entered the trap, a woman watching nearby would dive to bring the trap to the surface. A more sophisticated version had a conical woven entry protruding into the interior where it terminated in an opening only large enough for a fish to squeeze through. The trap, baited with seaweed, ripe breadfruit, or cooked sweet potatoes, was lowered to the bottom, and when fish entered by the conical entry they were unable to find their way back out again.

Nets

Gill Nets

Gill nets were designed to entangle the fish in a net with a fairly large mesh instead of merely trapping them within an encircling small-mesh net wall, as was done with seines and bag nets. Gill nets were made in different sizes according to the type of fish to be caught and the inshore habitat to be exploited. Three

basic techniques were used in gill netting: (1) letting the net remain stationary and allowing the fish to entangle themselves in the mesh; (2) driving the fish into a stationary net; or (3) moving the gill net to encircle the fish and then scaring them into the entangling mesh.

Seine Nets

A Hawaiian seine was a net deployed in shallow water and moved horizontally, trapping fish by impounding them within a complete circle formed by the net, or between the net and the shoreline. The fish were not normally entangled in the mesh as with a gill net, but rather were kept within a small circle by the net wall where they could be scooped out with small bag nets or dragged bodily onshore, net and all. A bag net was often used in conjunction with a seine; this combination will be discussed later.

Bag Nets

Bag nets were made into enclosed purses with only one open end, usually held open by flexible sticks; or alternately they were flat pieces of netting that were closed into self-contained bags by manipulating attached flexible sticks in a particular manner to seal them. Bag nets were extensively used in conjunction with seines, as well as by themselves in specialized techniques. Bag nets used alone were more important than either gill nets or seines used alone and were either hand-held or manipulated by attached ropes.

Baits were often used to attract fish into the bag nets. Common baits were cooked sweet potatoes; *kukui* and coconut meat; raw mashed bananas, breadfruit, or taro; pounded up fish, sea urchins, shrimp, or eels; whole small fish; or a special mixture called *pa'u* which was the cooked ink bag of the octopus pounded into a paste with ingredients added, such as the juices of various plants. These different baits were often mixed

with sand to make the bait sink, and then placed in the water near the bag net, as well as inside it, to attract fish. When the fish were inside the bag, it was lifted to the surface by the attached ropes.

Seine/Bag Net Combinations

When bag nets were used with seines, the bag was laced in the center between two seine net sections, so that each seine net formed a long wing on each side of the bag and served to channel or direct the fish into the bag. Long ropes with dried ti or convolvulus leaves lashed to them by their stems were often tied to the ends of the seine nets. These bushy ropes, called *lau*, served to drive the fish ahead when the leaves swirled and waved in the water, creating threatening shadows that frightened the fish. *Lau* ropes were also used with seine nets without bags and with bag nets without seines for the same purpose.

The *lau* ropes were then drawn in such a way as to force the fish between the seine wings and toward the bag. When the encircling *lau* was drawn toward the bag tightly enough, the fish were driven into it by fishermen who beat the water; the bag was then drawn up and the fish removed.

Fishhooks and Line

Fishing with hook and line was done in two basic ways: (1) surface trolling with a lure, and (2) subsurface angling with bait or lure.

Surface Trolling with Lure

Surface trolling was carried out in offshore waters with a special pearl-shell lure attached by a 12-foot (4-meter) line to a bamboo pole and manipulated by a fisherman in a canoe. A school of offshore carnivorous surface-feeding fish, usually tuna, was first

located, and the canoe was carefully positioned ahead of the school in the direction the fish were feeding. Sometimes small, live bait fish were taken from a special baitbox lashed to the canoe and thrown overboard to attract the fish. When the school of tuna neared the canoe, the paddlers kept the canoe in, or quite near, the school while the fisherman stood erect in the stern and slapped the lure smartly on the water behind the canoe and then skittered it across the surface to imitate the small fish upon which the tuna were feeding. When a fish struck the lure, the fisherman would jerk the pole to set the lure hook and lift the fish out of the water, catching it momentarily under his arm to extract the lure before dropping the fish into the canoe and casting again. This type of fishing had to be done swiftly for the school soon moved away.

Subsurface Angling with Bait

Subsurface angling was done with a pole and line in shallow water, and with hand lines for deep-water bottom fishing. The baits used were the same as those listed under bag net baits. Some were attached directly to the hook, while the *palu* bait was merely rubbed on the hook; often a bag of bait was lowered near the baited hooks and released underwater.

Deep-water bottom fishing: Deep-water bottom fishing used a rig of multiple incurved hooks attached by short leaders to the main 3/8-inch (1.7-centimeter) fish line at intervals close to the bottom. Each short line with the hook attached was supported by a section of coconut midrib lashed perpendicular to the main fish line which served to keep the multiple hooks separated from one another and from the main line. Figure 1 illustrates this technique. These rigs were used to tap the benthic habitat at depths of up to 1,200 feet (350 meters), catching deep-water fish such as snappers.

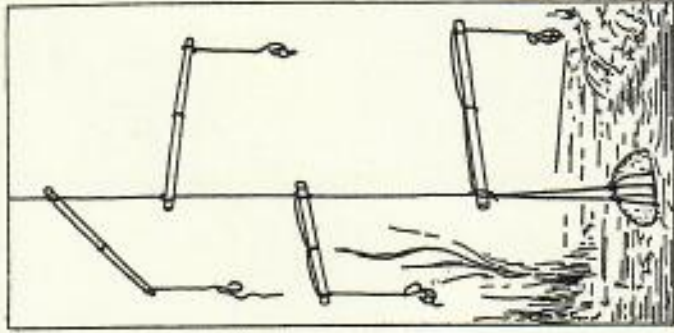


Fig. 1. Deep-water bottom fishing rig.

Pole, line, and hook techniques: Poles were used in catching tuna with a pearl-shell lure but not in exploiting deep-water or benthic areas, where hand lines were used. Evidently much inshore subsurface fishing was also practiced with hook, line, and pole, using baits of crushed sea urchins, crabs, shrimp, or *palu* to catch shallow-water fish.

Subsurface angling with a lure for octopus: A special octopus lure was made by opposing a specially prepared cowry shell with a shaped stone weight; the two were lashed to a short, wooden shank which had a bone hook tied to its distal end, covered with a skirt of ti leaves. The lure was lowered to the bottom and jiggled up and down to attract an octopus; when the octopus wrapped his tentacles around the cowry shell, the line was hauled up to bring the octopus to the surface where it was killed with a club.

Fishponds

Fishponds were developed in Hawaii, where they appear to be unique in all of Polynesia. These salt-water ponds were constructed by the Hawaiians to act as holding areas for certain kinds of fish, principally mullet and milkfish. A stone wall was constructed in shallow-water areas to arc from two points on the shore in a large semicircle. In the most common type several openings were provided in the wall to allow for water changes, and the large fish inside were prevented from escaping by closely spaced wooden poles within these wall openings. Small fish could move freely through these barriers; when they remained inside too long, however, they grew too large to get out again. Ample food for the fish was grown inside the ponds, or else the fish were fed by the Hawaiians. When fish were required, nets were used to catch them.

This technique is in fact a form of marine farming or aquaculture. Other styles of fishponds served more as fish traps, in that the fish were not continually raised or stored inside, but rather were trapped and used immediately when they had wandered inside the structure.

Summary

The techniques used by the Hawaiians to exploit the sea included fishing with hook and line by both surface trolling and subsurface angling, netting, spearing, hand catching, poisoning, snaring, and the use of basket traps. These are essentially pursuit techniques, whereby the Hawaiian actively sought to catch and immediately use the sea creatures. On the other hand, most fishponds involved raising crops of fish which were essentially stored until needed by the Hawaiians for food.

Those parts of the Hawaiian marine ecosystem that were affected by the use of these cultural techniques are described below.

THE HAWAIIAN MARINE ECOSYSTEM

The Hawaiian marine ecosystem may be described in many ways, but this discussion is limited to those aspects which regulated Hawaiian exploitation practices. Only the southeastern one-third of the entire island chain is considered, since the northwestern portion was uninhabited except for marginal settlements at Necker and Nihoa islands. This limits the geographical coverage to the major islands--Niihau, Kaula, Oahu, Molokai, Lanai, Maui, Kahoolawe, and Hawaii.

Topography

A geographical parameter of major import comprises the volcanic processes by which these islands were built up from the ocean bottom. Underwater volcanic lava flows consolidated to form relatively steep-sided bases for all of the Hawaiian islands, bases built up through some 15,000 feet (4,600 meters) of water. These island bases are less than about 150 miles (250 kilometers) in width at the bottom, yielding an average underwater slope of about 2,000 feet per mile (400 meters per kilometer). The steep underwater gradient creates a very narrow band of shallow water surrounding each island, a factor of major importance in Hawaiian fishing.

Data have been presented to show that the maximum depth to which the Hawaiians were able to fish was about 1,200 feet (350 meters) below the surface; the water area of the Hawaiian Islands of depths less than this figure is extremely limited.

A second factor of great importance is that reef-protected areas are not common in Hawaiian waters. Shallow-water areas where coral is dominant were found in only about one-third of the areas surveyed by the Hawaiian Fish and Game Division during submarine fish transects (Gosline and Brock 1965:8). The only barrier reef found in the Hawaiian Islands is a small one in Kaneohe Bay, Oahu; the other reefs are of a discontinuous fringing type, varying in presence, size, and depth by geographic position (Moberly and Chamberlain 1964:10-11). Yet reefs were areas of major maritime exploitation. Since the distribution and physical characteristics of reefs largely control the types of marine fauna in an area, the Hawaiian exploitation practices were closely linked to the type and location of reefs.

Wave Action and Habitats

Another major environmental factor affecting Hawaiian exploitation practices was wave action, a primary habitat parameter for much of the Hawaiian marine biota (Gosline and Brock 1965:10-13; Gosline 1965). Four vertical habitats may be delimited in the inshore area on the basis of wave action: the supra-surge zone, the surge zone, the reef-protected zone, and the subsurge zone (Gosline and Brock 1965:10-15).

The supra-surge zone lies above mean water level and consists of pools filled by spray or intermittent wave action. Few fish exploited by the Hawaiians live in the supra-surge zone, although it was probably a major shellfish exploitation zone. The surge zone itself is an area with much horizontal water movement through wave action. The surge zone extends from the surface to some 10 to 25 feet (3 to 8 meters) in depth in protected areas, and down to over 65 feet (20 meters)

Basic Marine Habitats

The effect of this limited shallow-water area on the marine biota is seen in the division of the waters surrounding the Hawaiian Islands into three basic habitat types--the pelagic, benthic, and inshore areas--each with its characteristic fauna. The pelagic habitat, quite uniform in temperature and salinity, ranges from the surface to perhaps 600 feet (200 meters) in depth and is located in the open sea offshore from the islands (Gosline and Brock 1965:6). Comparatively few species of fish are found in the pelagic habitat, and those exploited by the Hawaiians were surface-feeding carnivores such as tuna, albacore, and barracuda. There is also an inshore pelagic (neritic) zone, defined by Gosline and Brock (1965:7) as the upper water layers where the total depth is less than about 600 feet (200 meters). In this subzone are often found the usual pelagic species as well as others restricted to this zone.

The benthic, or bottom, habitat, is the sea floor at depths from about 180 to 900 feet (60 to 300 meters) in which the fish fauna is only poorly known (Gosline and Brock 1965:7).

The inshore or reef habitat extends from the above-surface splash and surge pools to a depth of about 180 feet (55 meters) (Gosline and Brock 1965:5). As noted above, this area is quite limited in extent in the Hawaiian Islands because of the steepness of the underwater base. Only in embayed areas, such as Kaneohe Bay on Oahu, does the horizontal extent of the zone exceed one-half mile (0.8 kilometers). The largest marine biomass (weight of all living creatures) is found in this inshore habitat, and it was the habitat most extensively exploited by Hawaiians.

in exposed areas. The calm subsurge zone has the largest fish population; the distinction between the surge zone and the top of the subsurge zone is quite marked on a populational basis. The reef-protected zone is likewise a calm-water area of great fish biomass, distinct from the subsurge zone primarily in depth.

Swell Systems

The inshore vertical habitats described above vary in size and distribution on the basis of the swell system involved, for the swell systems striking the islands differ in azimuth, intensity, and periodicity.

Swells in Hawaii consist of four broad types: (1) the northeast trade waves, (2) the southern swell, (3) the North Pacific swell, and (4) the Kona storm waves (Moberly, Bayer, and Morrison 1965:590). These wave systems are caused primarily by surface-wind patterns which, in turn, are controlled on a seasonal basis by meteorological pressure cycles. Various combinations of these wave systems may be present at any one time, but generally the dominant system during the months of April to November is the northeast trade swell. This system is present from 90 to 95 percent of the time from April to November and from 55 to 65 percent of the time from December to March (Chamberlain 1968:181). It impinges on the northeast or windward coastline, producing strong and consistent wave action resulting in a windward enlargement of the supra-surge and surge biotic zones. For example, the 'opihī (Pateiidae) is a shellfish particularly adapted to the supra-surge zone (cf. Kay 1969); it is noticeably more prevalent along rocky windward coastlines.

The southern swell is felt in Hawaii about 53 percent of the time from April through October, striking exposed southern and southwestern coasts. Kona storm waves are short-term waves generated by low-pressure

storm systems near Hawaii; they roll in from the south and southwest some 9 percent of the year, usually during the winter months. The North Pacific swell is produced by storms in the northern Pacific and is responsible, often, for the largest waves to reach Hawaii. These waves occur primarily from October to May along north-east to northwest exposures (Chamberlain 1968:181-182). These last three wave systems are not as constant as the northeast trade-wind swell system and have less effect in producing large and consistent supra-surge and surge habitats. They are important because they transform inshore bottom habitats by a periodic movement of sand deposits (Chamberlain 1968).

These different swell systems cause a horizontal zonation around the islands on the basis of swell action. The largest, most consistent, and generally highest-energy-packed waves flow against the windward (eastern) coastline while swell action is much less pronounced along leeward (western) shores.

Upwelling

Wind action over the leeward shore probably also results in the production of minor upwelling, generating vertical currents by surface friction, bringing up the colder and nutrient-laden lower waters. Although this phenomenon is most pronounced along the leeward coasts of continental land masses (Ryther 1969:73), it quite likely occurs along the leeward coast of the Hawaiian Islands as a "micro-upwelling" condition and makes a horizontal differential in available nutrients between the leeward and windward areas.

Biomass Differential between Leeward and Windward Sides

There is a distinct possibility that a biomass differential exists between the windward and leeward sides of the islands which may be explained in part by

upwelling. Direct support for this thesis, moreover, comes from the observation of Gosline (1965:829) that relatively few carnivores are to be found in areas affected by wave or surge action; rather they are found in the deeper, unaffected waters where they presumably have a larger trophic-level biomass upon which to feed. Since more of the relatively short, shallow-water slope of the island base is taken up with supra-surge and surge zones on the windward side, it would seem reasonable to assume that a larger subsurge zone exists on the leeward side, and hence more carnivores. Obviously, where more predators are present there must be a larger supporting lower trophic-level biomass upon which they feed.

Second, the total number of species present is greater in the subsurge zone than in the surge zone, and although this is not a direct measure of biomass, it is indicative. The long-term pounding of the trade-wind swell system against the windward coast results in a further reduction of the windward total shallow-water zone, causing a lower marine biomass to windward.

Finally, the leeward waters of Molokai, Maui, Lanai, and Kahoolawe are remnants of a once-contiguous island mass, since submerged, leaving relatively shallow water saddles between these islands. This shallow area is windward of Lanai and Kahoolawe, but these islands are relatively well sheltered from trade-wind effects by the mountains of Molokai and Maui.

Historical studies also show that most fishing tended to take place along the leeward coastlines, although this may have been due also, in part, to the difficulties of fishing in the rough waters of the windward shore. For example, little fishing was described by Ellis (1963) for the windward coastline of Hawaii Island in 1823, while it was a very important activity in leeward areas.

Bottom Conditions

Other biotic marine zonation occurs in Hawaii on the basis of underwater topography and bottom conditions. Each type of bottom, such as sandy, muddy, silty, coralline, or rocky, supports a distinctive assemblage of both fish and invertebrates. This is most pronounced with shellfish, of which gastropods are generally found under clear, unsilted conditions while lamellibranchs (bivalves or pelecypods) are primarily adapted to silty and more polluted conditions (Doty 1968:15).

Summary

Distributions of marine biota and the corresponding Hawaiian sea exploitive techniques appear to have been regulated by a combination of water depth, bottom morphology, and wave action generated by surface wind patterns.

With these data of the Hawaiian marine ecosystem, it is now possible to note the ways in which that ecosystem acted to channel and restrict Hawaiian exploitive techniques.

EFFECTS OF THE HAWAIIAN MARINE ECOSYSTEM ON HAWAIIAN EXPLOITIVE TECHNIQUES

Inshore Exploitation

An analysis of the marine zones in which marine organisms normally are found shows a pronounced correlation between habitat and exploitive technique. The inshore habitat was exploited by subsurface angling with pole, line, and fishhooks for fish within the surge and portions of the subsurge zones, while octopus was taken by hand line and cowry-shell lure from the subsurge zone. Only gill nets primarily tapped the surge

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or obscured all previous movements or migrations in an easterly direction.

The Wakean era, however, was undoubtedly one of great disturbance, displacement, and change in the ancient Polynesian homesteads. The very fact that so many of the principal tribes have retained his legend, though under different forms, and have attempted to localise him and his wife on their own groups, proves to me that he was anterior to, or at least contemporary with, some great popular movement preceding or attending the first considerable exodus into the Pacific, the memory of which was linked to his name, and thus handed down to posterity. His wars with *Lihouaia*, his brother; his wars with *Kaneaia-Kamua-kouwa*, in which he was conquered, driven out of the land and fled over the sea, though he is said to have recovered his kingdom afterwards; his changes in the religious and social institutions of the people, or which have been ascribed to him; all point to an area of unrest, tribal if not ethnic displacement and material modifications among the Polynesian forefathers, but still occurring in some common country, ere the original stream of migration had divided itself over the different Pacific groups where the legend is still preserved.

Now this period of Wakea, counting on the shortest Hawaiian genealogy, corresponds with the commencement of the Malay Empire in the Indian Archipelago. In the year 76 A.D., according to Javanese historians, *Tyiesira* invaded Java, and commenced those wars against the Rakshases, the Polynesian-Cushite pre-Malay inhabitants, which ended in their subjugation, isolation, or expulsion throughout the Archipelago. Eighty years from that time bring us to the period of Wakea, and the same time possibly brought the Malays from Java and Sumatra, where they first set foot, to Timor, Gilolo, and the Philippines.

Taking this epoch, therefore, as the starting-point for the great exodus and general appearance of the Polynesian

family in the Pacific, there is an interval of time of 900 to 1000 years in which to people the various islands and groups now held by that family, until we meet with the uncontested Hawaiian traditions which affirm that twenty-eight generations ago that group was already densely peopled by that family.

But twenty-eight generations only represent a period of somewhat less than 900 years, and within that period there is no distinct tradition or remembrance of the active state of the volcanoes on the leeward islands of the Hawaiian group, or of the upheavals and subsidences to which those islands have been subjected. Yet recent discoveries have established the fact that those islands were inhabited before their volcanoes had ceased their action and the land assumed its present form. The legends of *Pele*, *Hiaka*, and that family of demigods, it is true, would seem to infer the ancient Hawaiian belief that the leeward islands were inhabited while their volcanoes were still active; but the legend of *Pele* itself, in its application to the Hawaiian group, when critically considered, must be subsequent to the great commotion which prevailed among the Polynesian tribes about twenty-six or twenty-eight generations ago, and is rather a mythical attempt in after ages to explain the volcanic phenomena of the group, than an historical datum for their occurrence. The tone of the legend, its several associations, and especially the therein occurring prayer of *Matakeakoa*, the *Kaka* or guard of *Hiaka*, bespeak its later composition from Southern materials recast in a Hawaiian mould.

It is impossible to judge the age of a lava flow by its appearance. Portions of the lava stream of 1840, flowing from the crater of Kilauea into Puna district, Hawaii, and thence to the sea, a distance of from sixteen to twenty miles, was in 1867 covered with a luxuriant vegetation; while older flows in Puna, of which no memory exists; while the last flow from Mount Hualalai in 1791-92, through Kekaha on the west of Hawaii; and while the

flow near Keonioio in Honouaule, island of Maui, called *Hanaiaie*, and which is by tradition referred back to the mythological period of *Pala* and her compeers—look as fresh and glossy to-day as if thrown out but yesterday. Geologically speaking, the leeward islands are the oldest of the group, but both on Oahu and on Molokai human remains have been found imbedded in lava flows of undoubted antiquity, and of whose occurrence no vestige of remembrance remains in the Hawaiian folklore.

In 1822 the first wells were dug in the city of Honolulu. They passed through some eight or ten feet of surface loam and underlying volcanic sand, when a coral bed of some eight feet in thickness was encountered and cut through, under which the fresh water was reached. In this coral formation were found embedded a human skull and sundry human bones.¹

In 1858, in dredging the harbour of Honolulu, island of Oahu, near the new Esplanade, after scooping up and removing the mud and sand at the bottom of the harbour in about twenty feet of water, it was found that underneath this sand and mud was a pan of coral rock which it was necessary to break up and remove in order to obtain the required depth of water. This pan was of an average thickness of two feet, and beneath it was a thick couch of black volcanic sand, such as is found some four or five feet beneath the surface throughout the city, and evidently thrown out by the extinct crater of Punch-bowl-hill in some pre-traditional time. Embedded in this black sand, underneath the coral bed, was found the lower part or pointed end of an ancient spear or *Oo*, about three feet long; and near to it a rounded small stone, the size of a hen's egg and nearly its shape, of a red, close-grained, compact, and heavy lava, such as is not found in the Punch-bowl-hill formation or its vicinity. The broken spear speaks for itself, and shows that man passed over

¹ Hawaiian Club Papers, p. 3; by James Huannewell. Boston, October, "Early Wells of Honolulu," Dec 1868.

that spot by water or by land before the formation of that coral pan which now covers the bottom of the harbour and the adjoining reefs. What purposes the stone had subserved I am not prepared to say, unless it had been used for slings and dropped by the same hand or the same generation that dropped the spear. It bears no geological relation to the black sand around it, to the coral-rock above it, or to the extinct crater one and a quarter mile inland.¹

In 1859 Mr. R. W. Meyer of Kalae, Molokai, found in the side of a cañon on his estate—some seventy feet below the surface rim of the upper level country, and among a stratum of volcanic mud, Creccia, clay and ashes of several feet in thickness—a human skull, whose every cavity was fully and compactly filled with the volcanic deposit surrounding it, as if it had been cast in a mould, evidently showing that the skull had been filled while the deposit was yet in a fluid state. As that stratum spreads over a considerable tract of land in the neighbourhood, at a varying depth beneath the surface of from ten to four hundred feet, and as the valleys and gulches, which now intersect it in numerous places, were manifestly formed by erosion—perhaps in some measure also by subsequent earthquakes—shocks—the great age of that human vestige may be reasonably inferred, though impossible to demonstrate within a period of one or five hundred years preceding the coherent traditional accounts of that island.

Hawaiian traditions on Hawaiian soil, though valuable as national reminiscences, more or less obscured by the lapse of time, do not go back with any historical precision much more than twenty-eight generations from the present, or, say 840 years. Within that period the harbour and neighbouring coast-line of Honolulu have remained nearly

¹ The writer was present when Lodge, No. 1, I. O. O. F., so public these articles were dug up from museum existing in Honolulu at the beneath the coral, and deposited time them in the Library of Excelsior

Probably not referring to MHI

29. Aniani ka Lani. In his time this race had got far from the original homesteads. He is quoted by both Tahitian and Hawaiian legends as a progenitor (*ku-puna*) of their nations.

30. Hawaii Loa, or Ke Kowa i Hawaii. He was one of the four children of Aniani ka Lani. The other three were Ki, who settled in Tahiti, Kana Loa and Laa-Kapu. In his time this ocean was called Kai Holo-o-ka-Ia. It was so called by Hawaii Loa, and at that time there existed only the two islands of Hawaii and of Maui, discovered by him, the first of which was called after himself, and the second was named after his oldest son. The other islands of this group are said to have been hove up from the sea by volcanoes during and subsequent to the time of Hawaii Loa. These two large islands were then uninhabited. Hawaii Loa and his followers were the first inhabitants.

Hawaii Loa and his brothers were born on the east coast of a country called Ka Aina kai Melemele a Kane (the land of the yellow or handsome sea). Hawaii Loa was a distinguished man and noted for his fishing excursions which would occupy sometimes months, sometimes the whole year, during which time he would roam about the ocean in his big vessel (*waa*), called also a ship (*he moku*), with his people, his crew and his officers and navigators ("*Poe hookele*" and "*Kilo-hoku*."

One time when they had thus been long out on the ocean, Makalii, the principal navigator, said to Hawaii Loa: "Let us steer the vessel in the direction of Iao, the Eastern Star, the discoverer of land (*Hoku hikina kiu o na aina*.) There is land to the eastward, and here is a red star '*hoku ula*' (Aldebaran) to guide us, and the land is there in the direction of those big stars which resemble a bird (*e kapa mai nei me he manu la*.)" And the red star, situated in the lap of the goats (*i ka poli o na kao*) was called Makalii after the navigator's name. And some other red stars in the circle of the Pleiades (*ma ka ponaha o na huhui*) were called the Huhui-a-Makalii.

So they steered straight onward and arrived at the easternmost island (*ka moku hikina loa*.) They went ashore and found the country fertile and pleasant, filled with awa, coconut trees, etc., and Hawaii Loa, the chief, called that land after his own name. Here they dwelt a long time and when their vessel was filled with food and with fish, they returned to their native country with the firm intention to come back to Hawaii-*nei* which they preferred to their own country. They had left their wives and children at home; therefore they returned to fetch them.

And when they arrived at their own country and among their relations, they were detained a long time before they set out again for Hawaii.

At last Hawaii Loa started again, accompanied by his wife and his children and dwelt in Hawaii and gave up all thought of ever returning to his native land. He was accompanied also in this voyage by a great multitude of people (*ka lehulehu*), steersmen, navigators, shipbuilders and this and that sort of people. Hawaii Loa was chief of all this people, and he alone brought his wife and children. All the others came singly without women. Hence Hawaii Loa is called the special progenitor of this nation.

On their voyage hither the Morning Star (*ka Hoku Loa*) was the special star that they steered by. And Hawaii Loa called the islands after the names of his children and the stars after his navigators and steersmen.

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After Hawaii Loa had been some time in this country (Hawaii nei), he made another voyage to find his brothers, and to see if they had any children who might become husbands or wives for his own. On this voyage he fell in with his younger brother Ki, on the island of Tahiti, where Ki had settled and called it after one of his own names. Then Hawaii Loa and Ki sailed together to the southward (*i ka mole o ka honua*), there they found an uninhabited island which Hawaii Loa called after his own name, and another smaller island which he called after his daughter, "Oahu."

When they had finished their business here they returned to Hawaii and the Hoku-Iwa stars and the Hoku Poho ka Aina, were those that they steered by. On his outward voyage from Hawaii the star called Ke Alii o Kona-i-ka-Lewa and the stars of the Hoku-kea o ka Mole Honua (Southern Cross) were those by which he shaped his course for Tahiti and those other islands. They left from Lae o Kalae in Kau (south cape of Hawaii), and thither they returned.

When Hawaii Loa thus returned he brought with him Tu-nui-ai-a-te-Atua the first-born son of his brother Ki, and he became the husband of his favorite daughter Oahu. These two had afterwards a child called Ku Nui Akea who was born at Keauhou, in Puna, Hawaii. Puna was then a fertile and fine country and it was called Puna by Ku nui ai a ke Akua after his own birthplace, Puna-Auia, in Tahiti.

32. Kunuiakea, on both father's and mother's side became a chief of the very highest rank (*kapu loa*). From him sprang the race of chiefs here in Hawaii (*welo alii*), and from Makalii sprang the race of the common people (*welo kanaka*). The first has been kept separate from the most ancient times, and the second has been kept separate from the time of chaos (*mai ka Po mai*). But the priestly race (*welo kahuna*) was one and the same with the race of chiefs from the beginning.

When Hawaii Loa arrived here, as before observed, there were only the two islands of Hawaii-Loa and of Maui-ai-Alii; but during his time and close afterwards the volcanoes on Hawaii and on Maui began their eruptions; and earthquakes and convulsions produced or brought to light the other islands.

Kunuiakea's son Ke Lii Alia, and his grandson Kemilia, were born at Tahiti along with the Aoa, the royal tree; but his great grandson, Ke Lii Ku (Eleleualani), was born on Hawaii.

35. Eleleualani was the grandfather of Papa-Nui-Hanau-Moku (w). His wife was called Ka Oupe Alii and was a daughter of Kupukupunuu from Oloimehani (supposed to be either a name for the island of Nuuhiwa, or of a place on that island). They had a son called Kukalani-ehu, whose wife was Ka Haka-ua-Koko, the sixth descendant from Makalii, and they two were the parents of Papa-Nui (w).

37. Papa-Nui-Hanau-Moku (w). She first married Wakea, who was the son of Kahiko (k) and Tupu-rana-i-te-hau (w) who was a Tahitian woman. Papa's first child with Wakea was a daughter called Hoohokukalani.

Papa, having quarreled with Wakea on account of their daughter, went to Tahiti and there she took to Te Rii Fanau for husband and had a son called Te Rii i te Haupoi-poi. She afterwards returned to Hawaii under the name of Huhune and had a son with Waia and called his name Hinanalo. Domestic troubles now made her crazy and she returned to Tahiti where she had another son with Te Arii Aumai, who was said to

be the fourth generation of the Tahiti chiefs, and she called his name Te Arii Taria, and he became chief over that part of Tahiti called Taharuu.

It is thus on account of her being the mother of chiefs, both here and in Tahiti that she is called Papa Nui Hanau Moku. She is said to have been a comely, handsome woman, very fair and almost white.

Papa is said to have traveled eight times between Tahiti and Hawaii, and died in a place called Waieri, in Tahiti, during the time of Nanakehili, the fifth descendant from her and Wakea.

37. Wakea was a wicked and bad man. He instituted the bad and oppressive kapus, such as that men and women could not eat together; that women could not eat red fish, hogs, fowl or other birds, and some kinds of bananas. These kapus were put on to spite and worry Papa, on account of her growling at and reproaching him for his wickedness. Wakea also departed from the ancient worship and introduced idol worship, and many people followed him, because they were afraid of him.

Hawaii Loa was born on the eastern shore of the land of Kapakapua-a-Kane. One of Hawaii Loa's grandchildren was called Keaka-i-Lalo (w) whom he married to Te Arii Aria, one of his brother Ki's grandchildren, and he placed them at Sawaii, where they became the ancestors of that people, Sawaii being then called Hawaii-ku-lalo.

Afterwards Hawaii Loa revisited Tahiti and found that his brother Ki had forsaken the religion in which they were brought up, that of Kane, Ku and Lono, and adopted Ku-waha-ilo, the man-eating God, (*ke Akua ai kanaka*) as his God. After quarreling with his brother on this account, Hawaii Loa left Tahiti and brought with him Te Arii Apa as a husband for Eleleualani, his *moopuna* (grandchild). From these two was born Kohala (w), a girl, from whom the Kohala people sprang.

Afterwards Hawaii Loa went again to Tahiti and Hawaii-ku-lalo (Sawai) and held a meeting with those peoples at Tarawao, but finding that they persisted in following after the God Ku-waha-ilo and that they had become addicted to man-eating, he re-proved and repudiated them, and passed a law called he Papa Enaena, forbidding anyone from Hawaii-Luna (this present Hawaii) from ever going to the southern islands, lest they should go astray in their religion and become man-eaters.

When Hawaii Loa returned from this trip he brought with him Te Arii Tino Rua (w) to be a wife to Ku-Nui-Akea, and they begat Ke Alii Maewa Lani, a son, who was born at Holio in North Kona, Hawaii, and became the Kona progenitor.

After this Hawaii Loa made a voyage to the westward, and Mulehu (Hoku Loa) was his guiding star. He landed on the eastern shore of the land of the Lahui-makalilio (the people with the turned up eyes oblique). He traveled over it to the northward and to the westward to the land of Kuahewahewa-a-Kane, one of the continents that God created, and thence he returned, by the way he had come, to Hawaii nei, bringing with him some white men (*poe keokeo kane*) and married them to native women (*a hoo-moe i koonei poe wahine*). On this return voyage the star Iao was his guiding star to Hawaii.

After this Hawaii Loa made another voyage to the southern and eastern shore

of Kapakapua-a-Kane, and took with him his grandchild Ku-Nui-Akea in order to teach him navigation, etc. When they had stayed there long enough they returned and Ku-Nui-Akea brought with him "*he mau haa elua*" (two stewards) one called Lehua and the other Nihoa, and they were settled on the two islands which bear their names, as *konoiki* (land stewards) and put under the charge of Kauai, the youngest son of Hawaii Loa.

When Hawaii Loa returned from the conference with his brother Ki and his descendants, his wife Hualalai bore him a son who was called Hamakua, and who probably was a bad boy (*keiki inoino*), for so his name would indicate. Ten years after this (*ke Au puni*) Hualalai died and was buried on the mountain of Hawaii that has been called after her name ever since.

After Hawaii Loa was dead and gone, in the time of Ku Nui Akea, came Tahiti-nui from Tahiti and landed at Ka-lae-i-Kahiki (the southwest point of Kahoolawe, a cape often made by people coming from or going to Tahiti.) Tahiti-nui was a *moopuna* of Ki, Hawaii Loa's brother, and he settled on East Maui and died there.

The descendants of Hawaii Loa and also of Ki (which are one, for they were brothers) peopled nearly all the Polynesian islands. From Ki came the Tahiti, Borabora, Huahine, Tahaa, Raiatea and Moorea [people].

From Kanaloa were peopled Nukuhiwa, Uapou, Tahuata, Hiwaoa and those other islands. Kanaloa married a woman from the man-eating people, Taehoe, from whom spring those cannibals who live on Nuuhiwa, Fiji, Tarapara, Paumotu, and the islands in western Polynesia — so is it reported in the Hawaiian legends and prayers — but the Hawaiian islands and the Tahiti islands (properly speaking) did never addict themselves to cannibalism.

The island of Maui was called after Hawaii Loa's first born son.

The island of Oahu was called after Hawaii Loa's daughter, and her foster parent was Lua, and hence the name Oahu-a-Lua.

Kauai was called after Hawaii Loa's younger son; his wife's name was Waialeale, and they lived on Kauai, and the mountain was called after her, because there she was buried.

And thus other islands and districts were called after the first settlers.

In this first age, from Hawaii Loa to Wakea, the royal authority and prerogatives were not very well defined. The chiefs were regarded more in the light of parents and patrons (*haku*), than as *moi* and *alii-kapu*, although they enjoyed all the honor and precedence due to their rank.

This state of things was considerably altered by Wakea, his priest and successors, yet even so late as the time of Kanipahu, who refused the government, it is evident that the royal authority was not well settled in the olden times (*aole he ano nui o na 'lii i ka wa kahiko loa 'ku*).

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by a sugar plantation this image and its companion, which will presently be described, were taken to Frankfort-on-the-Main by a German resident of Honolulu. This gentleman afterwards died, and hearing that the images were lying uncared for in their late owner's courtyard, in 1896 while in Germany, I hoped to be able to restore them to their native country. I was three months too late, for on entering the great museum in Berlin I found they had recently secured a permanent resting place there. Dr. Bastian, however, kindly had casts made which are, by the courtesy of the German Government, now in the Bishop Museum, and from these I have made the illustrations, Pl. LXIV., and Fig. 94.

The other image is not an idol (in the popular sense) but a portrait bust, and it was first known to the white population of the islands when it stood in the valley of Manoa, near Honolulu. It is claimed that it was there before Cook's arrival at Kauai (1778). The ruff, wig and cue suggest a Spanish

portrait of the time of the early Spanish discoverers. Whether it was an attempt on the part of a native sculptor to represent the white strangers, or whether some Spaniard of Juan de Gaetano's crew made it as a memorial of their visit, I cannot say.



FIG. 94. IMAGE FROM MANOA VALLEY.

The workmanship is much the same as on other stone images undoubtedly Hawaiian, and the owner in 1864, who was a gentleman of education and especially versed in Hawaiian legendary lore, always believed that it was of Hawaiian workmanship and very ancient. The front and profile are shown in Fig. 94. The bust is 32 inches high. It is the only portrait I have seen, for the usual idols are not "likenesses of any form that is in Heaven above, or that is in the Earth beneath, or that is in the water under the earth".

I have mentioned the images found on Necker island of the Hawaiian group in connection with the stone bowl (Fig. 53) found with them. They were all broken in pieces, but some of them have been repaired* and are shown in Pl. LXII. It will be seen that there are two distinct types, one made of cellular lava, and with a coarse treatment of arms and legs; the other of finer stone and more reasonable treatment. The heads in all of them spring from the breast without necks; they are large and have enormous ears. The profile, Fig. 95, is of image No. 7447, Pl. LXII. We

*The repairing consists solely in cementing together the ruptured parts. No additions have been made. Why, if the object was to destroy these images, they were simply broken and left on the ground it is difficult to understand, for it would have been easy to have thrown the fragments into the sea without moving from the spot where they were left.

*Memories of the B. P. Bishop Museum
1 (4) 335-435
No 2
(100 pp)*

know nothing of what they were intended to represent. Several small objects have been put together in Fig. 96. No. 4488 is an implement of unknown use, perhaps a whetstone. The clinkstone



FIG. 95. NECKER ISLAND IMAGE.

of which it is made is very compact and metallic in appearance. No. 5312 is a small rudely made disk, of which other specimens are shown in Fig. 97. There is a slight concavity on each face, and a perforation in the middle to unite these depressions, and the natives usually call such stones *pohaku hu*, or a stone for a top. In Fig. 97, No. 4681 is doubtless such a stone, as it is round and suitable for fastening to a spindle, and No. 4682 in the same figure would also make a fair top; but the two irregular specimens, No. 5312 and No. 4683 (Fig. 97), could hardly serve that purpose. They have been used in modern times, and so far as I know, formerly as well, as part of a snare to catch birds. A loop of fine cord is passed through the central hole and covered with bait, while the snarer leads the cord to some cover near by. A pull

at the right time may catch the leg of the bird in the loop and the weight of the stone prevents flight. No 7454 is a peculiar and well finished sinker for a squid or turtle hook. The Bishop Museum has lately acquired another specimen still attached to the spindle, explaining the use, before unknown to me. No. 4064 is a neatly made stone

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IMAGES FROM NECKER ISLAND, H. I.

Memories of the
B. P. Bishop
Museum
1-81

Hawaiian Feather Work
By William T. Brigham
1899
Volume I

OF THE HAWAIIAN BIRDS.

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Wilson. It is probably nearly extinct, collectors of late years having failed to find it. In 1890 I saw three in a sandal-wood-tree under which I was camping on the slopes of Mauna Hualalai on Hawaii (to which island the species is confined) at an elevation of 7000± feet. The Mills specimens were obtained, so Mr. Mills informed me in 1864, near Oloa in Puna. The Kamehameha cloak in the Bishop Museum (No. 1 of the catalogue given below) is composed wholly of these feathers; so also is a fine lei in the same collection. The bird is about 8 inches long. Fig. 5, c, d. The general plumage is not of so rich a black as the oo, while the lower part of the body, the rump, thighs, anterior margin of wings and tail coverts are of a rich orange. Among Hawaiian birds the mamo is *facile princeps*. Its name has been applied to all royal war-cloaks very much as "beaver" has clung to a soft hat no longer made of the fur of the *Castor fiber*. The principal color of the orange feather seems to be represented by the *jaune métanile sur laine*, 2% shown on p. 446 of Lefèvre's work. To distinguish these feathers when faded from the oo is not always easy, but the orange of the former is separated from the black base by a marked white space, and the tips of the oo feathers are thinner and larger.

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Koae.—The Tropic bird (*Phaëthon æthereus*, Bloxam), Boatswain bird, Paille-en-queue, Pylstaart, is shown in Pl. V. with its young. It breeds among the loose rocks of the bird islands or on ledges of almost inaccessible cliffs on Oahu and other inhabited islands, where its white form hovering like a kite in the air against the green *palis* is often seen late in the afternoon. The long tail-feathers of the adult and the mottled plumage of the young were used to some extent in the fabrication of kahilis, but by no means so frequently as the feathers of the next species.

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Koae ula.—At present the Red-tailed Tropic bird (*Phaëthon Rubricauda*, Salvin), while found occasionally on Niihau and the outlying islets is abundant on Nihoa and Necker Islands. On the latter island I have pulled the red tail feathers from the sitting bird who did not seem to greatly resent the outrage; perhaps at that season the feathers are more loosely attached, preparatory to moulting. While these two feathers forming the important part, were greatly sought and highly valued, the satiny white of the body plumage was also much in demand for capes, although little of this white work is extant in museums: the only two specimens I have found are at Florence; Nos. 66 and 67 in the List of Ahuula.

Iwa.—The Frigate bird (*Fregata aquila*, Gould), also called the Man-of-war hawk, was hunted for its long black metallic-tinted feathers, both for cloaks and for kahilis. Common in the nesting season on Necker Island. In ancient days fishermen made frequent excursions to Nihoa and Necker Islands. The landing places (only one on each island) were so situated that landing was possible on one or the other island in whatever wind. On the latter island, which is the narrow rim of a ruined

Handwritten scribble

crater, are many stone constructions used in worship or in the propitiation of the deities of sea, wind, fishing and hunting, as both fishers and hunters had their peculiar gods, images of which were found there a few years ago broken to fragments.

Pueo.—The Hawaiian owl (*Asia accipitrinus*, Gurney) was worshipped as a god, but Davida Malo says in his so-called Hawaiian Antiquities,—but which is really a compilation of native schoolboys' compositions,—that the feathers were used for kahilis, the bird being caught in snares placed near its burrows.



FIG. 6. PUEO, HAWAIIAN OWL.

Alalá.—The Crow (*Corvus tropicus*, Gmelin) is found only in the southwest part of Hawaii. It was caught in snares. I have known one to be knocked down by a stick, caught and kept eighteen months in captivity. The black feathers were used for kahilis and for dressing idols much in the way common in New Guinea.

The feathers of the barnyard fowl and of the gamecock were largely used for common capes or cloaks, as were those of the duck, and in recent times those of the latter were sometimes dyed red or yellow. Kahilis of such dyed feathers are in the Bishop Museum from the collection of Queen Emma." Dyed feathers have been much used for leis and for ahuula as well, so that it is very necessary to examine specimens

"These dyed feathers are far from permanent in color, and in the past eight years four of these kahilis which were placed outside the cedar cases in the Kahili room at the Museum have lost much of their color although never exposed to the direct rays of the sun and

except on the two exhibition days each week quite in the dark. Two placed within the almost air-tight cases have preserved their color better.

makers formed the stems of alternating native woods. Many of these last, both large and small, are in this Museum but were unknown to the ancient Hawaiian. The old native had, however, a very elaborate form of handle made by stringing disks of tortoise-shell on a tough but slender core of kauila wood (*Alphitonia excelsa*, Reissek), or in the small ones of whalebone. The tortoise-shell was either used alone or alternating with bone or ivory. Making these handles was amusement as well as work for chiefs, and two that the high chief Paki, father of Mrs. Bishop, left unfinished at his death in June, 1855, are in the Bishop Museum and show well the method of construction: Fig. 11. On the whalebone core were strung twenty or more disks of the outer shell of the sea turtle, square or approximately rounded, then a ring of bone was pressed tightly down on the parcel of disks and the whole filed into shape and polished. This is precisely the process used in the manufacture of shell money once the common currency of the people of the western Pacific, though not generally among Polynesians. In the large kahilis the bone is often omitted and the whole series pressed closely together apparently without cement. Such handles are of great weight but always of elegant form and perfect finish. How early this manufacture began we have no means of knowing: the same work is shown in a fan handle once belonging to Kalaniopuu the King of Hawaii at the time of Cook's visit [B. M. No. 5011], and from the finish it can hardly have been a new process. Probably, as the turtle were abundant and the shell easily worked, the manufacture is of considerable antiquity.

The bone alternating with the tortoise-shell is often human, as described by the early voyagers, and a good example is shown in Fig. 3, p. 7 [B. M. No. 24]. The *kumu* or principal bone is the right shin bone of Kaneoneo, a noted chief of Kauai who came to Oahu to fight for the religion of his fathers as well as for the independence of the island threatened by Kamehameha, and who fell in the battle of Nuuanu [1795]. The other bones, each from a different man, are of the brave chiefs who perished in the same



FIG. 9. STEM OF KI.

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168 HAWAIIAN MYTHOLOGY by M. Beckwith

UNIV. OF HAWAII PRESS
575 pp.

ELLIS	KALAKAUA	WESTERVELT
Pele	Pele	Pele
Makore-wawahi-waa (Fiery-eyed canoe breaker)	Makole-nawahi-waa	Hiiaka-makole-wawahi-waa
Hiata-wawahi-lani (Heaven-rending cloud holder)	Hiiaka-wawahi-lani	Hiiaka-wawahi-lani
Hiata-noho-lani (Heaven-dwelling cloud holder)	Hiiaka-noho-lani	Hiiaka-noho-lani
Hiata-taarava-mata (Quick-glancing-eyed cloud holder)	Hiiaka-kaalawa-maka	Hiiaka-kaalawa-maka
Hiata-hoi-te-pori-a-pele (Cloud holder embracing the bosom of Pele)	Hiiaka-hoi-ke-poli-s-pele	Hiiaka-i-ka-poli-o-Pele or Hiiaka-opio
Hiata-ta-bu-enaena (Red-hot mountain-holding cloud)	Hiiaka-kapuaenaena	Hiiaka-kapu-enaena
Hiata-tareia (Wreath-garlanded cloud holder)	Hiiaka-kaleia	Hiiaka-kaleia
	Hiiaka-opio	

The Pele myth is believed to have developed in Hawaii, where it is closely associated with aumakua worship of the deities of the volcano, with the development of the hula dance, and with innumerable stories in which odd rock or cone formations are ascribed to contests between Pele and her rivals, human or divine. The myth narrates the migration or expulsion of Pele from her distant homeland and her effort to dig for herself a pit deep enough to house her whole family in cool comfort or to exhibit them in their spirit forms of flame and cloud and other volcanic phenomena. She approaches the

group from the northwest, tries island after island without success, and finally settles on Hawaii at the crater Moku-a-weo (Land of burning). Her brother Ka-moho-ali'i and other male relatives assist in or accompany the journey. The only female companion noted in the story is her pet little sister Hi'iaka. The myth continues at great length with an account of Pele's affair in spirit form with a handsome young chief of Kauai of whom she is enamored and whom she determines to have for a husband; of sending her sister to fetch him to share her home on Hawaii; of jealousy of her faithful messenger; and of the sister's consequent defiance.

The Pele myth therefore falls into two parts: (1) the establishment of Pele's home at the volcano on Hawaii, (2) the sending for her lover Lohiau to share this home. In the first myth Pele is the dominant character, in the second her sister Hi'iaka has assumed that position.

PELE LEGENDS

(a) *Migration legend.* Pele is one of a family of seven sons and six daughters born to Haumea and her husband Moemoe (Moemoe-a-aulii), all distinguished figures in old legend. Pele is very beautiful with a back straight as a cliff and breasts rounded like the moon. She longs to travel and, tucking her little sister born in the shape of an egg under her armpit, hence called Hi'iaka-i-ka-poli-o-Pele (-in the armpit of Pele), she seeks her brother Ka-moho-ali'i. He gives her the canoe of their brother Whirlwind (Pu-ahiuhuu) with Tide (Ke-au-lawe or Ke-au-miki) and Current (Ke-su-ka) as paddlers, and promises to follow with other members of the family. She goes by way of Polapola, Kuaiahelani "where Kane hides the islands," and other islands inhabited by gods (Mokumanamana) to Ni'ihau, island of the chieftess Fire-thrower (Ka-o-ahi), where she is handsomely entertained. Thence she visits Kauai and appears in the midst of a hula festival in the form of a beautiful woman. Falling desperately in love with the young Kauai chief Lohiau, she determines to take him for a husband. Passing southeast from island to island, on each of which she attempts to dig a home in which she can receive her lover, she comes finally to Hawaii and

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Pele's
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there is successful in digging deep without striking water, an element inimical to her fiery nature.⁴

(b) *Expulsion version.* Pele is born to Kane-hoa-lani and Haumea in Kuaihelani. She sticks so close to Lono-makua, the fire god, as to cause a conflagration (or, as in the Aukelenuiaiku story, makes love to her sister's husband) and her older sister Na-maka-o-kaha'i, called "a sea goddess," drives her away. She takes passage in the canoe Honua-i-a-kea with her little sister carried in her armpit and accompanied by her brothers Kane-moho-alii, Kane-milo-hai, Kane-apua, and others, and arrives at the Hawaiian group by way of the northwestern shoals. There Kane-milo-hai is left on one islet as an outguard and Kane-apua on another, but Pele pities this last younger brother and picks him up again. A group of songs relate the relentless pursuit of the party by the older sister until the two sisters encounter each other in Kahiki-nui on the island of Maui and Pele's body is torn apart and the fragments heaped up to form the hill called Ke-iwi-o-Pele (The bones of Pele) near Kauiki, while her spirit takes flight to the island of Hawaii and finds a permanent home on Hawaii.⁵

(c) *Flood version.* Pele is born in Kapakuela, a land to the southwest, "close to the clouds," and her parents are Kane-hoa-lani and Ka-hina-li'i, her brothers Kane-moho-alii and Kahuila-o-ka-lani. By her husband Wahioloa (Wahialoa) she has a daughter Laka and a son named Menehune. Pele-kumu-honua entices her husband from her and Pele travels in search of him. With her comes the sea, which pours from her head over the land of Kanaloa (Kahoolawe), never before so inundated, and her brothers chant,

"A sea! a sea!

Forth bursts the sea,

Bursts forth over Kanaloa (Kahoolawe),

The sea rises to the hills. . . ."

⁴ Rice, 7-10.

⁵ N. Emerson, *Pele*, xi-xvi; For. Col. 4: 102-107; Westervelt, *Volcanoes*, 8-12; cf. N. Emerson, "Hula," 187-189, where Pele is expelled on account of disrespect to her mother.

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ersed?

"Thrice" (according to the chant) the sea floods the land, then recedes. These floodings are called The-sea-of-Ka-hina-li'i.⁶

(d) *Unnatural birth version.* Pele's father is the man-eater Ku-waha-ilo who dwells in the far-off heavens. Haumea, her mother, belongs to the Pali (cliff) family. Two daughters are born, Na-maka-o-kaha'i from the breasts of Haumea, Pele from the thighs. Brothers are born; Kane-moho-alii, from the top of the head of Haumea, Kane-hekili (Thunder) from the mouth, Kau-ila-nui (Lightning) from the eyes, and other children (from four to forty sisters) from various parts of Haumea. Hi'iaka is born in the shape of an egg and cherished as Pele's favorite.⁷

(d') Papa and Waka are the parents of Pele, Kane-moho-alii, and Kapo. Kapo is born from Papa's eyes, Kamohoalii from her head as a mist-crowned precipice.⁸

Local elaboration of the migration story describes in detail the localities on each island where Pele pursued her digging activities.⁹ A famous dance song records the successive steps of Pele's advance from island to island, beginning:

The blaze trembles,

Bursts out above, below,

The spade rattles in the cleft below.

"What god is this digging?"

"It is I, Pele,

Digging a pit on Niihau."¹⁰

As the oral recitation proceeds, recounting Pele's migration, old Hawaiian story tellers insert a song chanted in the oli (singing) style, such as the famous "Coming of Pele" describing the building of the canoe, the journey from the homeland, the family group who accompany Pele, their arrival on Hawaii, and their apotheosis at the volcano. "Kahiki" and "Polapola" as they occur in the song are today re-

⁶ Thrum, *Tales*, 86-88; Kapehine, *Bul.* 95: 187-188; Westervelt, *Volcanoes*, 7.

⁷ *Ibid.*, 64-71.

⁸ Green, 18-23.

⁹ Westervelt, *Honolulu*, 80.

¹⁰ N. Emerson, "Hula," 85-87.

HAWAIIAN LEGENDS

By WILLIAM HYDE RICE

THE GODDESS PELE

Pele was the daughter of Moemo and Haumea, both well-known names in the oldest Hawaiian legends. Many other children were born to this couple, seven illustrious sons and six distinguished daughters. The youngest sister of Pele, Hiiaka-ika-poli-o-Pele, was born into the world as an egg. Pele concealed this egg under her arm until the child was hatched, and ever afterwards showed great affection for her.

When Pele had grown to womanhood, she begged her parents' consent to travel. This was granted, and wrapping Hiiaka in her pa-u, or tapa skirt, the adventurous Pele set forth.

She traveled first to the kingdom of her brother, Kamohoalii, Champion of the King. When he inquired where she was going Pele replied, "I shall first find Pola-pola. From there I shall go to the land of Kautihelani, where Kane hides the islands. I shall then find the far-reaching lands, the kingdom of Kaoahi, the Fire-Thrower—Niuhau."

To help his sister in this long journey Kamohoalii gave her the canoe of their brother, the Whirlwind, Pu-ahihui, and his paddlers, the Tide, Keaulawe, and the Currents, Keau-ka. Stepping into this canoe Pele was snatched away at once by the wind. Kamohoalii looked after her and called, "Go your way. I shall soon follow with your relations."

In a short time Pele, borne by the magic canoe, reached Niuhau. She ordered the canoe to return to her brother as she hoped the queen would give her another one. Then, crossing the salt marshes, she came at evening to the dwelling of the queen, Kaoahi, whose guards cried out that a beautiful stranger was coming. When Pele was brought before Kaoahi her beauty astonished the queen, who had never before seen a woman whose back was as straight as a *pali* and whose breasts were rounded like the moon.

Great aloha grew in the heart of the queen for her guest, and before eating together they took the oath of friendship. Then they retired to the beds made of fine Niuhau mats where they slept until the cocks crowed.

Early in the morning the queen sent forth her messengers to summon the *konohiki*, the overseers of the land, who were ordered to instruct all

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the people of the island to bring presents for Kaoahi's great friend. Each person brought his gift to Pele without a word of complaining.

Every day for ten days Pele entered into the games, the hula dancing, the surf-board riding, and the other pleasures of the people. Everyone was eager to talk with the beautiful stranger, and Pele saw all that was in their minds.

One day the beautiful guest disappeared. The queen thought she had gone to visit one of the chiefs. No amount of search could reveal her hiding place. The *kahunas* were called together to divine where the woman had gone. At last they said to Kaoahi, "O Queen! the Night tells us that Pele is not a human being like you. She is an *akua*. She has many bodies."

These words aroused great wonder on Nihaui as to how Pele had come and where she had gone.

After her sudden disappearance Pele went to Point Papaa from where she looked across to Kauai. Taking on her spirit body, she quickly passed through Mana and the mountains back of Waimea and came to Haena.

As darkness fell she heard the hula drums beating. Following the call of the music Pele came to a rude enclosure where the people were gathered for sports. In the crowd she saw a very handsome man, Lohiau, the king of Kauai, whom she suddenly resolved to seek for her husband.

The assembly was startled by hearing a beautiful voice chanting a *mele* of the hills, and by seeing at the door a woman of wondrous beauty and charm.

Lohiau ordered the people to stand aside so that the stranger could enter. The chiefs of Kauai crowded around Pele, wondering who she was. Lohiau was surprised when his unknown guest asked him to become her husband. He did not consent until he heard that she was Pele, the mortal.

Then Lohiau bade his servants prepare the tables for a feast, and he invited Pele to sit with him and partake of the food. After the meal was eaten Pele told Lohiau that she could not live with him until she had found a suitable home for them. The king of Kauai was rather ashamed to have his wife prepare the home, but he consented.

Kaleiapaoa, Lohiau's best and truest friend, was summoned to see Pele. But before he looked upon her he hurried to the king's sister, the celebrated tapa maker of Kalalau, and asked for a pa-u. She gave him one she had just made by beating with *lanae*, the fragrant cabbage fern, from the cliffs of Honopu. Pele was very much pleased with this pa-u because it was so sweet scented. When she had finished admiring it, she said to Lohiau, "Now I shall go to prepare our house."

At once she began to dig a cave, but striking water she left it. She tried again and, meeting with the same results, left Haena and came to

the *kukui* grove near Pihaa. Pleased with this spot she turned to the mountains where she dug as before, but met with unsatisfactory results.

Taking the form of an old woman, Pele hurried to Koloa. There she again struck water. Repeated efforts to dig a dry cave having failed, she decided to leave Kauai and to find on Oahu a suitable place for her home.

Pele landed at Kaena on Oahu. Near the hill Kapolei she again began to search for a home. As before she soon struck water. Discouragement filled her heart and looking toward Kauai she wept for her loved one there.

Walking through the wiliwili trees Pele reached Kuwalaka-i where she took her egg-like sister, Hiiaka, from her pa-u and placing her safely on the ground hurried to the sea for *limu*, or sea-weed, from which she squeezed the juice for drinking water.

Pele decided to spend the night in this place. She called the flowers which grew there "the pa-u of Hiiaka" and she crowned her fair head with a lei of them. As she slept, her lover appeared before her. This vision brought courage to Pele and early in the morning she hurried on her way.

On the heights of Moanua, near Honolulu, Pele tried again to dig a dry cave. Striking salt water, she called the place *Alia-paakai*, the Salt-Marsh. When she came to Makapuu she saw the chiefess Malet, the Wreath, stringing flowers for a lei, while her subjects were cleaning the fish they had just brought from the sea.

At the little harbor of Hanauma a canoe was being prepared for a trip to Molokai. There Pele shook off her spirit body and as a beautiful woman greeted the men. At the sight of her great beauty they all fainted. When they had recovered, Pele asked them to take her to Molokai with them. They readily consented.

When Pele jumped ashore on Molokai, she became invisible and disappeared. The captain of the crew told the king about the beautiful woman who had come with him from Oahu. The whole island was searched, but Pele could not be found.

In the meantime Pele had dug a cave between Kalaupapa and Kalawao. Finding water, she left Molokai and hurried to Maui. She traveled over Maui from end to end hunting for a suitable place for her home. Finding none, she was greatly grieved and filled the whole island with Pele's smoke, and then hastened on to Hawaii.

Pele landed at Puna on Hawaii. She decided to call first on the god of the island, Ailaaui, the Wood-Eater, who had his dwelling at Kilauea. When Ailaaui saw Pele coming towards his home, he disappeared because he was afraid of her.

Pele began to dig. At last success crowned her efforts. Digging day and night, she came to fire and knew that this spot would be suitable for the long-sought home. She decided to make a home large enough for all her many brothers and sisters.

After the fiery pit was dug, Pele changed her egg-like sister, Hiiaka, into human form and the two lived happily in her new home.

One day Hiiaka went down to the forest of Panaewa near Hilo. There she saw a girl so skilled in making leis of lehua blossoms that she longed to make of her a personal friend. Hiiaka learned that her name was Hopoe, and she spoke to her in these words, "Now that we are friends you must go wherever I go. Wherever I sleep you shall sleep. We shall never be parted."

Hopoe was very happy and answered, "I spend my time making leis. I have planted two groves of trees, one white and one red. These I give to you."

So Hiiaka returned to Kilauea with her friend who pleased Pele very much by teaching her to make leis of lehua flowers. Soon all Pele's household was busily stringing the flowers.

As Pele worked she heard the voice of her beloved Lohiau calling her, for the wind carried his sad song to her ears. So Pele called her sisters to her and asked each one to go to Kauai to find her husband. All refused. Then Pele commanded Hiiaka, "Go to Kauai and bring my husband to me. Do not dare to kiss him, lest some dire disaster befall you. Be gone no longer than forty days." All agreed that it was wise for Hiiaka to go, as she was the youngest.

Stretching out her right hand to her sister, Pele bestowed upon her all the supernatural powers she possessed, so that the journey could be accomplished in safety.

Hiiaka prepared for the journey and as she worked she sang a *mele* in which she voiced her complaint that she should go alone to Haena for the handsome Lohiau. Pele heard her and cheered her by saying that she would meet someone who would go with her.

So with a sad heart Hiiaka set forth on her sister's errand. Looking back she saw her home in the volcano where her brothers and sisters were sitting like stone images. She called to them to care for her beloved grove of lehua trees.

As she entered the forest above Hilo she met Wahine-omao, the Steadfast-Woman, who was on her way to carry gifts of pig and sugar cane as a sacrifice to Pele. Thinking that Hiiaka was Pele, Wahine-omao laid her gifts before her. Hiiaka saw that the stranger was mistaken and spoke these words to her: "I am not Pele. She is still in Kilauea. Carry

your presents there. After you have reached Kilauea descend into Halemauana where you will see many beautiful women bedecked with lehua leis. Sacrifice your gifts to an old woman lying on a pillow made of wiltwill wood and covered with Puna mats, for she is Pele."

Wahine-omao, still believing that Pele stood before her, replied, "Do not deal falsely with me. No doubt you are Pele. I shall give you my gifts and so spare myself the long journey."

Finally Hiiaka made it clear that she was not Pele, and the woman departed with her gifts. With the aid of her supernatural powers Hiiaka put such speed into her feet that she traveled as fast as the whirlwind, and in no time came to Halemauana and gave her gifts to the old woman. At once old age left Pele and she became the most beautiful of all in the pit.

Then Pele asked the stranger, "Did you meet a woman as you came? Go back and meet her again. Become friendly with her and travel with her."

Wahine-omao did as she was told and soon overtook Hiiaka whom she told what Pele had commanded. Looking back the lonely Hiiaka saw the smoke rising from the home of Pele. She saw her sisters and friend going to the sea. She saw her beloved grove of lehua trees being destroyed by a lava flow. Bitterness filled her heart and she wept over her fate.

Wahine-omao, who could not see what her companion saw, upbraided her with these words, "How do you know these things? We are in the forest and cannot see beyond its limits. Complain no more, for you weary me."

So in silence they walked on until they came to Hilo where the king was having games. In the midst of the people two beautiful women decorated with leis of seafoam were singing. As the eyes of the king fell upon Hiiaka and her companion, he was startled to see how far their beauty surpassed the beauty of the singers.

When Hiiaka saw the beautiful women she said, "These are not women. They are *akua*."

The king replied, "*Akua* would not come at midday and eat and drink with us." Women refused to sing *mele* for a *hula* given them presents." Hiiaka still contended that they were not what they appeared to be and asked the king, "Allow me to try them. If I look at them and they are human?"

To this request the king replied, "What wager will you place that they are not human?"

Hiiaka answered, "My companion and I have no property, but we will wager our bodies."

Whereupon a man in the crowd called, "It is not good to wager one's body. Let me back your wager with my property."

To the king's question as to what his property consisted of he replied that he owned a canoe, a fishing net, a patch of sugar cane, several taro patches and a pig. Against all these things the king wagered two store-houses filled with food and tapa and the land on which these buildings stood.

As soon as these wagers had been placed, Hiiaka approached the women. When they saw her, one said, "She is our lord." Whereupon they ran. Hiiaka followed and put them both to death as her supernatural powers were greater than theirs.

As she returned to the king the crowd cheered her for her beauty and bravery. The king paid his wager and Hiiaka gave it to the man who had helped her. Calling Wahine-omao, Hiiaka hurried on to the river Wai-luku, where they saw a man ferrying freight. He agreed to take them across the river, and so the friends left Hilo and entered the forest, where their path was beset by *akua* trying to delay them. Hiiaka killed all who blocked their way and came at last to the plains of Makiki.

By this time the forty days allotted for making the journey to Kausai had expired, but Hiiaka decided to go on anyway. More troubles befell them. A certain king, Maka'ukiu, tried to block their way by causing huge waves to break over the cliffs so that they could not swim around the point. Hiiaka prayed and the sea became calm.

So they traveled on. A bird flew over them carrying a spray of *begonia* in its bill. Hiiaka sang a *mele* in which she expressed a wish for a safe journey on the errand of her powerful sister Pele. Finally they came upon some men loading a canoe with gifts which they said were to be taken to Olepau, the king of Maui. The women asked to be taken in the canoe. The men consented and the next morning they reached Kahikinui on Maui.

As soon as the canoe grated on the beach, the two young women sprang ashore and called to the canoe-men that they were going to search for a bath. In fact they had ^{traced} ^{to} ^{the} ^{beach} ^{at} ^{the} ^{place} ^{where} ^{the} ^{plains} ^{had} ^{been} ^{burned} off. There the ^{king} ^{tried} ^{on} ^{to} ^{reach} ^{the} ^{beach} ^{at} ^{the} ^{place} ^{where} ^{the} ^{plains} ^{had} ^{been} ^{burned} started the ^{king} ^{tried} ^{on} ^{to} ^{reach} ^{the} ^{beach} ^{at} ^{the} ^{place} ^{where} ^{the} ^{plains} ^{had} ^{been} ^{burned} dead. ^{with} ^{these} ^{words}, "I am sorry for the king of Maui. He is ^{not} ^{yet} ^{dead}." ^{with} ^{these} ^{words}, "I am sorry for the king of Maui. He is ^{not} ^{yet} ^{dead}." ^{with} ^{these} ^{words}, "I am sorry for the king of Maui. He is ^{not} ^{yet} ^{dead}." ^{with} ^{these} ^{words}, "I am sorry for the king of Maui. He is ^{not} ^{yet} ^{dead}."

The people could not believe these words, but nevertheless, they returned home and found that they were indeed true. Their king was dead. They hurried to the celebrated prophet and told him that two young women had made known to them the king's death. When he had heard

the description of the women, the prophet said that they were Hiiaka and Wahine-omao. He sent messengers as swift as arrows shot from the bow to overtake them.

When Hiiaka saw these messengers following her she changed herself and her companion into feeble old women. Soon the messengers overtook them and asked if they had seen anything of two beautiful young women.

Hiiaka answered that two such women had passed them long before. The messengers hurried on but, overtaking no one, they returned to the prophet and told him their experience.

The prophet knew that the old women were Hiiaka and Wahine-omao in disguise. He said that they must be brought back before the king could come to life. This time he did not trust their capture to messengers, but he himself swam around the point and met them coming from the other direction.

Hiiaka consented to return and restore the king to life. She told the prophet to go ahead and gather all the sweet smelling herbs. This he did in the twinkling of an eye, but Hiiaka and her friend had reached the king and brought him to life before the prophet got there. Then the prophet knew that the women were *akua*.

Inquiring whether they were bound he learned that they were on their way to Haena to find Lohiau. The prophet ordered the king's canoe-men to bring out the canoe and to take the travelers to Koolau on Oahu.

After an uneventful trip of a day and a night the friends were landed at Koolau. The canoe-men asked them where they were going and were told that Ewa was their destination. The men answered that Ewa was *kapu* for them, so they rested near the sea.

Then Hiiaka began her journey to the Nuuanu Pali. The woman in charge of the Pali tried to delay her, but was struck down by the prowess of the stranger.

After this there were no difficulties encountered as they made their way to Kalihī. There they saw a great many people diving for clams. Nearby two men were preparing a canoe for a trip to Kauai. Hiiaka told them that she had heard many times of Kausai but had no way of going there. The men, noticing that the speaker and her friend were young and beautiful, generously offered them a seat in their canoe.

As the sea was rough Hiiaka wanted to help with the paddling, but the men were strong and never became tired. They landed at Waiha and encountered many difficulties in traveling from there to Haena.

First a certain *Kupua*, the demi-god of the locality, guarding the surf, saw them coming and sent messengers to see if they walked over the *ti* leaf without breaking it, which was a sign that they were supernatural

beings—*akua*. Hiiaka deceived them by sending Wahine-omao ahead as she was more human and her feet tore the leaves. The messengers returned and reported that the strangers were human beings.

Next they came upon a *Kupua* swollen to twice his natural size, but he was unable to stop them.

Near Kealia they came upon a man cooking his *iuu* or young taro leaves to eat with his poi. Hiiaka by her magic power cooked the *iuu* in a few minutes.

Looking into the man's house Hiiaka saw a very sick woman whom all the *kahuna* had been unable to help. Hiiaka uttered a prayer and at once health was given back to the woman.

Having done this act of kindness, Hiiaka went on her way to Hanalei. At the valley of Kiaiakua the *akua* were lying in wait to stop them. As one tried to block their way, Hiiaka gave him a blow like a stroke of lightning and he fell back stunned.

At the mouth of the Hanalei River they again met resistance from an angry *akua*, who was struck to earth as the others had been.

Coming to Kealahula they saw Hoohila combing her hair. She, too, tried to delay their journey by making the sea break over the cliff. Wahine-omao threw sand into the eyes of the *akua*, and this difficulty was overcome.

Near Wainita they were treated more kindly. The great fisherman of the place killed his favorite dog for them and then gave games in their honor.

So the travelers were nearing their journey's end. As they came to the wet caves dug by Pele in her efforts to find a suitable home for herself and Lohiau, Kilioe, the sister of Lohiau, saw them, covered with lehua leis, and knew that they had come for her brother. Kilioe was the great hula dancer and teacher. No one could hula in public on Kauai unless approved by her and given the *uikē*, the sign which served in place of a diploma.

But, alas, the beloved Lohiau was dead and in a *mele* Kilioe made known this sad fact to Hiiaka. Hiiaka was not discouraged, for magic power was in her hands and she set about overcoming this difficulty, apparently the greatest of all.

As luck would have it, she saw the spirit of Lohiau flying over one of the points nearby. He was beckoning to her. Hiiaka gave to Wahine-omao swiftness of flight and together they chased the elusive spirit over many a steep *pa*i. When they came to the ladder of Nualolo, the weary Wahine-omao cried, "Indeed you must love this Lohiau greatly."

At last Hiiaka caught the spirit in a flower and hurried back to the *pa*i above the wet caves where the body of Lohiau had been laid. Then she began her task of putting the spirit back into the body.

Kaleiapaoa was fishing and grieving over the death of his truest friend. Looking towards the mountains he was startled to see a fire. At first he thought it was only the spirit body of Lohiau, but as it continued to burn he thought that someone must be attempting to steal the body of his chief. Quickly coming ashore he silently climbed up the *pa*i and was greatly surprised to see two beautiful women trying to put the spirit back into Lohiau's body. This sight filled him with gladness and he returned to his home, where he told his wife what was being done by the strangers.

In the meantime Hiiaka was patiently accomplishing her task. She put the spirit back into the body through an incision in the great toe, but she found it very difficult to get the spirit past the ankles and the knee joints. However, after she had worked for eight days Lohiau was restored to life. Hiiaka carried him to his home and bathed him in the sea on five successive nights, as was the custom. At the end of that time he was purified, so that he could again mingle with his friends.

Then for the first time in many days Hiiaka and Wahine-omao slept very soundly. Lohiau's sister passed by the house and, seeing the door open, entered. She was surprised to see her brother sleeping soundly. She beat the drum and made known to all the people that Lohiau, their chief, was alive again. Many came, bringing gifts with grateful hearts.

Hiiaka was very anxious to start for Hawaii, as the forty days allotted her had long since expired and she feared that Pele would be angry.

At Kealia the chief entertained the three guests with sports in which Lohiau was very skillful. Reaching Kapaa, they met the king, who gave them a canoe to carry them to Oahu.

After a short stay on this island, where there was much dancing and royal feasting, the travelers left for Hawaii. As they were passing Molokai, Hiiaka saw a chiefess standing near the shore and asked her to give them fish. The chiefess replied, "I have no fish for you, proud slave." These words so angered Hiiaka that she swam ashore and killed her.

After this adventure they went on quietly until they reached Hawaii, where they landed at Puna and then hastened on towards the home of Pele and to a relentless fate.

When they came to the brink of the volcano, Hiiaka sent Wahine-omao ahead to greet Pele while she and Lohiau stayed behind. There in full view of Pele and her other sisters, Hiiaka, suddenly overcome with emotion for the man she had grown to love, threw her arms around him and kissed him.

Pele's anger knew no bounds. She cried, "Why did she not kiss Lohiau while they were on Kauai? She does it before my eyes to laugh at me."

Seeking revenge, Pele sent her sisters to destroy her lover by means of a lava flow. They put on their fire robes and went forth rather unwillingly. When they came near and saw how handsome Lohiau was, pity took hold of them and they cast only a few cinders at his feet and returned to Pele in fear. Hiiaka knew that the falling cinders would be followed by fire and so she told Lohiau to pray.

When Pele saw her people returning from their unaccomplished errand she sent them back, commanding them to put aside their pity for the handsome man. So the five burst forth again and gradually surrounded Lohiau. At last the rocky lava covered his body.

When Hiiaka saw what her sister had done, she was so angry that she dug a tunnel from the volcano to the sea, through which she poured the fire, leaving only a little in the crater. This small amount was kept by one of her brothers under his arm.

Seeing what Hiiaka was doing, Pele became alarmed and sent Wahine-omao to beg her to spare her sisters. Hiiaka did not heed her friend and Pele cried, "This is a punishment sent upon me because I did not care for Hiiaka's friend, and I allowed her *kehua* trees to be burned."

Wahine-omao again entreated Hiiaka to spare Pele, recalling to her mind the many days of travel they had spent together. At last Hiiaka promised to spare Pele but refused to see her again.

As soon as possible she returned to Kauai and told the faithful Kaleiapaoa what Pele had done. This true friend of Lohiau made a solemn vow to pull out the eyelashes of Pele and to fill her mouth with dirt.

Led by the magic power of Hiiaka, Kaleiapaoa soon reached the outer brink of the crater and began to attack Pele with vile names. Pele answered by urging him to come down and carry out his oath. Attempting many times to descend and punish Pele, he was always forced back. At last Pele allowed him to come before her, but he no longer wished to carry out his threat. Pele had conquered him by her beauty and charm. After he had remained in the crater four days, he was persuaded to return to Kauai with Hiiaka as his wife.

Two brothers of Pele who had come from foreign lands, saw Lohiau's body lying as a stone where the lava flow had overtaken him. Pity welled up in their hearts and they brought Lohiau to life again. One of these brothers made his own body into a canoe and carried the unfortunate Lohiau to Kauai, where he was put ashore at Ahukini.

Coming to Hanamaulu, Lohiau found all the houses but one closed. In that one were two old men, one of whom recognized him and asked him to

enter. The men were making tapa which they expected to carry soon to Kapaa, where games were being held in honor of Kaleiapaoa and his bride, Hiiaka.

As soon as the tapa was prepared, the men, joined by Lohiau, started for the sports. At the Waitua River discussion arose. Lohiau wanted to swim across, but the men insisted on carrying him over on the palms of their outstretched hands.

When they reached Waipouli, Lohiau suggested that the men carry the tapa over a stick, so that he could be concealed between its folds. This was done and at last they came close to Hiiaka.

Lohiau told the men to enter the *hiku*' game. Lohiau promised to *o'i* for them in case they were struck. First the old man was struck, and from his hiding place Lohiau sang a song that he and Hiiaka had sung in their travels. The next night in the game the other old man was struck, and Lohiau sang the song that he and Hiiaka had composed as they neared the volcano.

Hiiaka knew that these were the songs that she and Lohiau had sung together during their days of travel. She lifted up the tapa and saw again Lohiau—the man twice restored to life from death, the lover for whom she had dared the wrath of Pele, the mate whom she now encircled with loving arms.

When Kaleiapaoa saw that his old friend had returned, his shame and sorrow were so great that he hastened to the sea and threw himself into the water to meet his death.

So, at last, Hiiaka and Lohiau were united and lived happily at Haena for many years.

¹See glossary.

Polynesia but Hawaii. Its nearest relative is Australian. How this acacia came to Hawaii and why it grew in no other Pacific islands between Hawaii and Australia are some of the baffling enigmas of botany. Certainly the *Koop* had established itself in Hawaii before the coming of the Polynesian settlers. But even if it had not, there is no evidence that any Polynesians ever went to Australia, and certainly no possibility that Australians came to Hawaii in very ancient times.

Some spores, seeds, insects, and vegetable rubbish that might even be supposed to have carried snails may have been transported over great distances at high altitudes by hurricane winds. We know little of the range and extent of hurricanes in ancient times. The islands of central Polynesia fan out from Melanesia in such a way as to suggest the possibility of winds and currents carrying many botanical forms. In that region also, from very early times, there was much migration in boats of various types which were purposefully carrying useful plants, and unintentionally seeds and scraps of many others. Another instrumentality in the distribution of some forms of vegetation was that of the constant streams of migratory birds which since ancient times have been stopping in the Hawaiian Islands in the course of their annual migrations north and south. The golden plover, ruddy turnstone, wandering tattler, and sanderling migrate annually from the Arctic to Hawaii and various others of the Polynesian islands. Pintail and shoveler ducks are also migratory.

But the endemic flora for the most part has Asiatic and Indonesian affinities. To Hawaii it must have come by way of Indonesia and Melanesia in the long period intervening between Tertiary times and recent geological history. It is necessary, then, to think in terms of the geological history of the islands. This may be summarized as of the island of Hawaii, which recapitulates the geological history of this archipelago. On this island may be seen the evidence of its formation in three successive stages. There in Tertiary times two volcanic domes, the eroded remains of which are still to be seen, were built up by the extrusion of basalt and lava from the great rift in the Pacific Ocean's floor that runs from northwest to southeast. This rift can be traced by the continuous chain, 1,600 miles long, of islands, islets, and shoals, that connects Hawaii, at the still-active southeast end, with Kure or Ocean Island, which is a mere fragment of an ancient volcano beyond Midway. The vestiges of the two ancient domes that formed the beginning of the island of Hawaii still exist today as the Kohala Mountains in the northwest, and in two small hills near the southern tip of the island in the district of Ka'u. The basalt underlying the surface deposits of the areas contiguous to these ancient volcanoes flowed from them in Tertiary times. The Tertiary, ending about two million years ago, was a period of widespread volcanic activity, when the Himalayan, Carpathian, Alpine, Rocky, and Appalachian mountain systems were also elevated.

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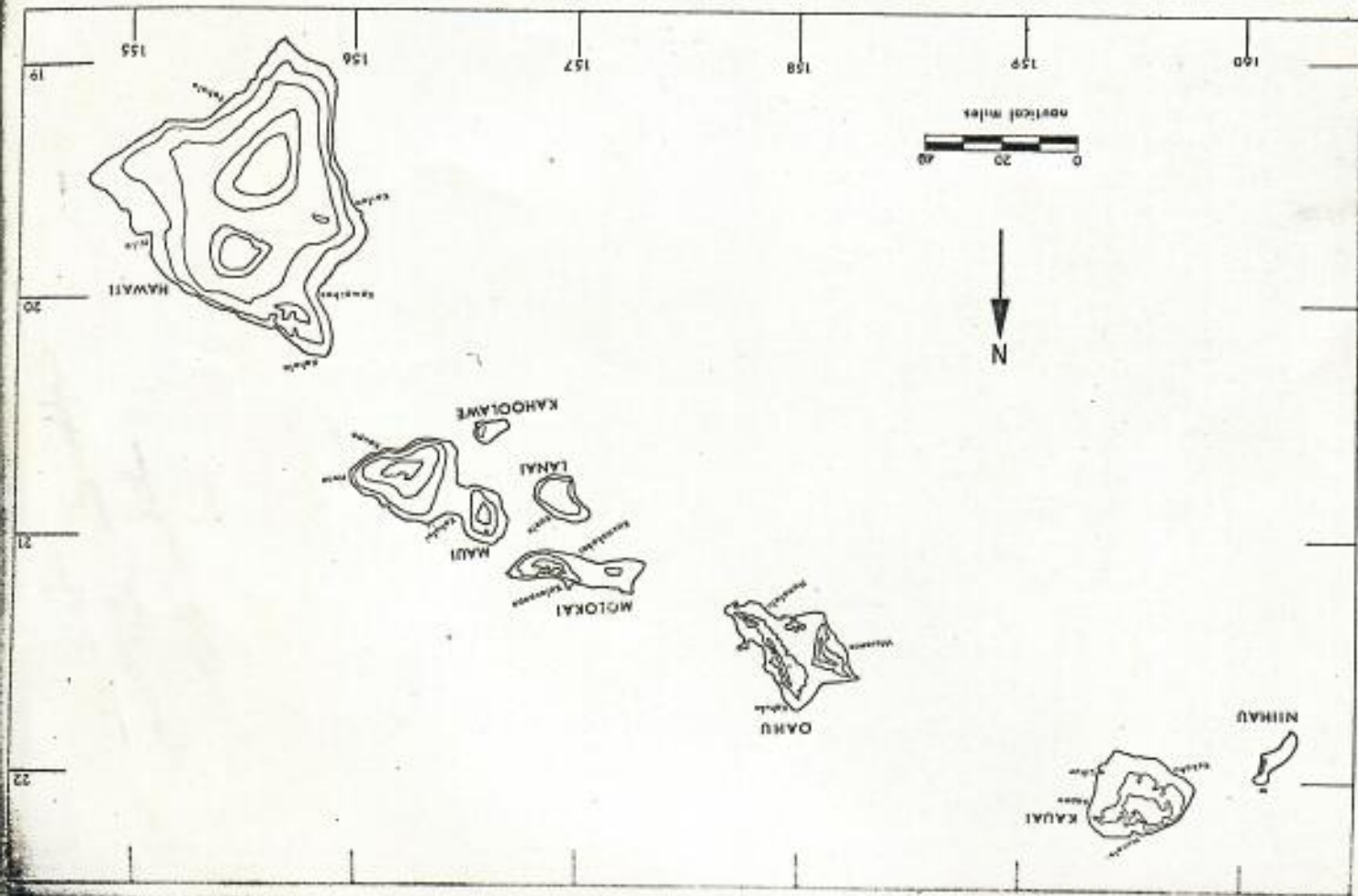
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Notes on the
Their life, love, and Environment
by F. S. C. ...
and Elizabeth ...

in collaboration with Mary Kawena Pukui

Figure 1.—The Hawaiian Islands.



dunes. Although there are no observed remains of habitation or cultivation in the steep valley itself, the name "Water-of-the-Lizard" would indicate that at one time there was at least a pool here, supposed to be inhabited by a supernatural lizard-being such as were numerous in the folklore of the Hawaiian people; perhaps also a small stream, since most valleys were carved out originally by streams.

We know of no specific legend connected with this lizard pool beyond Mana that is equivalent to the one about the girl living in the mountains above Makaweli (the land to the southeast) who was raised by a *mo'ō* in his cave beneath a waterfall. According to this legend, the little girl was a great trouble to her parents because of her constant crying, and once in exasperation the father put her out of the house with the words "Go and live with the *mo'ō*!" This the child did, finding him a kindly foster parent. Years later the real parents regretted the loss of their child and by a ruse captured her. In time they succeeded in "taming" her, and as she grew to be very beautiful she eventually married a "prince of Waimea," whither the parents had taken her to live (Rice, 1923, p. 91). Whether the *mo'ō* near the Mana marsh was kindly or destructive (they seem to have varied greatly in these characteristics) we will never know, but it is likely that the water of his pool or stream was of some value to human beings in the vicinity.

Anciently, when the forest cover was more dense and came right down to these ridges and valleys, it is likely that all these small gulches had tiny streams or springs, with constant flow except perhaps during droughts or hottest summer and early autumn months. Also the many lakes and springs on the coastal plain were probably larger and less swampy. In 1935 we obtained the names of 22 "dry streams" and their valleys, westward and northward beyond Mana as far as Miloli'i. These were Kapalimo'o, Waiaka, Puaa, Waipao, Wai'awa, Kahoana, Hoes, Kuapa'a, Wailau, Ni'u, Ka'awaloa, Nahonaiu, Kahelunui, Waikamo'o, Oha'i'ua, Kahoaloha, Ka'ula'ula, Ha'ele'ele, Hikimoe, Keaweiki, Kauhao, Makaha. These names are given here because of their significance in indicating that at some former time they represented dwelling or planting sites in a now arid land. Names would not have been given to (or remembered of) mere worthless pieces of topography.

POLIHALE

Beyond Mana at Nohili Point (the "Barking Sands"), the coast line cuts sharply to the north and then inland, and for a distance of three and a half miles it is marked by steep sand dunes caused by the shallowness of the sea between this coast and the island of Ni'ihau. Beginning at Waikamo'o the sandy plain narrows swiftly, since the coastal line of the rocky upland continues northward as the shore line cuts in. Opposite Ha'ele'ele Ridge (which has considerable flatland and, showing the remains of house sites, must once

have had water) the dune flattens out into a broad and beautiful beach with cliffs close at the back. At the northern extremity of this beach where it narrows to nothing (at the point where the northwest sea cliffs begin) is the remnant of the *heiau* of Polihale set on the rocks about 50 feet above the sea. This is one of the points on Kauai from which the souls of the dead took their departure into the setting sun; and according to tradition the priests of this temple here uttered the prayers which sped the departing souls upon their way. There is said to be a "sacred spring" in the cliff behind the *heiau*.

The following is a prayer found scribbled on a rough scrap of paper among the Hawaiian notes of Augustus F. Knudsen who was born at Wai'awa, the home of his father, Valdemar Knudsen, pioneer trader, planter, and rancher of that area. The prayer is published with the kind permission of A. F. Knudsen's daughter, Mrs. Ruth Knudsen Hamner. We introduce it here because it unquestionably refers to Polihale *heiau* and is clear evidence that whereas on Kauai all four of the primal gods (*akua*) of the Hawaiian mythology and ritual were worshiped, as was true of temple worship throughout Hawaii, here, at the extreme of southwest Kauai, Kanaloa was paramount.

*E mo'ohia ia i ke akua
o Kanaloa.*

Ka ma'ino i ke mana o Kane

Ka'ina ia i ka ea o Ku

Ka'ina ia i ka 'ola o Lono.

The altar of the shrine is overshadowed by Kanaloa.

Its peacefulness rests in the

spiritual power of Kane.

Let the spirit be led by the

breath of Ku

Let the spirit be led by the

life of Lono.

W. C. Bennett (1931, p. 99) studied Polihale *heiau* in detail. The dimensions alone indicate that this was a temple of importance. The lowest of the four terraces rested on the beach. The description follows:

The base is almost obscured by the sand which covers it. The three outer edges of the first platform have a wall 8 feet wide which ranges in height on the inside from 1 foot along the front to 3 feet at the junction with the second platform. The front facing is a perpendicular wall. The wall at each side of the second terrace has a width throughout of 8 feet. The third platform measures 13 by 89 feet, and the fourth measures 21 by 89 feet. The facing of the fourth terrace is slightly bowed out making a curved front; the back side is faced with a 5-foot wall and backed by boulders on the talus slope which continues upward. The steps of the platforms are quite definitely though roughly finished. The *heiau* is paved throughout and is in good condition despite the heavy growth of *lantana*. The outside walls are perpendicular and vary in height to meet the slope of the talus. They are made chiefly of waterworn stone, though other rock from the talus has been used. . . .

House sites on the nearby ridge in Ha'ele'ele Valley, "not far from Polihale *heiau*" may have been the dwellings of the priests of this temple. Polihale is an appropriate site for a temple dedicated to the lord of the ocean. At sunset time, the view with the light shining over the ever-restless expanse of the

ocean westward is magnificent and inspiring. This was also, undoubtedly, a shrine to which the deep-sea fishermen of the Napali coast and Mana brought their offerings of fish, such as *āna*, *āhi*, *āku* and other denizens of the deep.

THE NAPALI COAST

The northwest coast of Kauai was the most rugged and inaccessible inhabited area in all the Hawaiian Island chain. Yet its "inaccessible" valleys all had their *kū'auina*, or back-country dwellers. Of this area, Dr. Herbert E. Gregory, the geologist and former Director of Bishop Museum, who visited the Napali coast in 1922, wrote (1923, p. 20):

The Napali district on the island of Kauai, including the valleys of Nu'ulolo [Nu'ulolo], Awawapuhi [*sic*], and Honopu, is peculiarly difficult of access. Its seaward margin is formed by precipitous wave-cut cliffs and inland the area is sharply dissected into box-headed canyons and "knife-edge" ridges.

Each of the three ways of access—a "hand hold" trail up the sea cliff at Honopu, the Kamalle cliff trail, and the rope ladder at Nu'alolo beach—is available only to experienced climbers.

The first of the valleys beyond Polihale is Miloli'i, a narrow valley with steep sides. It had a good stream, and taro was raised in many *lo'i*, some of which had facings of stone built up 8 feet from ground level. There must have been a sizable population, for the names of six temples or shrines were recorded by Francis Gay, who surveyed this region (W. C. Bennett, 1931, p. 151).

Actually inaccessible from its landward end is Nu'ulolo (ancient name Nu'ūlolo, and spoken by some as Nu'alolo). Only Hawaiian ingenuity would have made feasible the habitation of this pocket on the windward slope of Wai'āic'āle mountain above the sea. How the first Hawaiians climbed into it will forever remain a mystery. Bennett, who, presumably with the help of Hawaiian guides, explored the valley, gives this description of the way in (W. C. Bennett, 1931, p. 149):

The trail that leads from the Nu'alolo flats [by the sea] to Nu'alolo valley is an ancient one. It starts around the base of the bluff on the east side of the flats and runs for 30 feet or more on a narrow ledge, sharply overhanging by the cliff about 20 feet above the ocean. At the end of this ledge a rope ladder leads to a ledge 25 feet above it. The bulge in the cliff makes the ladder hang out over the sea. The ladder is fastened into four rings cut through the solid rock for that purpose. A protruding stone near the top of the ladder is grooved, probably for the purpose of lowering bundles to the ledge below. From the top of the ladder a series of notched steps and finger grips have been cut that lead to a narrow trail that runs up to the top of the cliff. The notches and finger grips have been worn smooth by ancient usage.

Though difficult of access, Hawaiians living in Nu'ulolo had terraced all the land available for growing irrigated taro. Bennett (1931, pp. 148-150) describes many house sites and terraced areas in the lower valley, in one place

commenting that one side of the valley, across from a house platform, "is one mass of terraces." There is a large *kukui* grove in which are remains of numerous house sites, with nearby terraces. At the seaward end of the valley he found "extensive work in terracing. The height of the terraces is from 6 inches to 4 feet. At the back side of the terraces, up on the slopes, are the house sites . . . the terraces run to the edge of the sea bluff." A line of eight house platforms was found right along the base of a high cliff on the east side of Nu'ulolo flats near the sea, and at the lower end is a path to the sea. Another series of stone-terraced house platforms was found "on the ridges all through the Nu'alolo flats." Home sites were, in other words, tucked above or away from ground capable of being terraced for *lo'i*.

3. Awawapuhi Valley next along the coast was easier of access. Terraces fill the cultivable lower valley up to a point where it becomes too narrow. On the west side of the stream, terraces with stone facings 3 to 5 feet high and 8 feet broad extend as high up on the steep slopes as water could be brought by ditches. The house sites are above the terraces. Along this side of the stream the irrigation ditch was built up as much as 15 feet in places, leading to a series of *lo'i* along the bluff. Near the bluff at the seaward end was a *shōine*, probably for offering taro (W. C. Bennett, 1931, pp. 147-148).

4. Honopu, the next valley northeast along the coast, is larger than those already described. There are many house sites. "The extent of the irrigating is a tribute to Hawaiian engineering" (W. C. Bennett, 1931, p. 147).

Beyond Honopu is Kalalan, the largest of the valleys on the Napali coast. It was one of the most intensively cultivated areas in the islands. There is a sloping sea wall built with heavy stones running along the edge of the broad beach and protecting broad, flat terraces on the level land at the seaward end of the valley. These were irrigated from the main stream. Rising from this, terraces continue up the slopes inland and on the sides of the valley. Above these are what remains of an irrigation ditch running back into a small side valley; this watered the terraces along the west side of the main valley. The west slope of the knoll at the foot of the valley is terraced. On the west side of the valley the terraces on the flatland were probably made by filling in behind the sea wall with earth. These are very large, one measuring 225 feet along the front by 150 feet deep (W. C. Bennett, 1931, p. 142; Handy, 1940, p. 60). The terraces along the west side above the main stream are remarkable for their heavy dirt sustaining walls without stone facing. Undoubtedly, as was customary, bananas and sugar cane were planted on these walls. A ditch lined with large stones runs for 600 yards or more along the bank of the stream, and below this ditch run two others which once carried water to the large flatland *lo'i*, the lowest for a distance of more than 900 yards (W. C. Bennett, 1931, p. 145). On the east side of the stream the topography is precipitous, rocky, and broken; here Bennett noted that "the

which have just migrated to the windward side of the island, enter the shallow waters where stream meets sea and spawn. Soon the sand banks will again block the streams, and in the warm shallow waters of the now dammed *mūlūwai* the mullet eggs hatch. Here the fingerlings (*pua ama*) will swarm in great numbers until heavy rains again open the stream mouths, allowing them to swim into the lagoon where they feed and grow until the time comes in early summer for them to swim back around the eastern end of the island to their summer home in Pearl Harbor.

From January through March storm winds may come from the east, north-east, north, or northwest, bringing high seas and heavy rain. There are rarely *kōka* storms after mid-February. The northwest winds bring the lowest temperatures. We have recorded as low as 54 degrees Fahrenheit in March at Punalū'u. Trade winds begin in March, blowing violently out of the north-east. Obviously fishing conditions are unfavorable much of this time. Octopus are caught only when the water is clear and not too rough. Kahana Bay is a famous haven for *akule*. The land titles along shore pre-empt fishing rights here. Normally *akule* are caught in quantity in May. However, on December 19, 1954, early in the morning, local fishermen with their long seine made a haul of 2,400 pounds of *akule* (40 baskets). This followed a long period of clear quiet weather. The moon was full (*mākealani*).

The open season for mullet begins in the first week in March. On March 5, 1953, rains had opened the mouth of Punalū'u Stream. The lagoon was muddy. Fishing *hūi* (organized groups) at Punalū'u and Kaluanui were on the alert, and individual Hawaiians with throw nets were wading along shore, peering into the water, watching for mullet. On this day and the days following, good hauls of mullet were made. Large mullet were evidently coming to the stream mouths again to spawn.

Such episodes as those just described, when *akule* and mullet are running, were, in old Hawaiian days, times when planters left their cultivating of taro, sweet potato, and banana, and feeding of livestock to join their relatives and neighbors along shore in their fishing operations. Each man received his share of the catch in proportion to his contribution in time and equipment. The canoes and nets belonged to families living along shore. They exchanged some of their fish and *limu* (edible seaweed) for taro (or *poi*) and sweet potatoes.

By April there are noticeable along shore many signs of spring. About the middle of April the black hairy seaweed *Sphacelaria tribuloides* begins to appear frequently along the beach, and by mid-May this is growing in abundance on slightly submerged coral heads. This plant is fed on by grazing fish, such as mullet and goatfish. *Ectocarpus* or *Dictyota crenulata* (Hawaiian *limu akā'āka* or *limu hūhūio* ["dog's hair"], edible), a fine branching yellow-brown seaweed is very plentiful on top of coral heads near the shore. Other seaweeds are also increasing farther out in the lagoon, notably *Turbinaria*

ornata with erect stems, *Zonaria variegata*, and *Valonia* sp. (*lipū'upū'u*), a small bright green growth growing on coral well out from shore. Rough weather brings much fresh sargassum (*limu kala*) into shallow water and onto the beach; its yellow-brown leaf is like holly, and it bears yellow-brown berries. There are also *Padina comersonii* and *Dictyota* sp. (Neal, 1930, pp. 55, 57, 58, 63). Under coral heads are innumerable small shrimps, starfish, crabs, and small-fry of various sorts.

At this time there is much *hukilau* fishing with long ropes, with dried *ti* leaves attached to frighten fish feeding in the lagoon toward shore where they are caught in nets and even by hand. *Wēke* (surmullet and goatfish) are commonly caught at this time. This operation in the old days brought together men, women, and children of the whole community.

Two very dramatic scenes in the drama of springtime were witnessed, one in April, one in May. On April 16, 1953, early on a warm morning, with the tide very low, a number of *Notarchus lineolatus* ("sea hares") with earlike appendages on the head, tapering body with brown wavy lines and spots, were observed rolling about in shallow water; others were stranded on the beach above the waterline. The following morning of a warm quiet day, with the tide very low, great numbers of *Notarchus* were observed moving in procession head-to-tail, out along the sand on the bottom of the lagoon, in lines radiating from beneath the coral heads. They seemed to be moving in all directions. Some were rolling about helplessly in shallow water. Dr. Charles H. Edmondson, then Bishop Museum marine biologist, told us that these creatures had come in from deep water to breed under the coral heads. In days following no *Notarchus* were observed. (See Edmondson, 1933, p. 175, Fig. 89d, p. 177.)

Much young seaweed of various kinds is brought inshore when the waves and tide are high. The small sandcrabs are very busy scavenging small marine life attached to the seaweed.

At full moon, on April 28, the tide was very low, and along the waterline on the beach at 7 A.M. was a great quantity of sea foam, made up of minute sea creatures (plankton) that had enjoyed a population explosion during the night.

Another dramatic "coming of spring" was witnessed at full moon (*mākealani*) on May 10, 1952. The previous day, while swimming, we had noted that the sea water looked cloudy and felt warmish and "oily." On the morning of full moon it was calm, the tide was low, the sun was bright. In the afternoon the beaches all along the shore were covered by great quantities of marine algae, smelling very strong. There was also a large amount of the mossy black *Sphacelaria tribuloides*. This condition continued through the next day when the moon was still full, and at this time we could see a multitude of small particles of black algae floating up from coral heads and drifting shoreward. At dawn of the next day (after full moon, *lā'au-ku-kahi*) there

were quantities of small marine animals, mostly *Notarchus*, in shallow water. The tide is very low in early morning, then comes in very fast and high. We swam in the afternoon. The water was "milky," "oily," and "roily." Three groups of fishermen were out in boats with big nets.

Rachel Carson (1951, pp. 29-30) has written of the coming of spring. The minute diatoms have managed to tide over the winter season when nutrients are few and sunshine is reduced. These are the elements of the "vernal blooming of the sea" that comes as the sun warms the ocean and shore waters. Carson says:

In a sudden awakening, incredible in its swiftness, the simplest plants of the sea begin to multiply. Their increase is of astronomical proportions. The spring sea belongs first to the diatoms and to all the other microscopic plant life of the plankton. . . . Almost at once their own burst of multiplication is matched by a similar increase in the small animals of the plankton. It is the spawning time of the Copepod and the glassworm, the pelagic shrimp and the winged snail. Hungry swarms of these little beasts of the plankton roam through the waters, feeding on the abundant plants and themselves falling prey to larger creatures. Now in the spring the surface waters become a vast nursery. From the hills and valleys of the continent's edge lying far below, and from the scattered shoals and banks, the eggs or young of many of the bottom animals rise to the surface of the sea. . . . So as spring progresses new batches of larvae rise to the surface each day, the young of fishes and crabs and mussels and tube worms mingling for a time with regular members of the plankton. . . . In the spring the sea is filled with migrating fishes, some of them bound for the mouths of great rivers, which they will ascend to deposit their spawn . . . chinooks [Pacific salmon] . . . shad . . . alewives . . . [Atlantic] salmon.

When cold and warm "fronts" or atmospheric masses meet each other, or one is superimposed over the other during the season of storm and rain, heavy thunder will roll up the Ko'olau range in a northwesterly direction, often seeming to jar the land below. Sometimes these storms will move from the mountains out to sea, southward at sea, inland again, and up along the Ko'olau range. At such times there is gusty wind (sometimes rather violent) and much rain. During such weather the Hawaiians were busy with work indoors. Men worked on fishhooks, adzes, digging sticks, weapons, and utensils in the men's house (*mua*). The women would take down the rolls of pandanus leaf prepared for mat and basket making and plait narrow-strap sleeping mats and broad-strap floor mats, and coarse mats for covering the ground oven. And the women it was who span by rolling under fingers on the thigh the *olona* cord used as fishlines and for net making, and coconut fiber to be plaited into sennit cord that served as lashings on canoes and in house building. Women also made fish traps or baskets out of 'ie'ie roots. There were repairs of various kinds needed, from time to time, on the houses which served the various purposes in the *keahale* or homestead. This was men's work. In the canoe house, the canoe and fishing tackle had to be kept in readiness for work. Cutting, finishing, and polishing utensils of coconut shell, wood, and gourd also kept the men busy. In leisure time the men played

konane (Hawaiian "checkers"), told stories, enjoyed man-talk; the women gossiped, taught their children how to make string figures ("cat's cradles"), to spin, and to plait mats and baskets.

In interludes of fair weather men worked in their taro and sweet-potato patches, tended their sugar-cane clumps and banana trees, and fished along shore or just offshore. This was the time to catch octopus and squid, unless rains had muddied the water. But there was little deep-sea fishing until the summer months. In these times women went down to the shore for *kina* (seaweed), *wana* (sea urchins), *opihiki* (limpets).

As we move from spring into summer it should be remembered that Hawaiians thought in terms of only two seasons of the year. First, the stormy rainy season from mid-October to mid-February—the "inside months," *Ho'oiho* (the word *oiho* means to germinate, to sprout, and *ho'oiho* to cause germination, sprouting, which is exactly what the winter rains did); and second, the season of sun and warmth, called *Kau*, probably derived from the application of this word, which has a great many meanings, to the sun's visibility from dawn to dusk. *Mai ka hiki o ka la kau* means "from the rising of the sun to its setting." An alternative term was *makali'i*, the name of the Pleiades. One wonders if originally this season was called *Makali'i kau*, the time when the Pleiades are below the horizon, for the commencement of the *Makahiki* festival was timed by the first rising of the Pleiades over the horizon at dusk. Could the word *makahiki* be a contraction of *Maka (hi) —hiki (ma)*, Pleiades-risen? Malo (1903, p. 54) wrote "The months in Kau were Iki-iki, answering to May, at which time the constellation of the Pleiades . . . set at sunrise . . . Kaona . . . Hina-ia-cleele . . . Mahoe-mua . . . Mahoe-hope . . . Ikuwa."

The spring months had brought many fish into lagoons and bays and the mouths of streams for spawning. From May on into *Kau* was "the season when the sun was directly overhead, when daylight was prolonged, when the tradewind, *makawī no'oe*, prevailed, when days and night alike were warm and the vegetation put forth fresh leaves" (Malo, 1903, p. 53). This was a time of growth and cultivation. These months from May on were also the months for deep-sea fishing with line and net, for *opelu*, *abu*, *o'ahi*, *u'ua*, mature now after the spring spawning. For the women this was the time for getting shellfish along shore and shrimps in the streams, and also guppies (*'o'opu*) in salt pools formed by streams at sea level. For the planter it was a time of preparation of plots for fall planting, and of making ready for the harvest.

The rainy season was the time for planting sweet potatoes in dry areas, when the ground was soaked, the fields having been already prepared. Except for some catching of octopus and squid on and inside the reefs, and some foraging along shore, most other types of fishing were either *haha* during the *Makahiki* or impractical because of weather. Nor was this a time for foraging or hunting in the *wao*, the inner valleys and uplands.

of Kane'ohē. In fact all of the *āhupū'ā* is like a vast green amphitheater below the serrated sheer cliffs that extend from Pu'u Lanihuli northward to Ha'iku Valley and known as the Ke-ahi-a-Kahoe (Fires-of-Kahoe) Cliffs. As the ground rises steeply from the stream beds along their upper courses, there is little evidence of systematic terracing observable in these areas, as might have been expected. The lowland *lo'i* areas were so extensive that evidently the more laborious terracing of the interior slopes was not regarded by the early Hawaiians as necessary.

The *kūā* lands between the streams were planted in pandanus, *wauke*, bananas, and sweet potatoes. *Kālo malo'o* (dry-taro) was not planted here. The number of names of *'ili* and *kūā* lands along the Hi'ilaniwai and its tributaries, however, indicates intensive cultivation of products other than taro, and the abundant rains sweeping down from the cliffs made such cultivation profitable.

Below the majestic cliffs of the Ko'olau range was Kekele, the famous grove of pandanus trees, precious because of the fragrance of their fruit clusters whose orange-yellow "keys" or separate seed were in old times much used for making *lei*. Many pandanus trees may still be seen on the hillside below the cliffs.

This well-watered and sheltered zone at the base of the mountains was ideal for yams, wild bananas, *wauke*, *olona*, and *kū'ū*. In recent times extensive banana groves have been planted on slopes and hills *maka'a* of Kane'ohē town.

Beyond Kane'ohē *āhupū'ā* the remainder of the southern end of Ko'olau-poko District, below the half sunken crater walls of the Mokapu (Mo'o-kapu, Sacred-Ridge) Peninsula, becomes increasingly confusing as to planting contours. Mokapu, jutting far out into the sea, forms the southern flank of Kane'ohē Bay. Below this the two shallow bays of Kailua (Two seas) and Waimanalo (Brackish water), separated by Ka'iwa Ridge and Wailea Point, front the ocean without reefs, and the two *āhupū'ā* of these names are heavily broken by cross-systems of hills and ridges as the backbone of the Ko'olau range again comes closer to the coast, ending finally in Makapu'u Head, the southeasternmost rocky and semibarren point of Oahu.

Despite these apparently less favorable conditions, wet taro was anciently, and within living memory, grown in both *āhupū'ā*, although that is now a thing of the past.

Haumea once dwelt by Ka-wai-nui (The-great-fresh-water) Pond with Makalei, her sacred grove (a "fish-attracting" woodland). Vexed at Paku'i, the chief 'Olomana's keeper of the pond, for not giving a share of the fish to Kalinihini'ula, the red-headed boy, Haumea "removed her wood" and took it to a mountain spring in Maunawiliwi. Only the boy and his grandmother, Neula, knew to where the fish had vanished (Mrs. Kealohanui Alona, informant, September 29, 1939).

There was a *mō'o* (giant reptile that could assume human form) that lived in Kawaiui. Her name was Hau-wahine. She was the guardian of Kawaiui. Her companion, whose name is unknown, lived in a pandanus grove that formerly stood close by Ka'elepulu Stream. Because of the presence of the *mō'o*, the grass and rushes thereabouts were yellow.

KAILUA

Kailua was the home of the *āi'i* Kualii in the early 18th century, and presumably had been the seat of the high chiefs of Ko'olau-poko from very early times. The beach, the bay, and living conditions were and are very attractive. Waimanalo and Kane'ohē, both rich farming areas, were neighboring. Access to the northern districts of Ko'olau-poko was easy over the waters of the great indentation in the coast now called Kane'ohē Bay, which extends from Kane'ohē harbor along the whole Ko'olau-poko coast, past He'cia, Kāhalu'u, Kā'alaea, Waiahole, Waikane, and Hākipu'u to Kūaloa. All these districts were rich in agricultural resources and fishing grounds, but were not attractive from the point of view of residence.

Undoubtedly further reasons for the attractiveness of Kailua as a place of residence for an *āi'i nui* with his large entourage were the great natural fish-ponds, Ka'elepulu and Kawaiui, and the complex of artificial salt-water ponds that are between Kailua and Kane'ohē in the Mokapu area: Halelou, Nu'upia, and Kaluapuhi.

Kailua must formerly have been very rich agriculturally, having one of the most extensive continuous terrace areas on Oahu, extending inland one and a half miles from the margin of Kawaiui Swamp. Terraces extended up into the various valleys that run back into the Ko'olau range. There were some terraces watered by springs and a small stream from Olomana mountain along the western slope of the ridge that lies southeast of Kawaiui Swamp, and another system of terraces was east of the seaward end of the ridge, watered by the stream which joins Kawaiui and Ka'elepulu Ponds. There were also terraces north of the Kawaiui Pond, and several terrace areas flanked Ka'elepulu Pond at the base of the ridge to the eastward. Much former taro land reverted to swamp when abandoned; this has since been drained.

WAIMANALO

Waimanalo Valley, long a sugar plantation and now a ranch, had less wet taro in olden days, being blessed with only one stream. Yet much of what was until recent years sugar-cane land had previously been planted to taro. There were evidences in 1935 of old *lo'i* much farther inland, in a semicircle at the back of the broad valley. A *kama'aina* of the place at that time named nine such *lo'i* sections whose water came from springs.

Another newspaper account (*Ki'okō'a*, October 26, 1906) describes Waimanalo District in 1847, as follows:

At that time it seemed that the valley was filled with breadfruit, mountain apples, *kukui* and coconut trees. There were taro patches, with banks covered with *hi* and *tonubi* plants. Grass houses occupied the dry lands, a hundred of them here, and sweet potatoes and sugar cane were much grown. It was a great help toward their livelihood. . . . The whole *ahupua'a* of Waimanalo was leased to white men except the native *kūmānua* and because the cattle wandered over them, they were compelled to build fences for protection. The taro patches that were neatly built in the time when chiefs ruled over the people and the land, were broken up. The sugar cane, *hi* and *tonubi* plants were destroyed. The big trees that grew in those days, died because the roots could not get moisture. The valley became a place for animals.

Beyond the old plantation town of Waimanalo and toward Makapu'u Point is a narrow stretch of land lying between the dry windward face of this southeast end of the Ko'olau range and the sea, the name of which was Ko'o-o-na-pou (mistakenly called Kaupo in recent times). This was a sweet-potato planting area. A village was established here by a *kūmānua* who had a peculiar grass house with two rooms: the front room into which visitors came; and his private room behind this, which abutted on a low cave with a rather thin roof of lava shaped like a flat dome. In this little cave the *kūmānua* kept his paraphernalia. The site was exposed to heavy winds, so the house frame was braced by heavy props (*ko'o*) that held the posts (*no'pou*) secure against the winds of the sea. The village and the land took their descriptive names from this house.

The scattered rocks where the house had been and the little lava dome were carried off during World War II, and likewise the stones of a fisherman's *heiau* on the rocky foreshore where the beach begins, named Ka-ala-pueo.

In the early years of this century these stone remains were regarded as having considerable antiquity, and there was popular speculation as to why it had become a "deserted village" and also why it should have been founded in so unpropitious a spot in the first place. Actually the so-called "Kaupo village" never consisted of more than a few poor huts, and these were built by Hawaiians seeking to escape the quarantine during the smallpox epidemic of 1853 (McAllister, 1933, p. 193). Charles Alona adds that it was the fame of the *kūmānua lape'au* (healer) above referred to (whose name was Kapoi) that attracted them. When the epidemic reached this little settlement and Kapoi was one of those who died, the spring which had appeared in answer to his prayers, dried up.

Ka-ala-pueo (Rallying-of-the-owls) was the last settlement near Makapu'u Point, and consisted of only a few fishermen's huts.

Offshore lies *Maiana*, the true name of the little gray volcanic island shaped somewhat like a crouching or recumbent animal and now popularly

There are several reminiscences about springs in the *ahupua'a* of Waimanalo, which Mrs. Pukui has found in Hawaiian newspaper articles and translated. This one (*Hoku o Haeveii*, March 11, 1930) says:

There are two peculiar springs at Waimanalo. . . . The one called Kupunakane [Grandfather] is away up in the mountains. The spring called Kupunawahine [Grandmother] is a spring way down on the level land. The strange, strange thing about these ponds was that on calm, sunny days they begin to cry out to each other. Their voices are soft and sounded very much like a woman mourning her husband. On days that were overcast with clouds in the sky, then the water of the mountain spring changed. The water of the mountain spring became warm and when you drank the water in the lowland spring it was cool, according to their legend.

A *kūmānua* informant, Charles Alona, has told us of two other well-known old springs, both of which are now, perhaps long since, dry. He said that Wai-kupunaha was the name of a spring (*mauka* of the plantation mill) surrounded by tall taro plants, banana trees, and fragrant white gingers. This was a *lele* (section of land) which had its counterpart on the seashore, where the owner of the *kūmānua* that included the upland and shore-side areas lived. There was fresh water also on the piece by the sea. And at Olomaha above the sugar mill there was a fine old spring. This area was then thickly populated. There was another spring across the road from what is now Bellows Air Force Base. Near this is Maha'ilua, another thickly populated place with a good water supply in earlier days.

McAllister (1933, p. 192) records the existence of a sea pond which was said to have been 500 feet long and 50 feet wide. "A line of stones, submerged at high tide, but visible at low tide, indicates its former extent." The *ahi* kept turtles in the pond. Charles Alona said that this *ahi* was so fond of turtle meat that everyone in the district was required to bring any turtles they caught to him.

Levi Chamberlain is quoted (Sterling and Summers, 1962, Bk. 5, Vol. 2, p. 344) as reporting in 1828 the location of a small and quite poor fishing village near the beach, toward Makapu'u Point from the present Waimanalo town, just beyond which there was a pool named Ka-wai-kupunaha where these people got their fresh water. This has since been covered by the roadway. It is probably adjacent to this site that the remains of a fishing shrine (*ko'o'a*) are visible on a point of land just offshore, surrounded by water at high tide (McAllister, 1933, p. 195).

Charles Alona told of another village situated on a low hill across from the Waimanalo Beach Park. This was settled by folk from Molokai, hence its name: Pu'u o Molokai. These people held themselves apart from the people of Waimanalo. If a girl born there married a Waimanalo man, she had to leave Pu'u o Molokai. But gradually the Molokai people were absorbed by Waimanalo.

LA'IE

Here we reach a much more complex land area, and one not so easily compared with the Kahana-Punalu'u type. It is a broken area of coastal dunes and level lands, with stretches of elevated coral to shoreward and inland, intersected by many small branching streams between rough ridges that extend far down to the sea. A number of these streams join to form La'ie (i'e-i-leaf) Stream which flows into La'ie Bay, the largest bay north of Kahana but a more tumultuous one, framed as it is to the southeast by Lamiloa (La'ie Point), the long jutting strip of elevated coral which acts as a resounding board for the great breakers piling in to the curve of the bay.

The comparatively flat land between the rough hills and the bay (which is famous as a fishing area and for catching sea turtles even today) was anciently divided into numerous named districts and was thoroughly cultivated. In 1935 Kekuku, a 75-year-old *kama'oi* of the place, pointed out an area more than 60 acres in extent as having formerly been the largest single wet-taro area in La'ie *ohu* *ohu* *ohu*, on land owned by his family for generations. It lies back of the present Mormon Temple, and was watered by springs, hence known as Ka-puna (The-spring).

Up Koloa (Wild-duck) Stream, which is toward Hau'ula from La'ie Stream, there are many groups of stone-faced terraces, formerly taro *lo'i*, now overrun with the spreading roots of great mango and breadfruit trees which marked old homesites along this twisting, rocky, and very beautiful watercourse. Other stream valleys show more scattered remains. We have the names of several large taro terraces that were famous anciently and have survived only in memory, such as Nae-loli (Move-[and]-change), Kuamo'o (Backbone), Mahanu (Rest-[and]-breathe), Makali'i (Pleiades), Po'o-hali (Head-recalls).

Makali of the roadside, on entering the present town of La'ie, is a small but deep pool which, according to legend, was anciently the habitation of a giant *mo'o* who menaced all travelers pausing to refresh themselves beside his pool. The *mo'o* once challenged two warrior brothers (Niheu and Kana) from Maui, who slew the creature and threw its dismembered body out to sea. The long point known as Lani-loa and the small coral islets beyond are these remains.

The long and complicated story of La'ie-i-ka-wai, which is not an old native legend, is connected with this district. Here also is the water cave named Wai-a-puka, where Waka was said to have hidden her granddaughter La'ie-i-ka-wai, when the latter was in peril.

There was a large horseshoe-shaped pond named Pao *mauka* of the bridge toward Kahuku which was famous for the large fish raised in it. Hanwahine was the *mo'o* goddess who was its protectress, the same Hanwahine who dwelt sometimes at Kawainui Pond in Kailua (McAllister, 1933, p. 157).



called "Rabbit Island." It has very little vegetation, and yet is the home of numerous wild rabbits. Just off its shore is a rock named Ka-ipu (The-cup) because of a depression in its top surface which held water coming from the waves breaking over it. On this rock there was another fishing shrine.

There is considerable lore connected with the *ohu* *ohu* *ohu* of Waimanalo, but apparently little having to do with the activities of the *al'i* or with planting. Pele, on her first visit to Oahu, seems to have had thoughts of taking up her permanent dwelling at Makapu'u Point, but passed on to Maui instead (N. B. Emerson, 1915, p. xxiii). Hi'iaaka later, on her memorable quest of Lohiau, addressed Makapu'u as a relative when her canoe rounded the point, but named her *He waihi a ke Akua Polohi* which Emerson (1915, p. 87) translates "Wife to the god of Starvation" (*polohi*, hunger). This and the fragments of chants which follow (Emerson, 1915, pp. 88-89) containing references to "your stormy capes, Ko'olau," to "barren lands," to "famine" and "privation," make it evident that in this southeastern end there was little sustenance save what was to be drawn from the ocean.

KO'OLAULA, NORTH OF THE TYPE AREA

Adjoining Kalamui on its northwest border is Hau'ula, an area of scattered small *lo'i* systems watered by five streams. There is a place on the shore called Wahi-o-pua (Small-fry-place) where the stone enclosure in which small fish were trapped was reputed to have been built by the *Menehune*. The enclosure itself was called Pa-pua. It is now submerged. The shore area directly opposite the present Court House is called Ka-palaea (The whale). It is from here that, according to legend, the *kahuna* Makuakaumana was taken back to Kahiki by a whale when his chief, Pa'ao, had no room for him in his canoe. There is still a spring in the uplands of Kaipapa'u, the adjacent district, named for the famous seer who dwelt in the vicinity, Puna-a-Makuakaumana.

KAIPAPA'U

Progressing northward along the Ko'olau coast we find conditions comparatively less and less suitable for wet-taro culture than in our Type Area which includes the great valleys of Kahana and Punalu'u. In Kaipapa'u (Shallow-sea) the *ohu* *ohu* *ohu* adjacent to Hau'ula, the upper stream valley is steep and narrow, yet natives of the district say that, making the most of small opportunity, a few *lo'i* used to be worked there. The level land to seaward may once have supported a moderate amount of terracing, but as this was all under cane when the area was studied in 1953, the extent could not be determined.

28. Net-makers (*poe ka-upena*) and those who made fishing-lines (*hilo-ako*) were esteemed as pursuing a useful occupation. The mechanics who hewed and fashioned the *tapa* log, on which was beaten out *tapa* for sheets, girdles and loin-cloths for men and women were a class highly esteemed. There were a great many other actions that were esteemed as virtuous whether done by men and women or by the chiefs; all of them have not been mentioned.

NOTES ON CHAPTER 21

¹ Sect. 1. What did the ancient Hawaiians seriously regard as wrong?

First: any breach of *tabu* or of ceremonious observance.

Second: failure to fulfill a vow to the gods or to make good any religious obligation.

Third: any failure in duty towards an *alii*, especially an *alii kōhū*.

Fourth: for the *kōhū* of an idol to have neglected any part of his duties, as feeding it or sacrificing to it. Under this same head should be put the duties of the keeper of the bones of the dead king; to have neglected such a duty would put a terrible load on the conscience. It is owing to the fidelity of the *kōhū* that the hiding place of the great Kameliameha's bones is to this day a profound secret. The fidelity with which such obligations as these were kept is proof enough that this people had all the material of conscience in their make-up. It will be seen that the duties and faults that weighed most heavily on the conscience of the Hawaiian were mostly artificial matters, and such as in our eyes do not touch the essence of morality. But that is true of all consciences to a large extent. It should be remarked that the Hawaiian was a believer in the doctrine of the divine right of kings to the extreme degree. His duties to his *alii*, or *lovi*, as the poets always styled him, was, therefore, on the same footing with those due to the *āhau*.

Fifth: I believe that the Hawaiian conscience would have been seriously troubled by any breach of the duties of hospitality.

² Sect. 10. The *lex talionis* was the rule. Friends often took up the matter and enacted something like a vendetta.

CHAPTER 22

THE VALUABLES AND POSSESSIONS OF THE ANCIENT HAWAIIANS*

1. The feathers of birds were the most valued possessions of the ancient Hawaiians. The feathers of the *manio* were more choice than those of the *o-o* because of their superior magnificence when wrought into cloaks (*āhu*). The plumage of the *tīvi*, *āpa-pāne* and *amāhiki* were made into *āhu-ūā*, cloaks and capes, and into *māhi-ōle*, helmets.

2. The *āhu-ūā* was a possession most costly and precious (*maka-mae*), not obtainable by the common people, only by the *alii*. It was much

worn by them as an insignia in time of war and when they went into battle. The *āhu-ūā* was also conferred upon warriors, but only upon those who had distinguished themselves and had merit, and it was an object of plunder in every battle.

3. Unless one were a warrior in something more than name he would not succeed in capturing his prisoner nor in getting possession of the *āhu-ūā* and feathered helmet of a warrior. These feathers had a notable use in the making of the royal battle gods.³ They were also frequently used by the female chiefs in making or decorating a comb called *hūi-kūa*, which was used as an ornament in the hair.

The lands that produced feathers were heavily taxed at the Makahiki time, feathers being the most acceptable offering to the Makahiki idol. If any land failed to furnish the full tale of feathers due for the tax, the landlord was turned off (*kenu*). So greedily were the *alii* after feathers that there was a standing order (*pāhala*) directing their collection.

4. An *āhu-ūā* made only of *manio* feathers was called an *āhau* and was reserved exclusively for the king of a whole island, *alii ai moku*; it was his *kapa tui-kūa* or battle cloak. *Āhu-ūā* were used as the regalia of great chiefs and those of high rank, also for warriors of distinction who had displayed great prowess. It was not to be obtained by chiefs of low rank, nor by warriors of small prowess.

5. The carved whale tooth, or *nihō-pālaoa*, was a decoration worn by high chiefs who alone were allowed to possess this ornament. They were not common in the ancient times, and it is only since the reign of Kamehameha Ist that they have become somewhat more numerous. In battle or on occasions of ceremony and display (*hōkōhōkōhō*) an *alii* wore his *nihō-pālaoa*. The *lei-pālaoa* (same as the *nihō-pālaoa*) was regarded as the exclusive property of the *alii*.

6. The *kahiti*, a fly-brush or plumed staff of state, was the emblem and embellishment of royalty. Where the king went, there went his *kahiti* bearer (*paa-kahiti*); and where he stopped, there stopped also the *kahiti* bearer. When the king slept the *kahiti* was waved over him as a fly-brush. The *kahiti* was the possession solely of the *alii*.

7. The canoe with its furniture was considered a valuable possession, of service both to the people and to the chiefs. By means of it they could go on trading voyages to other lands, engage in fishing, and perform many other errands.

8. The canoe was used by the kings and chiefs as a means of ostentation and display. On a voyage the *alii* occupied the raised and sheltered platform in the waist of the canoe which was called the *pōa*, while the

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paddle men sat in the spaces fore and aft, their number showing the strength of the king's following.

9. Cordage and rope of all sorts (*ua kaula*), were articles of great value, serviceable in all sorts of work. Of *kaula* there were many kinds. The bark of the *kau* tree was used for making lines or cables with which to haul canoes down from the mountains as well as for other purposes.³ Cord (*aka*) made from cocoanut fibre was used in sewing and binding together the parts of a canoe and in rigging it as well as for other purposes. *Olova* fibre was braided into (a four- or six-strand cord called) *lino*, besides being made into many other things. There were many other kinds of rope (*kaula*).

10. Fishing nets (*upena*) and fishing lines (*aho*) were valued possessions. One kind was the *papa-waha*, which had a broad mouth; another was the *aei* (net with small meshes to take the *opelu*); the *keuwa* net (twenty to thirty fathoms long and four to eight deep, for deep sea fishing); the *kaui* net (a long net, operated by two canoes); and many other varieties.

11. Fish-lines, *aho*, were used in fishing for all sorts of fish, but especially for such fine large fish as the *ahi* and the *kahala*. The *aho* was also used in stitching together the sails (of matting) and for other similar purposes.

12. The *koi*, or stone ax, was a possession of value. It was used in hewing and hollowing canoes, shaping house timbers and in fashioning the agriculture spade, the *o-o*, and it had many other uses.

13. The house was esteemed a possession of great value. It was the place where husband and wife slept, where their children and friends met, where the household goods of all sorts were stored.

14. There were many kinds of houses: the *mau* for men alone, the *noa*, where men and women met, the *kaia* for the shelter of long things, like canoes, fishing poles, etc., and there were houses for many other purposes.

15. *Tapa* was a thing of value. It was used to cloth the body, or to protect the body from cold during sleep at night. The *malu* also was a thing of great service, girded about the loins and knotted behind, like a cord, it was used by the men as a covering for the immodest parts.

16. Another article of value was the *pa-u*; wrapped about the loins and reaching nearly to the knees it shielded the modesty of the women.

17. Pigs, dogs and fowls were sources of wealth. They were in great demand as food both for chiefs and common people, and those who raised them made a good profit.

18. Any one who was active as a farmer or fisherman was deemed a man of great wealth. If one but engaged in any industry he was looked upon as well off.

19. The man who was skilled in the art of making fish-hooks (*ka-makau*) was regarded as fore-handed. The fish-hooks of the Hawaiians were made of human bones, tortoise shell and the bones of pigs and dogs. 20. The names of the different kinds of hooks used in the ancient times would make a long list. The *hoonoho*⁴ was an arrangement of hooks made by lashing two bone hooks to one shank (they were sometimes placed facing each other and then again back to back).

21. The *kikii* (in which the bend of the hook followed a spiral); the *lua-loa* (sometimes used for catching the *aku*); the *uiku* (also called the *kaaka*, consisted of a series of hooks attached to one line), the *keaa-aaui-leia* (for *ulu*); the bait was strewn in the water and the naked hook was moved about on the surface); the *aa-kuu* (a trolling hook, having two barbs, used to take the *ulu*); the *maika-puki* (about the same as the *aa-kuu*, but with only one barb); the *kai-anoa* (used in the deep sea—composed of two small hooks, without barbs); the *omau* (about the same as the *keaa-aaui-leia* but more open, with no barb, for the deep sea); the *mana* (a hook for the eel); the *koke-lua* (also called *koke-lua-g-paa*, a hook with two barbs); the *luhi* (having a barb on the outside); the *kuu* (a very much incurved hook, used to take the *oio*, etc.); the *hui-kala* (a large hook with two barbs, one without and one within); the *hiu-hio* (a minute hook of mother-o'-pearl, for the *opelu*); the *lawa* which was used for sharks.

22. Such were the names of the fish-hooks of the ancients, whether made of bone or of tortoise shell (*aa*). In helping to shape them the hard wood of the *pu* and the rough *pahoehoe* lava rock were used as rasps.

23. The *o-o* (shaped like a whale-spade) was an instrument useful in husbandry. It was made of the wood of the *uiei*, *mauana*, *omolemoie*, *lapalapa* (and numerous other woods including the *alakee*).

24. Dishes, *ipu*, to hold articles of food, formed part of the wealth, made of wood and of the gourd; *umake* to receive *poi* and vegetable food; *ipu-kai*, bowls or soup dishes, to hold meats and fish, cooked or raw, with gravies and sauces; *pa-laanu*—platters or deep plates for meats, fish, or other kinds of food; *kuu-uuu*—bottle gourds, used to hold water for drinking. Salt was reckoned an article of value.

25. A high value was set upon the cowry shell, *lele-o*,⁵ and the mother-o'-pearl, *pa*,⁶ by the fishermen, because through the fascination exercised by these articles the octopus and the bonito were captured.

* Sect. 7. Laka is generally spoken of as "Laka of Kipahulu, the son of Wahiloa." There is a very interesting legend about him relating to the building of a canoe in which he sailed to discover the bones of his father.

† Sect. 8. Luannu—like the Aikanaka, Puna, Hema, Kahai Wahiloa, and Laka—is celebrated in New Zealand traditions.—W. D. A.

‡ Sect. 13. There was a Maui Paumakua, with whom Malo has evidently confounded this one of Oahu. They belonged to different lines. The deeds of the Oahu king seem to have been appropriated by the bards who, in later times, sang the praises of the Maui man. As claimed by Formander in "The Polynesian Race," vol. 2, pp. 24-27, the Oahu Paumakua was a great traveller. His exploits are embellished by the bards in high flown language.

O Paumakua, ka lani o Moenaimua,
O ke aili nana i hele ke Kahiki,

A Kahiki i ke kaisaken,

O mima, o momi, o ka mamio.

O ka ia mailoko, o ka Auakahinu

were Auakahinu

And Auakamea, the high born.

These captives (fish, *ia*) whom Paumakua brought with him were said to have been white men and priests. They are described as "ka haole nui, maka alohilohi, ke a alohohole, maka aa, ka puaa keokeo nui, maka ulaula" (foreigners of large stature, fat cheeks, bright eyes, ruddy and stout). The introduction of circumcision is, by some, ascribed to Paumakua.

† Sect. 14. Haho was the son of the Maui Paumakua. He is distinguished as the founder of the *aha-ahii*, college or assembly of chiefs, admission to which was very strictly guarded and was granted only to those who could prove their royal ancestry.

CHAPTER 63

KALAPANA

1. We have the following scanty traditional information regarding Kalapana. The above-mentioned messengers returned from their visit to Kanipahu; they reported to Paao, the commands of Kanipahu.
2. And when Paao had received the message, he went in search of Kalapana. On his arrival at Waimanu Valley, Paao inquired of Alaikauakoko, "Whereabouts in Waimanu lives the son of Kanipahu?"
3. Alaikauakoko, however, kept Kalapana in hiding and would not reveal where he was, fearing that search was being made for him to kill him, and she replied to Paao, "Kanipahu has no son here." "He has a son," said Paao, "where is Alaikauakoko?" "I am Alaikauakoko," said the woman. Then Paao explained, "Kanipahu has advised me that his son, Kalapana, is here with you."

4. Thereupon Alaikauakoko yielded and presented Kalapana to Paao.

5. Then Paao took Kalapana away with him into Kohala, and there they lived secretly together; and they and the people sought for an opportunity to put Kamaiole to death.

6. By and by, when Kamaiole was about to voyage by canoe to Kona, they thought they saw their opportunity to kill him while he was boarding his canoe. The nature of this opportunity will be evident from the fact that it was a principle of royal etiquette in ancient times that the canoes bearing the royal party should tarry until the canoes of the people had started out to sea before the king's canoes left the beach.

7. So the people and Kalapana secretly awaited the king's movements. Arriving at Anaeboomala, in Kekaha, Kona, they spent the night; and at daybreak the next day all the canoes started off, leaving those of Kamaiole behind.

8. Thereupon Kalapana and his people set upon Kamaiole and put him to death, and the government passed to Kalapana. Kalapana was nicknamed Kuu Ioio Moa, after the expression used by his father, Kani-pahu. No further tradition has been preserved in regard to Kamaiole (*sic*).

CHAPTER 64

KALAUNUIOHUA

1. It is said that in the reign of Kalaunuiohua there lived a prophetess, or *kauia*, of great power named Waahia.
2. Kalaunuiohua had frequently sought to put her to death, but without success. She had been thrown into the sea, beaten with rods, and rolled down steep declivities; but still she survived, and the king's patience became exhausted because she would not die.
3. Then this prophetess said to Kalaunuiohua, "Do you really wish me to die?" "Yes, that is my wish," said the king.
4. "I shall not die if you attempt to put me to death at any other place save one," said the woman. "If you are in earnest in your wish to kill me, thrust me into the *heiau* and burn me up with the temple, then I shall die." The *heiau* she meant was at Keeku in Kona.
5. "On the day you set fire to the *heiau* to destroy me, you must stay quietly in the house from morning till night and by no means go out of

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doors. If the people make an outcry at some portent in the heavens you must not go out to look at it.

6. "Nor must you open the doors of the house in order to observe the heavenly phenomenon. If you do so, you will die. You must wait patiently all day in the house, and only when night comes may you go out of doors. In this way will you and your kingdom be saved from destruction. But if you do not obey my injunctions, disaster will fall upon you and your kingdom.

7. "My god, Kane-ope-nui-o-alakai, will afflict you and your kingdom because of your disobedience to his wishes (*e like me ke akua*). He has granted your desire. I die by your hand." Thus ended her speech.

8. Then Kalauniuhua had the woman burnt with fire, and the smoke of the burning *keias* went up to heaven and took the shape of two game-cocks that fought together in the heavens.

9. When the people saw this portent, they raised a great shout, and Kalauniuhua asked, "What means this great uproar?" The answer was "It is a cloud in the heavens that resembles two cocks fighting." "I will look at it," said Kalauniuhua.

10. "The prophetess strenuously commanded you not to look lest you die," said his men, and the king yielded. Then that appearance passed away and another portent made its appearance.

11. The same smoke cloud assumed the shape of a pig which moved about from one place to another in the heavens. Again the people raised a great shout, and again Kalauniuhua declared his wish to look; but his people entreated him not to look out until the thing had disappeared from the heavens.

12. After this the clouds took on a singular appearance, some were white, some glistening, some green, yellow, red, black, blue black, black and glistening; and the sky sparkled and flashed with light. Again the people raised a shout and again Kalauniuhua wished to look, but his men restrained him.

13. When it came evening and the sun was about to set, two clouds resembling mudhens flew down from the heavens and, having alighted close to the end of Kalauniuhua's house, stood and fought with each other, at the sight of which the people again raised a tremendous shout.

14. Kalauniuhua had now become greatly excited and could no longer master his impatience. He reached out his hand to the side of the house and tearing away the thatch gazed upon the mudhens (*alae*) of cloud.

15. Then the prophetess took spiritual possession of Kalauniuhua's hand. The deity that inspired was Kane-nui-akea. Kalauniuhua became very powerful, he had only to point with his hand and direct war against another country and that country would be at his mercy.

16. Kalauniuhua pointed hither to Maui (*kubi mai*), and began to wage war against Kamaluohua, king of Maui; and he defeated him and added Maui to his possessions.

17. Kamaluohua was not put to death, but appointed governor of Maui under Kalauniuhua.

18. After that Kalauniuhua pointed to Molokai; and he made war on Kahakuohua, and having defeated him, he appointed Kahakuohua governor of Molokai under himself.

19. The hand of Kalauniuhua next pointed at Oahu; and he made war on Huaipoulei and overcame him, after which he made that king governor of Oahu.

20. His hand pointed next towards Kauai, and he waged war against that island, a war which was called Ka-welewele-iwi.

21. When Kalauniuhua sailed on his campaign against Kauai to wage war upon Kukona, the king of that island, he was accompanied by Kamaluohua, Kahakuohua, and Huakapoulei (kings subject to him).

22. After the arrival of Kalauniuhua at Kauai, the deity (good luck) deserted that king's hand and took possession of Kaulia, a man of Kauai. The hand of Kalauniuhua lost the magic power it once had when it pointed.

23. In the battle with Kukona, king of Kauai, Kalauniuhua was defeated; but his life and the lives of his allies, the Hua, were spared.

24. Kalauniuhua and the other Hua lived peacefully on Kauai with Kukona and were treated by him with all kindness.

One time when Kukona was spending the day apart from his own people, with these captive Hua about him, he was taken with a desire for sleep. He rolled himself in his blanket and lay down, but did not fall asleep (he was setting a trap for them) but was all the time alert and watching them from beneath his covering.

25. Kalauniuhua and his fellow captives supposed that Kukona had really gone to sleep, and they began to grumble and find fault with Kukona and to plot against his life, at which they of Oahu, Molokai, and Hawaii nodded assent, agreeing that they should turn upon Kukona and put him to death.

26. But Kamaluohua, the king of Maui, said, "Let us do no hurt to Kukona, because he has been kind to us. Here we are in his hands, but he has not put us to death. Let us then treat him kindly."

27. Just then Kukona rose up and said to them, "What a fine dream I've just had while sleeping! I dreamed all of you were muttering and plotting my death; but that one," pointing to Kamaluohua, "defended me and preserved my life."

28. They all acknowledged the truth of his accusations. "Because, however, of Kamaluohua's kindness," continued Kukona, "and because of his determination that no evil should be done to me, because he appreciated that life and the enjoyment of peace were great blessings, I will not trouble you."

29. "Because Kamaluohua did right, I now declare all of you free to return to your homes with the honors of war (*me ka lanakila*), taking your own canoes with you. Do not think I shall oppress you in your own lands. Your lands shall be your own to live in as before."

30. So Kalaunuihohua returned home to Hawaii; Huaipoulei, to Oahu; Kahakuohua, to Molokai; and Kamaluohua, to Maui. And they lived peacefully in their own homes. This peace was called *ka lai loa ia Kamaluohua*, the long peace of Kamaluohua.

31. Kamehameha I² had this affair of Kukona's in mind when he allowed Kaumuali'i to live at the time he met him in Honolulu, Oahu.

32. There is a lack of traditional knowledge of Kuaiwa and of Kahoukapu; but of Kauholanuihahua tradition gives us some information.

NOTES ON CHAPTER 64

¹ Sect. 16. It may be inferred from the use of the word *ma'i* (hither) that David Malo himself lived on Maui at the time of writing this.

² Sect. 31. This statement of David Malo is entirely contrary to the truth. Kamehameha basely plotted to take the life of Kaumuali'i by poisoning him at a feast given in his honor when that noble king (Kaumuali'i) had come to Honolulu on an errand of peace. The life of Kaumuali'i was saved only by the interference of Isaac Davis, who warned the king of Kauai of his danger. For this act, Isaac Davis was afterwards poisoned.

CHAPTER 65

KAUHOLANUIHAHU

1. There was a king named Kahoukapu, whose wife was barren, so they had no children.

2. But being very desirous of offspring, she went to consult with Paao, the priest, about it. "Here I am," said Paao. "What shall I do to beget a child?" asked Laakapu.

3. "You must go and fetch a fish as an offering to the deity for yourself," said Paao. Then she went away, and having obtained a fish, returned to Paao, saying, "Here is a fish for the deity." "What sort of a fish is it?" asked Paao.

4. "A *wehe*," said Laakapu. "Throw it away," said Paao, "the deity will not eat such a fish as that. It is like a rat. It's full of bones; so is a rat. It has a beard; so has a rat. It is lean; so is a rat. Go and fetch another fish."

5. Laakapu then brought another fish to the priest. "What fish have you?" asked Paao. "It is a *moi*," she answered. "Throw it away," said he. "It is a rat, the rat Makea. It lives in sea foam (*kaua-kai*); the rat makes his covert in the house thatch (*hau-kole*); the *moi* has whiskers; so has mister rat. Bring another fish."

6. Then Laakapu got another fish and brought it to Paao, who asked, "What fish have you?" "A squid," "Fling it away," said he; "it is the rat Haunawelu. He lives in holes under the ocean. Mr. Rat lives in holes in the rocks. Mr. Squid has arms (*ave*); Mr. Rat also has a tail. Fetch another fish."

7. Laakapu then brought a *maomao*; but Paao declared it also was a rat. Laakapu, now discouraged and out of patience, said to Paao, "Tell me what sort of a fish you want." "A *paoo*, that is no rat," said he.

8. Then Laakapu brought a *paoo* to the priest, and in answer to his question as to what the fish was she answered, naming the fish, and then, obedient to his demand, gave it to him.

9. Then Paao offered the fish as a sacrifice to the idol deity with the prayer, "Grant a child unto Laakapu." And in due season Laakapu gave birth to a child. But it was of doubtful sex, and she named it Kauholanuihahua.¹

10. On the death of Kahoukapu, the kingdom passed into the hands of Kauholanuihahua. After reigning for a few years, Kauholanuihahua

Treasures of the Pacific



Feather Temple, Hawaii
Museum für Völkerkunde, Vienna



Bone Club (detail), Nootka Sound
University Museum of Archaeology
and Ethnology, Cambridge

“Artificial Curiosities” of the 18th Century

Being an Exhibition
and Exposition
of Native Manufactures

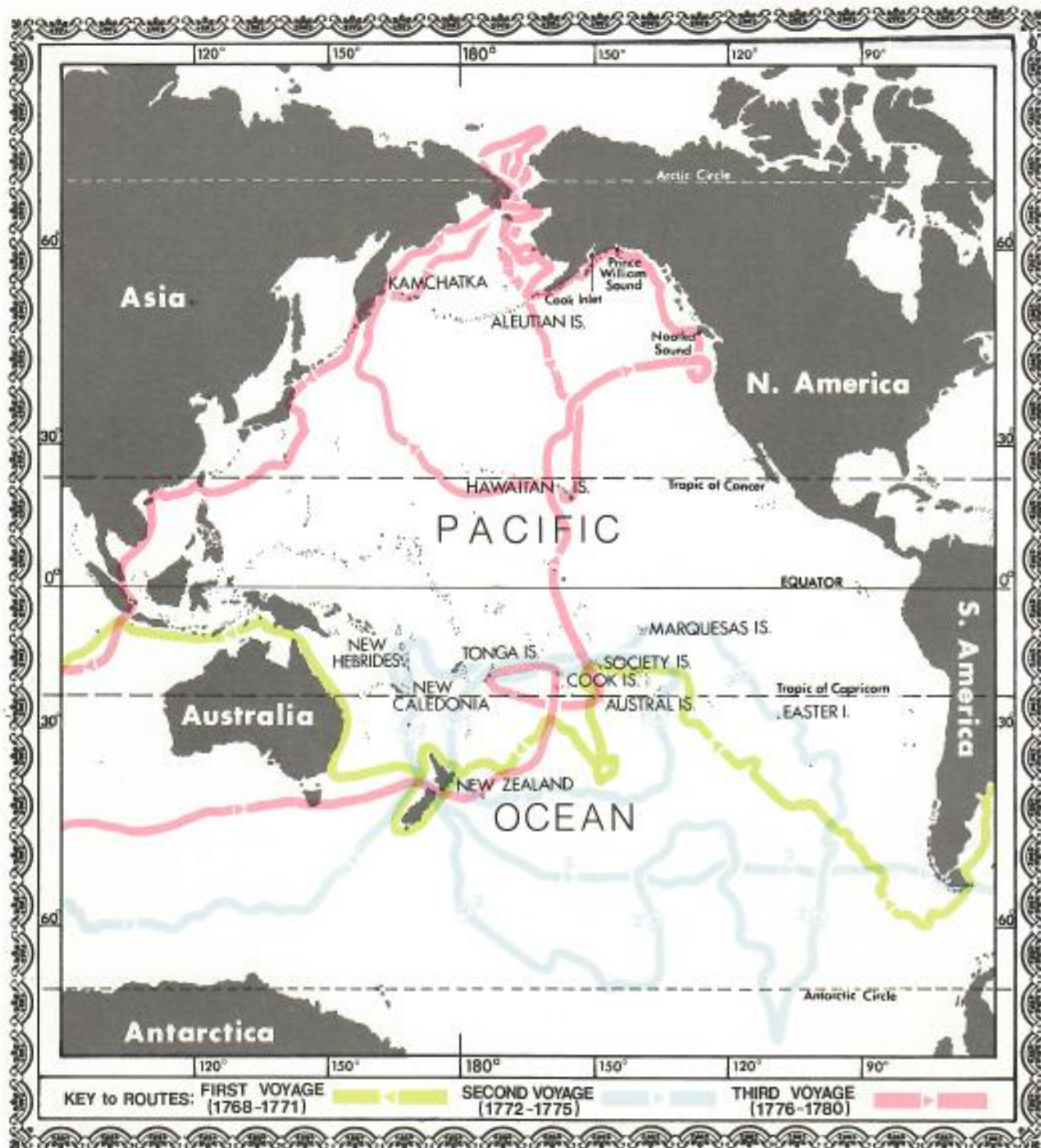
Collected on the
Three Pacific Voyages
of Captain James Cook, R.N.

BERNICE PAUHI BISHOP MUSEUM
Honolulu, Hawaii
January 18 to August 31, 1978

“Artificial Curiosities” is the 18th century term for ethnographic artifacts.

LIBRARY

The Voyages Of CAPTAIN COOK



Front cover: Feathered temple, Vienna 203 Height, 53 cm
Bone club (detail), Cambridge 21.567.1 Total length, 60 cm

Back cover: Hawaiian wicker fan, Vienna 142 Height, 40 cm

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Introduction

Two hundred years ago, on January 18, 1778, Captain James Cook sailed into Hawaiian waters. The term "discovery" for this event is a reflection of the European point of view; clearly, the existence of Hawaii and Hawaiian culture was independent of such recognition. This, Cook's third voyage into the relatively uncharted world of the Pacific, was to be his last. The accounts of Cook and others in his company revealed to the Western world a myriad of Pacific cultures. Their journals, and the accompanying sketches, engravings, and watercolors, describe for us today details of 18th century Pacific Island cultures as they were at the advent of contact with the Europeans, at the point of "no return." Valuable as these documents are, however, the most pure expression of the cultures encountered by Cook is found in the objects made and used by the Pacific peoples. Either bestowed as gifts to Cook, his officers and men, or traded to them for European goods, many of these articles became part of European "cabinets of curiosities." In the 18th century,

when terms such as "ethnographic" or "artifact" did not exist, exotic man-made objects were called "artificial curiosities"—"curiosities" because they were so unlike European objects of the same period, and "artificial" meaning "man-made" to distinguish them from the "natural curiosities," such as botanical specimens, that were also prized by collectors. The artifacts speak for themselves, however, as a tribute to the peoples and cultures that existed long before Cook dreamed of sailing into the Pacific. We may be grateful to Cook and to those who sailed with him for gathering the materials that form the present exhibition, so that we may today at least glimpse the world of Hawaii and Polynesia at the time of first contact with Europeans.

This publication is intended only as an introduction to the "Treasures of the Pacific" exhibition. Material has been adapted from Adrienne Kaeppler's definitive catalog of artifacts collected on the Cook expeditions, *Artificial Curiosities*, Bishop Museum Special Publication 65.

Captain James Cook, R.N.

James Cook was born in 1728 in Yorkshire, England. He spent his early years as an apprentice to a coal shipper, and in 1755 joined the Royal Navy. His survey work on the St. Lawrence River and along the coasts of Newfoundland and Labrador earned the respect of the Admiralty. His first Pacific voyage (1768-1771), in the *Endeavour*, was made to observe the transit of the planet Venus at Tahiti, discovered for the Western world by Captain Samuel Wallis in 1767. After leaving Tahiti, Cook discovered other islands of the group and named them the Society Islands. Sailing south in search of an alleged great southern continent, Terra Australis Incognita, Cook encountered Rurutu in the Austral Islands and then sailed to New Zealand, charting it as two large islands, rather than as a single large continent as previously believed.

Searching again for the southern continent, Cook's second voyage (1772-1775) was made with two ships, the *Resolution* and the *Adventure*. Although this expedition convinced Cook that the great southern land mass did not exist, he discovered and rediscovered many islands—Easter Is-

land, the southern Marquesas, Manuae and Palmerston, Niue, the Tongan groups of Tongatapu and Ha'apai, and the Melanesian groups of New Hebrides and New Caledonia. In addition, he recorded and brought back to England a wealth of information concerning the Polynesian people.

The third voyage (1776-1780), in the *Resolution* and the *Discovery*, was undertaken to look for a Northwest Passage from the Pacific to the North Atlantic. On this trip, after again visiting Tahiti, New Zealand, and Tonga, Cook found the Hawaiian Islands, naming them the Sandwich Islands after Lord Sandwich, his patron and the First Lord of the Admiralty. He then sailed north and spent almost a year off the Pacific coast of North America and the Bering Strait; because of the vast amount of ice, he concluded that there was no Northwest Passage. The ships returned to the Hawaiian Islands, where Cook was killed in a tragic misunderstanding on February 14, 1779. The *Resolution* and the *Discovery* sailed north to the Bering Strait and then south to Kamchatka before returning to England.

Cook's Legacy

In the course of his explorations, Cook made the first reliable map of the South Pacific, and his ships brought back numerous artifacts and natural history specimens. The ethnographic specimens that concern us here were collected by Cook, his officers, crew, and supernumeraries; all, however, are commonly referred to as "Cook" pieces. When taken to England, these objects were given to patrons of the voyages, to British collectors, and to museums. Some were sold, and others were retained by their owners and inherited by their descendants.

In 1969 Adrienne L. Kaeppler of B. P. Bishop Museum began research to identify and locate the ethnographic specimens that had been collected on Cook's three voyages. Tracing the items has involved an arduous search through documents such as sale catalogues, guides to early collections, correspondence of collectors, drawings made in early museums and collections, published and unpublished drawings made on the voyages, and engravings made for the official accounts of the voyages. Artifacts collected on Cook's voyages are the earliest objects from the Pacific for which we have positive identification. Although collections were made on voyages before Cook's, only some pieces of Tahitian

bark cloth, collected by Bougainville, have been identified from this earlier period. Positive documentation of specimens as originating from the voyages of Cook allows establishment of a reference point for the status of Pacific material culture at the time of European contact, providing a foundation for analysis of post-European change.

During her eight years of research, Dr. Kaeppler has traced more than 2,000 artifacts to collection on Cook's voyages. The present exhibit includes more than 400 of these objects, from private and institutional collections all over the world, assembled in one place for the first time.

This exhibition, however, is not a summary of Pacific ethnography at the time of the voyages of Cook, but an exposition of objects collected on those voyages. It is not an exhibition of Pacific art, but a gathering of native manufactures that individuals on Cook's voyages managed to obtain. Indeed, it is not an exhibition in honor of Captain Cook the explorer-navigator, but rather an exhibition that acknowledges and honors the achievements of Pacific peoples as they were before the impact of Cook and others of the Western world irrevocably changed their lives.

Funding and Support

This Exhibition is supported by a Federal Indemnity from the Federal Council on the Arts and the Humanities

National Endowment for the Arts

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Fulcher Collection, Florida
John H. Hauberg, Seattle, Washington

HAWAIIAN ISLANDS



1. Feathered helmet, British Museum VAN 236 Height, 23 c



2. Ivory turtles, Sydney H 151 Length, 2.2 cm

3. Feathered cape, Sydney H 104 Length, 61 cm

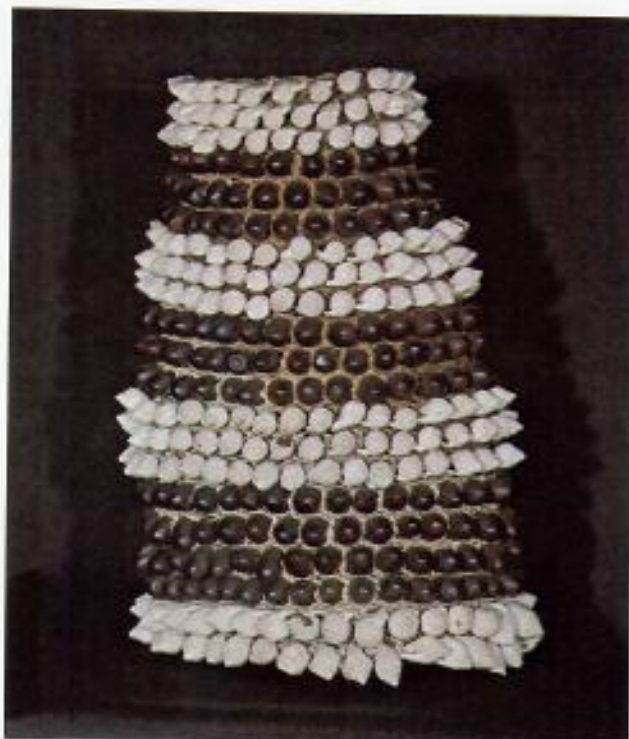




4. Shell and seed necklace, British Museum Q 77.Oc2
Length, 45 cm



5. Hafted adz, Leningrad 505-28 Length of blade, 22 cm



6. Leglet of shells and seeds, Vienna 192
Height, 23.5 cm



7. Bark cloth, Vienna

HAWAIIAN ISLANDS



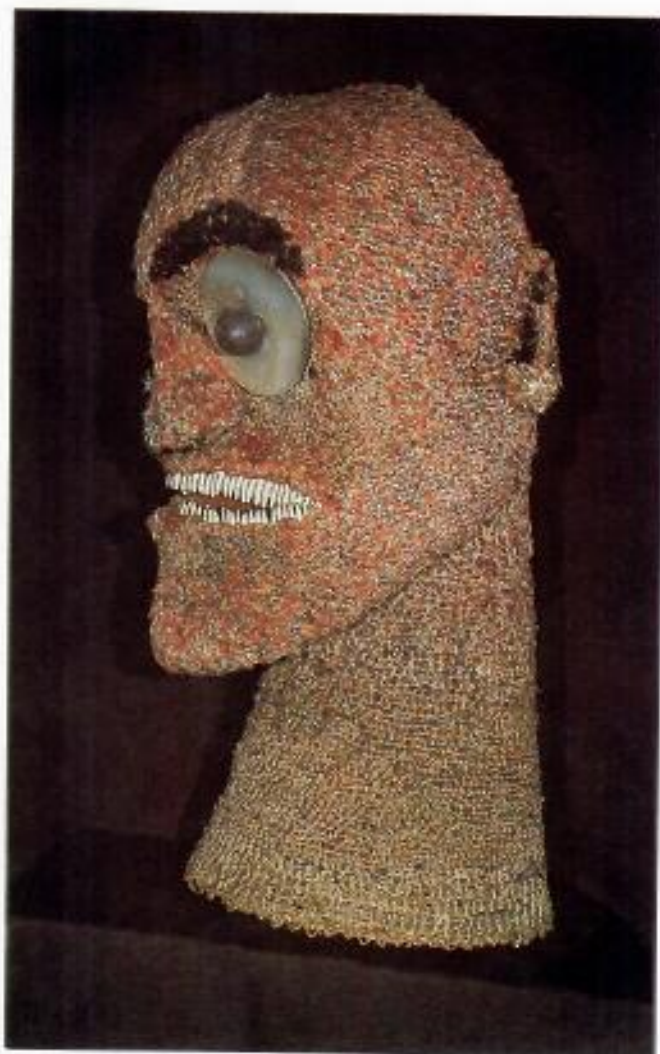
8. Shark hook, Leningrad 505-24
Length, 36 cm

9. Feathered cloak, Wellington FE. 327 Length, 152 cm





10. Dagger, Bishop Museum
1973.275 Length, 62.5 cm



11. Feathered image, Vienna 202 Height, 56 cm



12. Pōhaku drum, Glasgow E 367 Height, 20.5 cm

SOCIETY ISLANDS



13. Food pounder,
Stockholm 1799.2.7
Height, 18 cm

14. Gorget, Leningrad 505-10 Width, 63 cm





15. Mourning dress,
Bishop Museum 1971.198.01



16. Canoe bailer, Cambridge 1914.28 Length, 44 cm



17. Neckrest, Stockholm 1799.2.52 Length, 33 cm

MARQUESAS ISLANDS



18. Sling, British Museum Q 77.Oc9 Length, 245 cm



19. Fan, Stockholm 1799.2.28 Width, 45 cm



20. Headdress, Dublin 1882.3682 Height, 23 cm



22. Drum, Dublin 1882.3637 Height, 130 cm



21. Fly whisk, Vienna 143 Length of handle, 33.5 cm

23. Wood carving, Cambridge 1914.35 Length, 51 cm



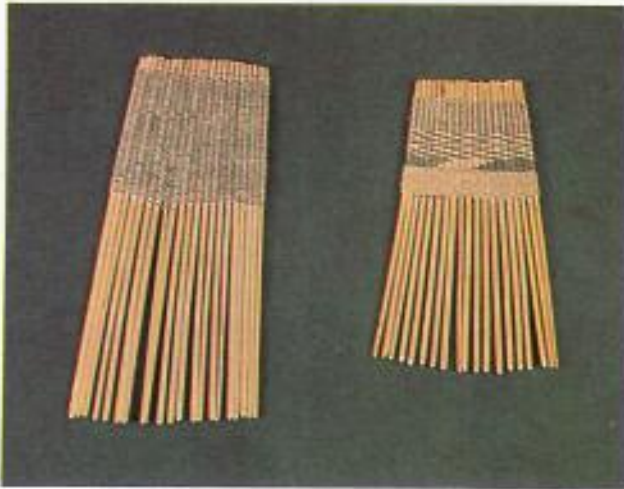
TONGA



32. Ivory image, Vienna 146 Height, 6.2 cm



33. Tattooing needle, Cambridge 22.928a
Length, 12 cm



34. Two combs, Stockholm 1799.2.12 and .13
Lengths, 13 cm, 10.5 cm



35. Basketry covered wooden bucket, Vienna 55
Height, 27 cm



36. Trolling hook, Stockholm 1799.2.19 Length, 15.5 cm



37. Octopus lure, Vienna 49 Length of lure, 8.5 cm



38. Necklace, Stockholm 1799.2.30 Length, 130 cm



39. *Kato masi haka* basket, Stockholm 1799.2.33 Length, 53 cm



40. Food hook with disk, Stockholm 1799.2.9
Diameter of disk, 32 cm

EASTER ISLAND



41. Carved wooden hand, British Museum EP 32 Length, 31 cm

NEW HEBRIDES

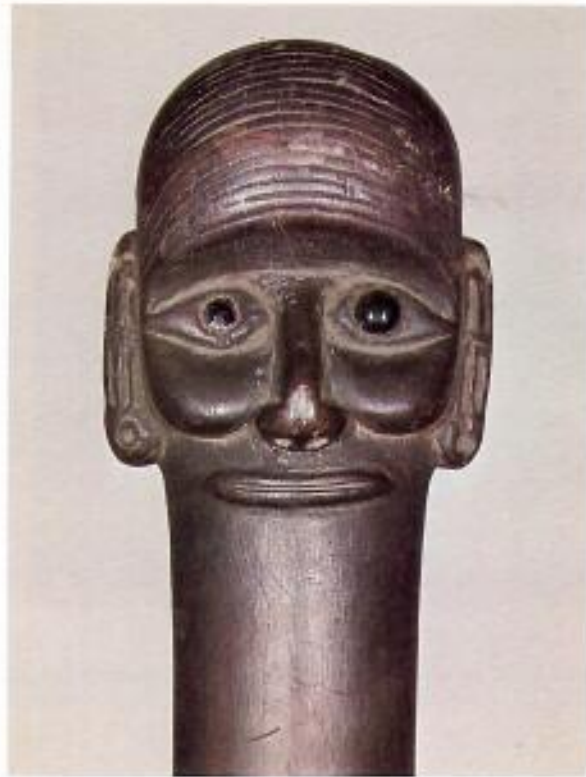


43. Panpipe, Sydney H 112 Length, 19 cm

NEW CALEDONIA



44. Club, Stockholm 1799.2.48 Length, 57.5 cm



42. Stave (detail), Exeter E 1216 Total length, 109 cm Width, 6 cm



45. Spear thrower, Sydney H 119a Length, 22 cm



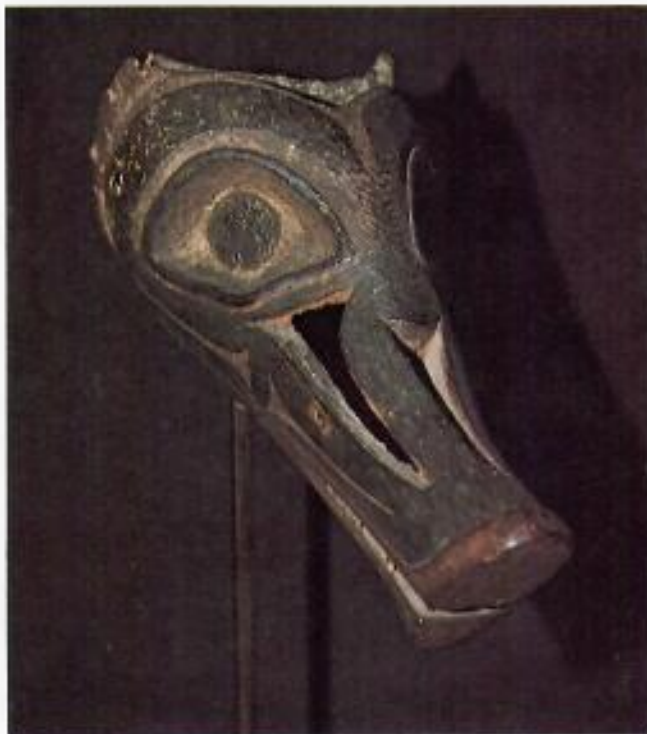
46. Bowl, British Museum 1971.Am5.1 Length, 19.7 cm



47. Hat, Edinburgh 1956.658



48. Bone beater, Glasgow E 370 Length, 25.5 cm



49. Wolf mask, Bennet Coll. Length, 26 cm



50. Wood sculpture, British Museum NWC 62 Height, 16 cm

NOOTKA SOUND



51. Halibut hook, Vienna 231 Length, 37 cm

PRINCE WILLIAM SOUND AND COOK INLET



52. Bone figure, Cambridge 21.567.2 Height, 19 cm



53. Horn scoop, Cambridge 22.951b Length, 22.5 cm

Artifacts Exhibited

HAWAIIAN ISLANDS

Feathered image, Vienna 202 [11.]*
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 Feathered temple, Vienna 203 [Front Cover]
 Feathered "apron," Dublin 1882.3904
 Feathered "apron," Leningrad 505-15
 Feathered cloak, Wellington FE 327 [9.]
 Feathered cape, Sydney H 104 [3.]
 Three feathered capes, Vienna 179, 180 and 181
 Feathered cape, London School of Economics
 Feathered cape, Bishop Museum 1977.206.04
 Netting sample for feathered cape, Sydney H 114
 Feathers prepared for use, Leningrad 505-3
 Feathered helmet, British Museum VAN 256 [1.]
 Two feathered helmets, Vienna 189 and 190
 Two feathered helmets, Leningrad 505-7 and 505-11
 Two feathered helmets, Dublin 1880.1676 and 1882.3686
 Helmet of *Yé'ie*, Sydney H 141
 Feathered helmet band, Leningrad 505-8
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 Six feather lei, British Museum HAW 114, VAN 253 and VAN 258
 Two *kahili* with wood handles, Dublin 1882.3692 and .3693
Kahili with bone handle, Wellington FE 329
Kahili with wooden handle, Vienna 204
 Wooden image, New Orleans
 Wooden image, Edinburgh 1950.230
 Wooden image, Cambridge 22.917
 Tabooing wand, Vienna 156
 Tabooing wand, Leningrad 505-6
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 Two pieces of bark cloth, Anon. Priv. Coll.
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 Ivory hook pendant on human hair, Cambridge 22.924
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 Bone hook pendant on human hair, Göttingen OZ 234
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 Necklace of seeds and "*puka*" shells, Dublin 1880.1680
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 Boar tusk bracelet, Leningrad 505-16
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Pūniu drum, Glasgow E 367 [12.]
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 Swordfish dagger, Hewett Coll.
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 Shark tooth implement, Cambridge 22.921
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 Three shark tooth implements, Dublin 1880.1613, 1882.3664 and .3680
 Shark tooth implement, Hewett Coll.
 Shark tooth ring, Sydney H 150
Ihe laumeki spear, Greenwich L 15(92)b
Ihe laumeki spear, Bishop Museum 1977.206.11
 Hafted adz, Exeter E 1224
 Hafted adz, Wellington FE 334
 Hafted adz, Glasgow E 366b
 Hafted adz, Leningrad 505-28 [5.]
 Calcareous limestone adz blade, Göttingen OZ 273
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 Canoe paddle, Vienna 39
 Shark hook, Vienna 45
 Shark hook, Leningrad 505-24 [8.]
 Four fishhooks, Vienna 104-107
 Fishhook (attributed to Hawaii), Cambridge 25.365
 Bone shank of two-piece fishhook, Bishop Museum 1970.221.01

COMPILATIONS OF BARK CLOTH PIECES

Three Shaw bark cloth sample books, one Severson Coll. and two Bishop Museum
 Vellum-bound compilation of bark cloth samples, Hewett Coll.
 Eleven pieces of bark cloth bound in a published account of Cook's Voyages, Bishop Museum
 Framed collection of fifteen bark cloth samples, Edinburgh
 Collection of thirty-eight bark cloth samples, Bishop Museum

TAHITI AND THE SOCIETY ISLANDS

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 Gorget, Hewett Coll.
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*Numbers in brackets refer to illustrations in this volume.

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 Seat, Stockholm 1799.2.54
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 Two food pounders, Vienna 118 and 119
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 Bark cloth beater, Stockholm 1799.2.11
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Wood carving, Cambridge 1914.35 [23.]
 Carved object, Glasgow E 349
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 Drum, Dublin 1882.3637 [22.]
 Bark cloth, Exeter E 1263

MARQUESAS ISLANDS

Headdress, Stockholm 1799.2.26
 Headdress, Dublin 1882.3682 [20.]
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