

# Patterns of Protest: A Hawaiian Mat-Weaver's Response to 19th-Century Taxation and Change<sup>1</sup>

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## ABSTRACT

Hawaiians from Ni'ihau specialized in plaiting *makaloa* sedge mats valued throughout the archipelago for their flexibility and intricate geometric patterns worked in a technique called *pāwehe*. Such mats were luxury items acquired through taxation and tribute by the chiefly class, who used them as bed covers until *makaloa* mats were abandoned toward the end of the 19th century. One of the last examples created was presented to King Kalākaua in 1874 and incorporates a lengthy petition in the Hawaiian language, interwoven in the traditional *pāwehe* technique. It requests relief from burdensome taxes on animals and other oppressive conditions, dramatizing the plight of the Hawaiian commoner in a rapidly changing society.

## BACKGROUND: PARAMETERS OF CHANGE

The 19th century was a time of profound change for the Hawaiian people. Within a very short time after Captain James Cook's discovery of the islands for the western world in 1778, every facet of Hawaiian culture was subjected to powerful forces of transformation. No matter how remote, no individual or part of the island chain was immune from outside pressures and the internal challenges of adaptation to western ways.

Hawaiian political and social life entered a new era in the decade after Cook. Following age-old patterns, only now taking advantage of his privileged access to European guns and advisors, a warrior chief named Kamehameha rose to preeminence on the island of Hawai'i and by 1795 had conquered the entire chain except for westernmost Kaua'i and dependent Ni'ihau, which capitulated in 1810. Thus unifying a loose aggregate of quasi-autonomous and fractious chiefdoms, Kamehameha the Great laid the foundations for the constitutional monarchy that emerged in the 1840s. Based on western precepts, the independent Kingdom of Hawai'i survived for half a century under the rule of his descendants until the nation he had established was overthrown and replaced by the Republic of Hawai'i in 1894. Annexation to the United States followed in 1898.

Paralleling these political changes, customary land tenure based on military conquest, political fealty, and economic tribute gave way during the mid-19th century to western-inspired land reforms and a monetary economy. Known as the Great *Māhele* (division) of 1848, the land reforms failed in the end to achieve their anticipated objective of providing fee simple lands to the average Hawaiian *maka'āinana*, or tenant-commoner; instead, large tracts of land passed

1. An abbreviated version of this paper was presented to the 87th Annual Meeting of the American Anthropological Association, Phoenix, Arizona, 16–20 November 1988.

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from the hands of the chiefs to foreigners, especially as Hawaiians dwindled to a fraction of their precontact number. Ravaged by introduced diseases, the survivors sometimes resettled in villages away from their homesteads. Others were attracted to developing port towns where new opportunities for employment, including maritime adventure outside the kingdom, awaited. These and other factors helped hasten the process of land alienation and change.

The traditional religion and its underlying code of ritual and social behavior, or *kapu*, were repudiated soon after the death of Kamehameha in 1819, as a result of internal events. Congregationalist missionaries arrived from New England in 1820, followed by competing Catholics (1839), Mormons (1850), and other sects. As one consequence of American missionary activities the Hawaiian language was codified into written form, and a society formerly dependent on oral tradition for transmission of cultural values adopted mass education patterned on New England principles of classroom schooling. English began to replace Hawaiian as the language of instruction toward the end of the century, and the native tongue itself entered a long decline toward extinction.

Material culture and the arts underwent equally profound transformations during the century following Cook. The introduction of trade goods, western tools and technology, and new ideas and attitudes, stimulated some of the arts, such as wood carving and the manufacture of *kapa* (barkcloth). However, they flourished only to wither and die after a brief flowering, since they became irrelevant to the metamorphosed society. Other art forms, such as *hula* and featherworking, persisted, albeit in greatly modified form. Suppressed for a time by puritanical elements of the new order, *hula* reappeared publicly in the 1880s— one element of a revivalistic movement that, in re-energized form, is still very much in evidence today. Featherwork, too, was transformed but persists in the 20th century as a viable, contemporary folk art.

### MAKALOA SEDGE MATS

This paper focuses on another material art unique to the Hawaiian Islands—the *makaloa* mat—and on a particular mat of historical significance. In the past, Hawaiians plaited a great variety of mats for sleep, clothing, the household, and other uses, such as canoe sails. Mats were made from a sedge called *makaloa*; *lau hala* (pandanus leaf); a bullrush (*Scirpus* sp.), called variously *aka'akai* (O'ahu), *nānaku*, *naku*, or *kalahua* (Hawai'i), or *neki* (Kaua'i); and a few other materials (Buck 1957:113; Kamakau 1976:105; Malo 1951:49).

Cook saw such mats on reaching Kaua'i in February 1778 and pronounced them “both strong and fine and some are neatly coloured” (Beaglehole 1967:I:283). His companion, Captain James King, observed later from Kealakekua Bay: “Their Matts are superiour to the other Islands [to the south], both in fineness, & from the Variety of patterns in them, by working in Streaks of different Colours” (Beaglehole 1967:I:626). And surgeon David Samwell agreed: “They have a great Variety of Matts, some all white but most of them variegated with brown slips running the whole length of them and giving them a very beautiful appearance, these are worn by the Chiefs some times, while the more coarse and thick ones are laid on the floors of their Houses, and made into Sails for their canoes” (Beaglehole 1967:II:1187). Cook's men collected a number of mats, and at least three woven of *makaloa* sedge have survived in European museums (e.g., Barratt 1987:174,176,204; Henking 1957:381–82; Kaeppler 1978a:87, 1978b:12–13,59–60,140–41). The mat discussed here is a poignant mirror of the reactions of the Hawaiian people to the great metamorphosis that occurred during the century following Cook's arrival.

*Makaloa* mats, called *moena makaloa* or *moena Ni'ihau*, are so named because they were made from the *makaloa* sedge (*Cyperus laevigatus*), and primarily on Ni'ihau. This perennial sedge, formerly widespread in lowlands and marshy beaches throughout the islands, flourished especially along the fringes of Ni'ihau's dozen or so intermittent playa lakes, where it apparently was “semicultivated by the old Hawaiians in both fresh and brackish water bogs” (Degener

1946–57). The three largest lakes, concentrated on the low southern plain, are named Hālālī'i, Halulu, and Alieiki. Elsewhere, stands of *makaloa* are known from Kanahā Pond near Kahului on Maui, from Moloka'i, and from several places on Hawai'i and O'ahu as well as Kaua'i.

Ni'ihau is located 17.5 mi sw and in the lee of Kaua'i. Only 18 mi long by 6 wide, or about 72 sq mi, the island is 1,281 ft above sea level at Pānī'au Hill. Annual rainfall, measured at Ni'ihau Ranch headquarters at Ki'eki'e, ranges between 18 and 26 in. and is irregular and unpredictable, so the island has no permanent streams (Stearns 1947:3). Nevertheless, Ni'ihau was famous in the late 18th and early 19th centuries for its yams and produce, and "celebrated for the beautiful mats manufactured by its women" (Wilkes 1844:I:69). Because of its susceptibility to drought, the paper mulberry plant cultivated for barkcloth throughout Hawai'i and most of Polynesia did not flourish on this normally dry and windswept island; consequently, as anthropologist Peter H. Buck speculated, the people of Ni'ihau specialized in plaiting the *makaloa* sedge as a substitute source of fabric (*Honolulu Advertiser* 1944; *Honolulu Star-Bulletin* 1944).

Soft, flexible, and finely plaited, *makaloa* mats were prized far and wide as sleeping mats; Buck (1957:132) considered them to be "the finest sleeping mats in Polynesia." They were piled upon the coarser rush and pandanus mats (sometimes mixed with sweet-scented ferns and grasses) to make the traditional Hawaiian bed, or *hikie'e*—and later appeared as spreads on western-style bedsteads. (Actual bed coverings were usually of barkcloth, in historic times the distinctive *kapa moe* or "sleeping tapas" made from five or more sheets stitched together along one edge.) Ni'ihau mats were prized by the *ali'i*, or chiefly classes, and circulated throughout the archipelago as coveted articles of status and luxury. They figured among the produce collected as taxes at specified times of the year, and as *ho'okupu*, ceremonial tribute presented to chiefs and other dignitaries.

Most *makaloa* mats incorporate bands of variable twills for ornamentation into the body of the plain checkerwork plaiting. The finest were also decorated with red strips overlaid in intricate geometric patterns, parallel and zig-zag lines, and other motifs (e.g., Brigham 1906:78–83, figs. 77–83; Buck 1957:133–34, figs. 89–90). Such colored designs are called *pāwehe*, a generic term applied also to the decorative motifs stained onto gourds—another material arts specialty thought to be restricted to Ni'ihau and neighboring parts of Kaua'i. Hawaiians distinguished *makaloa* mats featuring overlaid *pāwehe* designs from those with decorative twills only, which they called *pākea*, or *moena makaloa pākea*. Having visited Ni'ihau in 1865, William T. Brigham (1892:65–66, 1903:15, 1915:13), later Bishop Museum curator, claimed that "those with colored patterns, moena pawehe, were seldom, if ever, made elsewhere." According to a tradition recorded in the early 20th century, *pāwehe* mats "were the finely patterned mats of Niihau, the kind that were designed by the supernatural woman Pahuīhonu. It was she who taught them how to plait this kind of mat that is renowned to this day, a mat that is soothing to the skin. It can only be bought with much money" (Papiohuli 1913). The expression, "*Moena pāwehe o Ni'ihau* / Patterned mat of Ni'ihau," is a poetic reference to that island and its beautifully figured mats, "famed throughout the islands" (Pukui 1983:236).

### AN INSCRIBED MAT

An obscure news item, discovered in the Hawaiian newspaper *Ka Nupepa Kuokoa* for 2 May 1874, has made it possible to document the origins of a unique *makaloa* mat preserved in Bishop Museum since 1891, but forgotten until recently (BPBM 2570; Fig. 1).

#### A Patterned Mat

Last Monday, Mr. G. S. Gay of Niihau gave King Kalakaua a beautifully designed mat plaited by Kalai, Niihau's most skillful woman in that particular

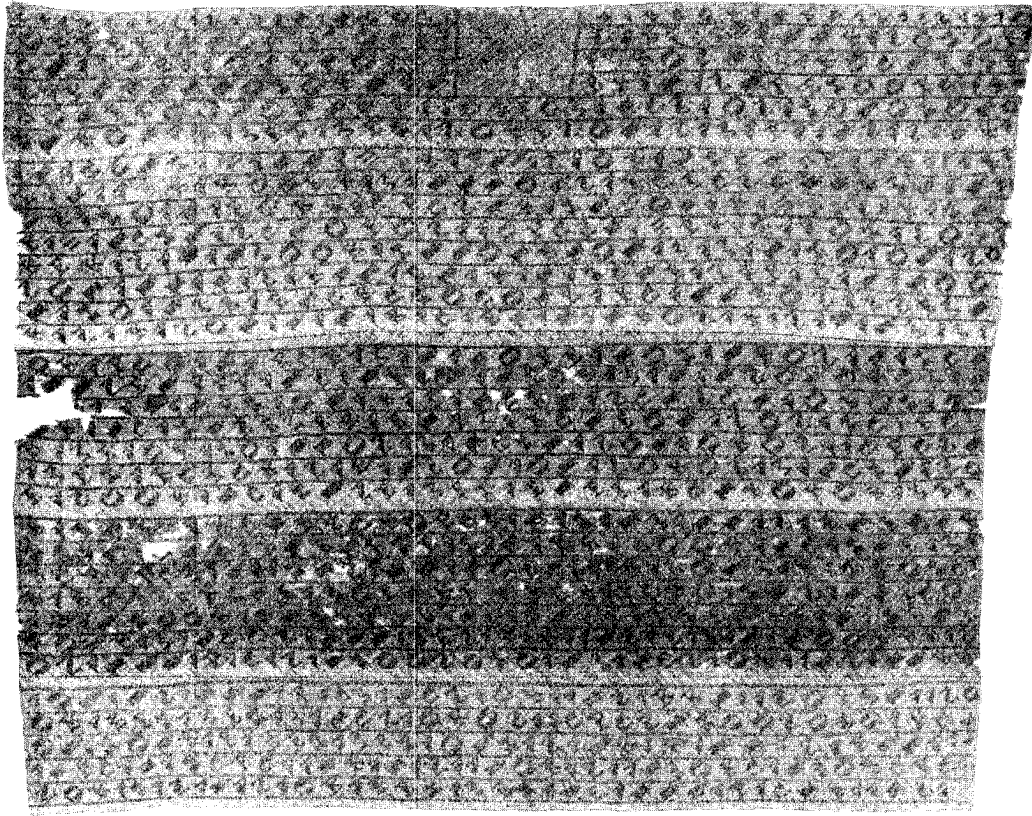


Fig. 1. Hawaiian *makaloa* sedge mat with petition to lift the tax on animals, presented to King Kalākaua in 1874. Text, beginning in lower left corner, has been photographed under ultraviolet light to reveal badly faded letters. (Composite photo by Christine Takata.)

art. The mat was carefully plaited as it was intended for the late King but he is gone and so the gift is given to the present one. It is made with great skill for words are plaited into the meshes. It took eleven months to make. On the tenth month, the worker's husband died and she finished the article they had both labored on. It was sold to Mr. G. S. Gay and that was how the latter obtained it. These were the words plaited into it. . . . (Kuokoa 1874a)

The contemporary English-language *Hawaiian Gazette* (1874a) summarized the inscription “wrought in red letters” as “a petition, praying that the taxes may be removed on all animals, and for other changes in the laws.” Worked in bold, block capitals using the traditional *pāwehe* technique, the lengthy appeal covering the entire front of the mat is, in itself, testimony to the perseverance of its Hawaiian makers.

Except for the inscription, the *makaloa* mat is indistinguishable from others in size, fineness, pliability, materials, manufacture, and technique (but not iconography) of decoration. It is plaited in diagonal check throughout from the flattened tubular stems of the *makaloa* sedge, whose widths of 2–3 mm yield a typical weave of 11 elements to the inch. The mat is rectangular but slightly irregular (probably stretched from hanging): 234 cm across the top, 213 cm at the bottom, 186 cm at the left edge, and 183 cm on the right. It is made in 5 horizontal panels, 31–44 cm wide, neatly joined where the plaiting is doubled in 2–3 cm seams and excess material

trimmed away. Incidentally, adding a complete new set of wefts at one time like this, a general Polynesian technique, proves contrary to Buck's (1957:116) assertion that "in the Hawaiian technique, the new wefts are added singly by overlaying and doubling plaiting as an old weft needs extending; and no regular, continuous join can be observed."

In surviving mats, the glossy outer skin of the *makaloa* ranges through many shades of gold to a rich brown. On this mat the individual panels vary, some appearing lighter or darker overall than others, due in part to natural color variations of the material. The panels also fluoresce differentially under ultraviolet light, indicating that the waxy cuticles protecting the sedge stems may have degraded at different rates through exposure to light over time (Kronkright 1988). (The mat was apparently on continuous exhibition for at least a quarter of a century, first in the old Hawaiian National Museum from 1875 to 1891, then at Bishop Museum for a number of years afterwards.) Coloration within each panel is consistent, suggesting that the batches of raw material used in plaiting individual panels were somehow different: they may have been harvested at different seasons, have come from different sources, or have been subjected to different techniques of preparation or storage. Very little is known about the technology of *makaloa* mat-making and nothing has been recorded to account for these subtleties of appearance.

Now a faded reddish-brown, the letters of the inscription are formed from strips overlaid onto the front of the mat by a technique called *false embroidery* or *imbrication*. In this traditional *pāwehe* method, strips are inserted onto the foundation wefts and warps and folded over and reintroduced into the plait or cut off to form patterns of a solid color. Unable to determine whether *pāwehe* overlays were applied during the plaiting, Buck (1957:133-34) concluded in his analysis of mats in *Arts and Crafts of Hawaii* that "it is quite probable that the smaller motifs were added after the completion of the mat by pushing the colored wefts under crossing wefts." On this mat the letters were most likely added during the plaiting, and undoubtedly a prepared text was followed.

It is usually stated that the material used for *pāwehe* overlays comes from the protective sheaths that grow at the base of the *makaloa* sedge stems, which are naturally red when fresh but turn brown with age or long exposure to light (e.g., Brigham 1892:66, 1903:15, 1906:78, 1915:13; Neal 1965:86). Buck (1957:134) questioned this in his analysis of *makaloa* mats, since he had been informed by botanist Harold St. John "that the sheath of the *makaloa* sedge is not red and that the colored sheath must have been obtained from some other species of sedge." Studying this problem, St. John (1959:162) collected specimens on Ni'ihau in 1947 and 1949 at Lo'e Lake and identified a related Cyperaceae, *Eleocharis calva* var. *australis*, as the plant bearing "the deep red basal sheaths . . . gathered by the native Hawaiians on Niihau and plaited to form ornamental geometrical patterns." St. John concluded that the plant, collected botanically on O'ahu and Ni'ihau as early as 1825, is an endemic variety of *E. calva* that occurs primarily in central and eastern North America. Though uncommon locally, it is "a lowland plant of fresh marshy habitats" up to 120 cm tall and known on Ni'ihau from "the edge of a small lake on the coastal plain bordering the mountainous upland" (St. John 1959:162). On O'ahu, it frequented cultivated lands, especially taro patches, where it was apparently a weed. Now rare on O'ahu, this *Eleocharis* "is well preserved on Niihau, and visible there for a few months after heavy southerly winter rains" (St. John 1959:162). It has also been collected on Kaho'olawe at Luakeālia Lalo.

On Ni'ihau the plant is called *tohetoe* or *kohekohe* (St. John 1959:159, 1982:2), a word applied throughout the islands to all species of *Eleocharis* whether native or introduced (Neal 1965:87; Pukui & Elbert 1971:146). An unpublished compilation of late-19th-century Hawaiian mat terms corroborates St. John's findings. It defines *moena pāwehe* as "a fine mat covered with

designs, made with brown kohekohe grass; only made on Niihau,” and clearly distinguishes *moena pākea*: “made of Makaloa grass like a rush, without any design, on Niihau and at Mokuleia, Oahu” (HEN nd:1:1252). In further support of St. John, the inscribed mat is mentioned in an unpublished historical catalogue of the Hawaiian National Museum prepared by curatrix Emma Metcalf Beckley (1882:13): “Moena Makaloa. Mat of fine rushes. The letters of the alphabet are outlined in weaving by using the reddish brown stem of another species of rush.” Her following entry, a “Moena pakea,” explains: “Rush mat made entirely of the same rushes as those of the groundwork of the former, but woven in different patterns. They are made of the Makaloa rush.”

The inscribed mat, although preserved for over a century in public institutions, has never been discussed in the ethnographic literature. Buck (1957) was unaware of its historical significance or the fact that it had been presented to King Kalākaua. He considered it acculturated and therefore of little interest and thus ignored it in his analysis of mats in *Arts and Crafts of Hawaii*. Brigham (1892:67) merely listed it in his *Preliminary Catalogue of the Bernice Pauahi Bishop Museum* and in *Mat and Basket Weaving of the Ancient Hawaiians* (1906): “2570. 7 ft. x 6 ft. Lettered all over, but the rude letters almost faded out” (Brigham 1906:83). (The letters were deciphered and transcribed several years ago when the present author examined the mat while researching the history and collections of the Hawaiian National Museum.) Bishop Museum catalog records reveal only that the mat was acquired from the defunct National Museum in January 1891, in one of the first collections to be moved into the new Bishop Museum building (Rose 1980:51). Further research identified the mat in a manuscript “Inventory of Articles in the Government Museum” as item 209, “Large mat with interwoven inscription” (Inventory 1891).

Familiarly called the Government Museum, the Hawaiian National Museum was a short-lived precursor of Bishop Museum established by the legislature of 1874 in an attempt to preserve the kingdom’s vanishing material heritage. It opened in mid-1875 under the stewardship of the Bureau of Public Instruction in Ali‘iōlani Hale, a new government office building in central Honolulu. The mat was one of the inaugural exhibits in the fledgling museum and came from a small “curiosity” collection, including several portraits of Hawaiian and foreign royalty, moved across the street from ‘Iolani Palace in preparation for the opening. The mat appears in an early inventory prepared by the first curator, Harvey Rexford Hitchcock (1876): “Mat, Niihau, with petition to the King worked in colors—Palace.” Its history is not given, but the mat is listed on the receipt dated 23 September 1874: “1 Mat, called the Makaloa rec<sup>d</sup> from Niihau” (Receipt 1874).

Reporting the presentation of the mat to King Kalākaua only five months before, the newspaper *Ko Hawaii Pono* (1874) noted that the weaver, Kala‘i, came from Waimea on the island of Kaua‘i. (In the past residents of Ni‘ihau moved back and forth to the adjacent coasts of Kaua‘i, particularly during times of drought.) A few days later *Kuokoa* (1874c) reported that the weaver—then nearly 80 years old—was living in ‘A‘ala, a district of Honolulu. The *Hawaiian Gazette* (1874b) added: “She is a very old woman, one of the few remaining links that connect the present generation with the time of Kamehameha I. She was twelve or fifteen years of age when she saw the old warrior King, and is now supposed to be nearly or quite eighty years old now.” King Kalākaua apparently liked the work of “Niihau’s most skillful woman in that particular art” (*Kuokoa* 1874a), for the *Hawaiian Gazette* remarked: “His Majesty has requested her to work two mats for the Philadelphia Centennial Exposition—one to show the American coat-of-arms and the other the British coat-of-arms, designs of which will be sent to her to copy. Should she execute the order, these will be very attractive specimens of Hawaiian handiwork” (*Hawaiian Gazette* 1874a; cf. *Kuokoa* 1874b). Kala‘i declined, or was unable, to undertake

the commission to help decorate the Hawaiian pavilion for the U. S. Centennial. Unfortunately, little more is known of her, except that her full name was apparently Kala'i-o-kamalino, a name that occurs regularly in some Ni'ihau family genealogies (Tava 1988).

Notwithstanding this sparse, but welcome, background, the assembled newspaper commentaries provide a few invaluable clues to the elusive record of *makaloa* mat-making. That a mat of this size and complexity could be made in 11 months is seemingly contrary to Brigham's (1892:66; cf. 1903:15, 1906:77, 1915:13) assertion in Bishop Museum's *Preliminary Catalogue*: "The fine mats can only be plaited while the sedge is young, hence the time of working is limited to a few months each year, and it is certain that the largest mats of this kind in this collection must have been in the makers hands seven or eight years." While possibly true of the very largest and most finely woven mats—such as a *kihei* (cloak) in Bishop Museum said to have been worn by Kamehameha and which is about 20 by 10 ft and 25 wefts to the inch (Buck 1957:132)—this apparently was not a general rule applicable to all *makaloa* mats. The newspaper accounts do not elaborate on whether the 11 months included time to gather and prepare the *makaloa* sedge, or where and how the raw materials were acquired and worked—Ni'ihau, Kaua'i, or perhaps even O'ahu. That 2 persons—a husband and wife—worked on the mat together indicates that mat-making was not necessarily women's work exclusively. Lacking, unfortunately, are data on the actual division of labor, and whether the husband participated in the weaving itself.

George S. Gay, who presented the mat to King Kalākaua, belonged to the Sinclair-Gay-Robinson family that had purchased Ni'ihau from King Kamehameha V in 1864. A Ni'ihau resident, and an occasional visitor to the family home at Makaweli in the Waimea district of Kaua'i, Gay may have been acquainted with Kala'i or may have known of her reputation as a skilled weaver. Then about 21 years old, he was passing through Honolulu with his younger brother Charles to attend school in Boston, for which they embarked two weeks later on 11 May 1874. The elder Gay returned to Ni'ihau the following year and became resident manager of Ni'ihau Ranch, moving to California about 1891 (Gay 1981:14; *The Friend* 1874a, 1874b; *Pacific Commercial Advertiser* 1874b).

Although intended for another occasion, the mat with its petition nonetheless proved to be a timely gift, for 3 days after receiving it King Kalākaua convened the legislature of 1874. He had been elected to the throne only 10 weeks before, on 12 February 1874, following the death of King Lunalilo a month earlier. Kalākaua had just returned to Honolulu after a series of "royal progresses" to greet his subjects and learn their views on issues facing the kingdom. Presumably it was he who placed the mat in 'Iolani Palace, whence it was moved 5 months later to the Hawaiian National Museum.

### THE INSCRIPTION

The petition is rendered entirely in archaic, Roman capital letters aligned diagonally with the weave and oriented toward the lower left corner of the mat (Fig. 2). Lacking spaces between words as well as punctuation, the inscription is difficult to read under ordinary light, especially where it is badly faded or worn. Except for 2 styles of *M* and other minor idiosyncrasies, the letter shapes are surprisingly consistent. All are angular block capitals with serifs, except for the *I*, which normally has a square dot to help distinguish it from the *L* and its weakly developed leg.

The letters are identical to those in the 1st alphabet and speller introduced by the American mission press in Honolulu in 1822 (*Missionary Album* 1969:101), which was used in island schools for many years. Beginning in 1829 the mission made concerted efforts to establish schools island-wide, and Hawaiians soon attained a remarkable degree of basic literacy as a result. By 1833 10 mission schools existed on Ni'ihau (Tabrah 1987:78). Although Lieutenant

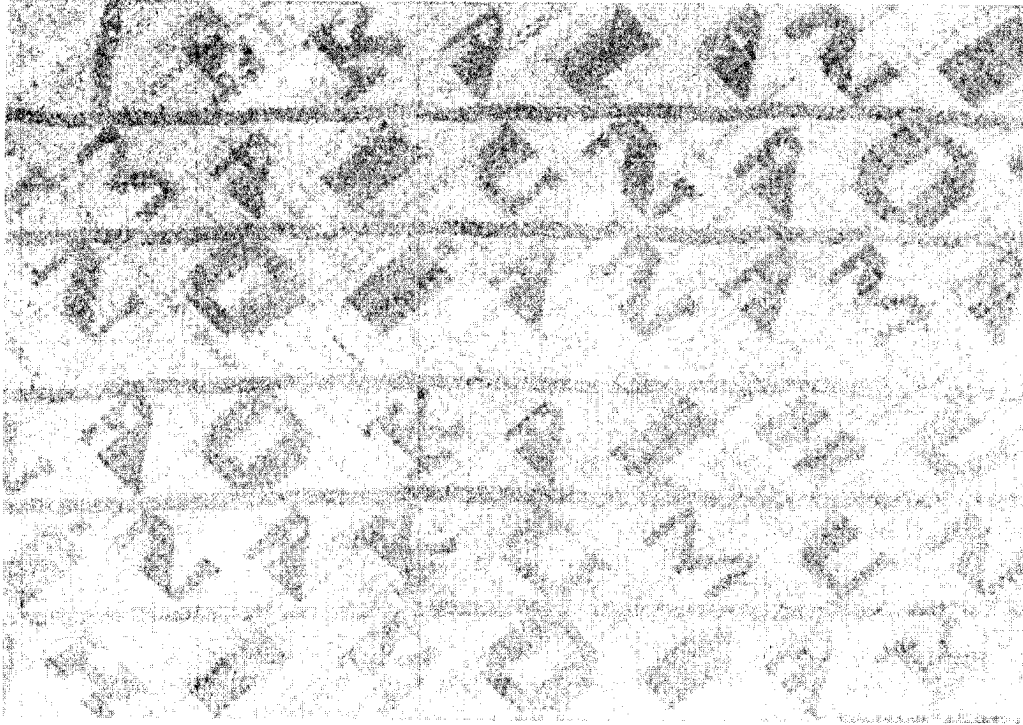


Fig. 2. Detail of lettering on inscribed mat. Text beginning “E Kalani . . .” occurs at lower right corner of the rectangle at top center of mat. Note seam at center where 2 longitudinal panels are joined. Individual strands of *makaloa* sedge can be distinguished in this ultraviolet light photograph. (Photo by Christine Takata).

Charles Wilkes (1844:I:69) of the U. S. Exploring Expedition did not visit, he reported a decade later: “On this island there are two hundred children, about one-third of whom read: these are divided into twelve schools, under native teachers.” Before the practice of tattooing was abandoned, similar letters were sometimes incorporated into tattoos, and words and names cut in the same block letters can still be observed on 19th-century petroglyphs scattered throughout the islands (e.g., Cox and Stasack 1970:53–58, 64, 80–93). Incorporating the written language into a *makaloa* mat is one more example of the creativity of the Hawaiian artisan, and a remarkable adaptation of a traditional decorative technique to an innovative purpose.

The letters on the mat are executed with a uniformity and skill that attest to the expert control of the weaver. They vary little in size from the normal 4–5 cm high by 3–3.5 cm wide, except for those of the very last line, which are only 3 cm high so as not to overlap onto the 2 cm border of double weave finishing the top edge of the mat. The letters are spaced about 1.5–2.5 cm apart; no attempt was made to align them in vertical columns, or to end lines at natural breaks, such as syllables and ends of words. Each line of letters is demarcated by strips 0.5–1.0 cm wide and spaced 4.5–5 cm apart, which are applied in the *pāwehe* technique using colored overlays that extend across the mat from edge to edge, like a sheet of ruled paper. Because of the difficulty in overlaying double sets of wefts and warps, there are no letters or lines on the seams joining the five individual panels, where the strips are about 7 cm apart.

The mat is divided into 29 full lines of text plus 4 interrupted lines at the top. The interrupted lines are separated into 2 equal “columns” by an open rectangle at the top center of the mat, 26 cm wide by 20 cm high, and outlined by the same overlaid strips that separate the lines of



letters. The purpose of this open field is unclear but perhaps it had significance for the maker. Since it occurs near the finish of the mat it may mark, symbolically, the death of the husband after 10 months of joint labor.

Commencing at the lower left corner with the plaiting of the mat, the text reads from left to right and upward. From the end of the 3rd half-line at the top of the mat on the left, the text jumps across the rectangular gap and down 3 lines to the bottom of the right column; it then moves upward 2 more half-lines, returning to the extreme left margin of the mat. The last line, extending in 2 segments across the top of the mat, is narrower than the rest and the letters smaller and cramped. It seems the weaver ran out of space and did not wish to undo the double-weave border and commence another course of plaiting to accommodate the remaining text. Ironically, this compromise left no room for the last letter of her name.

Hawaiian mats after western contact sometimes carried simple messages but rarely, if ever, messages as extensive as this one. Brigham observed in 1906:

After the islanders had learned to read, under the instruction of the American missionaries, the use of letters of the alphabet became common both in tattooing and mat decorating, and mats somewhat resembling the samplers of our grandmothers' days were woven. It soon became common to write affectionate greeting on mats intended as presents to friends, and I have seen a number of these. On sleeping mats I have seen embroidered the inscription "*Kuu ipo, kuu lei, kuu milimili e*" (My darling, my crown, my thing to be gazed upon). It is often difficult to decipher these mat inscriptions, as the technic prevents the use of curves, and the individual letters were of strange forms, and, like the ancient Greek inscriptions, there was not that separation between the words that a modern reader demands. (Brigham 1906:79–80)

Besides the petition, there is record of 1 other 19th-century mat with a lengthy inscription in Hawaiian. Because of its size and proportions, it may have been intended as an altar- or wall-hanging for a church.

Some years ago a native brought to us a Niihau mat three fathoms in length and less than one in width, in which was wrought in red letters the Lord's prayer in Hawaiian. It was beautifully done, and must have cost him many months of labor. We engaged to take it at his price, but before he delivered it, he found a customer who offered him just double what he had valued it at. Such specimens are very rare, and of course valuable. If made by days' work, it would be valued at hundreds of dollars. (*Hawaiian Gazette* 1874a)

At the time of the mat's presentation to King Kalākaua, 2 Hawaiian newspapers printed the text of the petition in full. The versions in *Ko Hawaii Pono* (1874) and *Kuokoa* (1874a) vary in minutiae, but the latter is slightly more faithful (though not precisely identical) to the mat. For the sake of readability, *Kuokoa's* version—including division of the block capitals into upper and lower case, separation of words, and punctuation—is generally followed here. Material in square brackets (mostly alternative syntax or missing letters and other minor lapses on the part of the weaver) does not appear on the mat but occurs in the newspaper versions; material in parentheses (mostly unintentional repetitions or alternative phraseology) occurs on the mat but not in the newspapers. The translation (HEN nd:1:2857) that follows is based on *Kuokoa's* rendering of the text. A poetic expression of protest, the petition is composed in a literary style that employs various grammatical and syntactical constructions not used in contemporary conversational Hawaiian (Ashford-Hirano 1988).

No ka hanai ana o Kamehameha i nalii a pau i ka aina, a i ku ai ahupuaa, [a]i kalana, ai okana, ai moku, ai mukupun[i], oia hoi ka Kamehameha oihana i ka wa i lanakila ai o Kamehameha maluna o kona Aupuni. Hoonoho aku la oia i nalii a pau maluna o ka aina; kela ano keia ano o nalii a pau ana i hoonoho ai maluna o ka aina. Like hoi ka malu o nalii a me na makaainana malalo o ke kanawai hookahi; “Hele ka Luahine a moe i ke ala;” (Hele ka elemakule a moe i ke ala) ku ka puko a hina ilalo, ku ka (pu) maia a hina ilalo; —ninau ka Moi ma ka hooahuahualau i na elele: “Heaha la ke ano o ka luahi[n]e a me ka elemakule?—[He] puko, [he] pu maia?” Hai mai la na Elele i ke ano o ka luahine a me ka elemakule, o ko Kamehameha Kumukanawai no ia—oia no kona maluhia. No ka mea [he] (o ka) hoailona maluhia no ia o kona aupuni. O ka luahine [a] me ka elemakule oia no na hua kumukanawai. [Aole] e hao ia. Ka maluhia nui no ia o ko Hawaii nei Pae Aina i ka wa i puka mai ai. Noloko mai (o ka puwai i puka mai ai) o ke aloha i kona lahuikanaka [i puka mai ai]. Nolaila kau ae la ia i kona kanawai mamalahoa i mea e luku hou ole aku ai i kona enemi.

Nolaila lanakila [a]e la ka lahuikanaka malalo o ke kanawai hookahi i olelo ia, [he] mamalahoa, oia no ka maluhia nui o kona aupuni, a me ka hanohano, hai na hoala no ke aupuni kahiko, (ia) [no] Kameha[meha] Ekahi. E ala ae kakou (e ka mailio) i na kumu nui i emi ai ka lahui Hawaii, a me ka pii ana o ka l[a]hui mua i ka wa kahiko ia Kamehameha no ke noi ana [a na] makaainana i ka Moi e hoololi i ka auhau maluna o na holoholona, pipi, lio, hoki, miula, hipa. Aole loa e koe kekahi o ia ano (i ka)—

E Kalani e:—E hookuu ae ia (m[a]kou ia) makou i na hana kanawai, i ka noho kauwa kuapaa ana malalo o na haku o ka lewa.

Nau na Kala[i]

Kamehameha provided for all the chiefs of the land thus establishing the *ahupua'a*, *kalana*, *okana* land sections and islands. That was what Kamehameha did when he stood at the head of his government.<sup>3</sup> He placed the chiefs over the lands; all kinds of chiefs settled on the land. Chiefs and commoners shared the peace under the one law, “Let the aged sleep on the highway unharmed; let the sugar canes grow till they fall over; let the bananas grow till they fall over.” The king questioned his messengers to find out what they thought, “What are the old women and the old men like? Are they like the sugar cane and banana stalks?” They told him what they were like. That was Kamehameha’s constitution—his peace. Peace was the symbol of his kingdom; the old women and old men, his constitution. There was no ruthless seizing. It brought peace to the Hawaiian Islands when it was issued. It was issued because of his love of the people. Therefore he laid down his Mamalahoa law that there be no more destruction of his foes.

Therefore the people became free under the one law called the Mamalahoa, the giver of the greatest peace in his kingdom, an honor that has come to us from an old kingdom, that of Kamehameha I. Let us rise to study the great cause for the decrease of the Hawaiian people, a large population in the olden

3. An alternative translation for the first 2 sentences, provided by an anonymous reviewer, reads: “In order for Kamehameha to feed all the chiefs from [off of] the land, he established chiefs of the *ahupua'a*, *kalana*, *okana*, *moku*, and *mukupuni*. That was Kamehameha’s business in the time when Kamehameha was victorious over his kingdom.”

days under Kamehameha, and to ask the king to change the taxes on animals, cattle, horses, asses, mules, and sheep and let none of them remain.

O Heavenly One—release [us] from the burden of the law that keeps us slaves under masters from the sky.

By me, Kala'i.

### THE HAWAIIAN POLITY

The prevailing socioeconomic and political conditions that gave rise to this petition have been broadly outlined in the opening section of this paper. Allusions to cultural values and process, and specific complaints about the little-known subject of taxation of animals, require further elaboration, beginning with the petitioners' sentiments linking Kamehameha to the "old kingdom."

Kamehameha generally is credited with bringing peace and prosperity to the islands on gaining control at the beginning of the 19th century. As was custom, he used the system then in existence to redistribute conquered lands. After setting aside those desired for personal use, he awarded vast tracts to close kinsmen of his favored wife Ka'ahumanu. These relatives were also entrusted with critical political and economic offices (Sahlins 1981:57-58). Kamehameha made these allotments on a revocable basis, as in the past, but to a certain extent he allowed the heirs of deceased chiefs to remain on the lands he had previously granted them (Chinen 1958:6). Kamehameha's son Liholiho, who succeeded in 1819 as Kamehameha II, "made only a few changes in the distribution of lands, leaving the great majority of the lands with the chiefs who had been rewarded by his father" (Chinen 1958:6). This may have helped foster the sense of peace and stability under Kamehameha's "old kingdom," expressed so explicitly by the petitioners.

The potential for "ruthless seizing" that was an inevitable adjunct of the old system was not formally abolished until two decades after the death of Kamehameha, when the Hawaiian Declaration of Rights was enacted by the assembled council of chiefs in 1839. Often called the Magna Carta of Hawai'i, this founding document of civil rights proclaimed: "Protection is hereby secured to the persons of all the people, together with their lands, their building lots and all their property, and nothing whatever shall be taken from any individual, except by express provision of the laws" (cited in Kuykendall 1938:160). The Declaration of Rights also stipulated "that no chief may be able to oppress any subject, but that chiefs and people may enjoy the same protection under one and the same law." The Declaration of Rights was made a preamble to the nation's first formal constitution, promulgated by King Kamehameha III on 8 October 1840. It created a bicameral legislature and transformed the government from an absolute to a constitutional monarchy.

Kamehameha's famous Law of the Splintered Paddle, the *Māmalahoe* (or *Māmalahoa*) *Kānāwai*, stems from an incident that occurred early in his campaigns for conquest of the island of Hawai'i (Kuykendall 1938:33-34). According to one popular version, Kamehameha leaped from his canoe the moment it touched shore during a visit or plundering raid to Puna district about 1783 or 1784. Pursuing 2 fishermen, he slipped and caught his foot in a crevice in the lava; 1 of the men turned and struck the helpless Kamehameha on the head with his paddle so forcibly that the paddle splintered. Years later, the confrontation was commemorated in a celebrated law, designed to guarantee the safety of the highways to the innocent and the helpless. It is sometimes rendered: "Let the aged man go and sleep on the road-side, let the aged woman go and sleep on the road-side, and let no one injure or molest them" (Hopkins 1906:85). It is apparent that Kamehameha's law made a lasting impression on the *makaloa* petitioners.

The great population decrease cited by the petitioners, alarming already to the 1st generation

of Hawaiians after Cook, was vividly documented by the earliest censuses and remained a constant source of concern throughout the 19th century. In his first speech as king, which opened the legislature in 1855, Kamehameha IV remarked, "The decrease of our population . . . is a subject, in comparison with which all others sink into insignificance" (Kuykendall 1953:69). King Kalākaua expressed precisely the same sentiment 19 years later in his own inaugural speech to the legislature of 1874: "The subject, however, that awakens my greatest solicitude is to increase my people, and to this point I desire to direct your earnest attention" (*Pacific Commercial Advertiser* 1874a). He recommended modification of the divorce law, continued attention to hygiene through the Board of Health, and special exemptions to those who rear large families. "*Ho'oulu Lāhui* Increase the Race" became one of Kalākaua's prime political slogans, as he continued throughout his reign to call for renewal of the Hawaiian population.

Alarm over the rate of population decrease was clearly justified. At Cook's arrival in 1778 Hawaiians numbered perhaps 250,000 to 400,000, with roughly 300,000 being the figure generally—though not unanimously (Stannard 1989)—accepted today. The 1st American missionary estimate in 1823 put the number at 142,050, while actual censuses of 1831–32 and 1835–36 recorded totals of 130,313 and 108,579 respectively (Schmitt 1973:8). The 1st complete government census occurred in 1850, after which official counts taken at 6-year intervals show the following totals for the 19th century (after Schmitt 1977:25):

Year	Hawaiian/ part-Hawaiian	Total population
1850	—	84,165
1853	71,019	73,137
1860	66,984	69,800
1866	58,765	62,959
1872	51,531	56,897
1878	47,508	57,985
1884	44,232	80,578
1890	40,622	89,990
1896	39,504	109,020

Between 1850 and 1853 (when foreigners were enumerated separately), it is believed that Hawaiians and part-Hawaiians decreased by about 11,000 (Kuykendall 1953:37). In the 19-year interval between 1853 and 1872, when the *makaloa* petition was conceived, total loss in this category was 19,488 or roughly 1,000 per year—approximately 27% of the already reduced Hawaiian people in a single generation. (The combined Hawaiian and foreign population reached its lowest point in about 1875 or 1876, but Hawaiians and part-Hawaiians continued to decrease, with sporadic fluctuations, to a low of 38,547 in 1910 [Schmitt 1977:25].) Besides introduced epidemic diseases to which Hawaiians had no natural immunity, reasons advanced for this staggering decline include "sterility and miscarriages caused by venereal diseases, abortion, infanticide, poor housing, inadequate sanitation and medical care, landlessness, alcohol, tobacco, and emigration" (Schmitt 1973:17). To these should be added a low birth rate and high infant mortality, especially in the years before 1880 when the Board of Health produced its landmark *Sanitary Instructions for Hawaiians* (Gibson 1880). It is little wonder the petitioners entreated their king: "Let us rise to study the great cause for the decrease of the Hawaiian people, a large population in the olden days under Kamehameha."

### THE TAX SYSTEM

The tax on domestic animals, the primary concern of the petition, was among several means "nearest and most convenient" (Castle 1891:63) devised during the mid-19th century to garner

revenues from the *maka'āinana* to pay expenses of the emerging Hawaiian government. In his recent book, *Working in Hawaii: A Labor History*, Edward D. Beechert (1985:26) distinguishes 3 stages of tax collection in 19th-century Hawai'i: "the period of ceremonial collections; secular collections after the overthrow of the traditional religion in 1819; and the centralization of tax collection, which by the 1830s had become personal taxation." Direct taxes on animals were instituted in the 1840s, as an element in the larger question of taxation that faced the kingdom and its subjects.

Under the system that existed during the time of Kamehameha, before abrogation of the old religion in 1819, the primary tax on the *maka'āinana* consisted of conscript labor and a produce tax. By custom, all land was apportioned by the ruling chiefs through subordinate chiefs down to the *konohiki*, a local headman who acted as a kind of supervisor-administrator. In return for use of the land and its resources, the tenant-commoner contributed specified amounts of labor to cultivation for the various layers of chiefs and *konohiki*, and assisted with labor-intensive projects, such as building and maintenance of fishponds, irrigation systems, and *heiau* (ceremonial structures). In addition, annual contributions were levied during certain times of the year, usually October or November during the *makahiki* festival, but the mode and manner varied somewhat on each island (Beechert 1985:26; Valeri 1985). Payments were made in agricultural produce, handcrafted articles consumed by the chiefs, and raw materials, such as feathers of certain forest birds used in the manufacture of luxury articles like feather helmets, capes, and cloaks (*'ahu'ula*). Sandalwood was added to the list of commodities in the early 19th century once its value in foreign trade had become established.

Other specialized payments or ritualized "gifts" called *ho'okupu* were also required from time to time, such as when the ruling chief or "king" traveled in the vicinity. These presentations were often arbitrary as well as burdensome. William Richards, a former missionary and influential advisor to the developing monarchy, commented to Lieutenant Wilkes of the U. S. Exploring Expedition in 1841: "If a sufficient amount of presents was not brought, the people were in danger of having their fields plundered by the marauding parties of the king's attendants" (Sahlins and Barrère 1973:25). Reverend Titus Coan, who labored in the Hilo and Puna districts of Hawai'i, wrote in 1847:

A few chiefish companies passing in quick succession through a poor and remote district, act like swarms of locusts, devouring all sustenance, and leaving famine and starvation behind them. All this is done to make a display and to impress the people with the dignity and importance of the traveler. There is no form of oppression among Hawaiian chiefs and officers which has, on the whole, more pained and disgusted me than this. It is marked with pride, vanity and folly, and a careless, reckless disregard of the interests and happiness of the common people. (Armstrong, Chamberlain & Castle 1848:68)

Richards believed that "under the former kings . . . the royal tax was laid in accordance with a pretty regular system. It was annual, and was assessed by agents of the king appointed for the purpose, and was nearly the same every year" (Sahlins and Barrère 1973:24). The tax on an *'ili*, next in size to the smallest land division and more or less equivalent to the average tenant farm, consisted of 1 hog, 1 dog, 1 fishnet, 1 fishline, 1 cluster of feathers, and 20 tapas—part of which were "nearly square for bed cloths, and a part narrow and long for female dresses" (Sahlins and Barrère 1973:24).

Visiting in 1822–23, English missionary William Ellis (1831:IV:416) wrote: "There is no standing rule for the amount of rents or taxes, but they are regulated entirely by the caprice or necessities of their rulers." Retroactively, the legislature in 1842 did point out that formerly the

government tax on a "common size farm" was "1 Fathom Swine, 40 Kapas, 40 Paus [*pā'ū*, women's skirts], 1 Dog, 80 Fathoms of fish line, and a fish-net 800 meshes in length" (Constitution and Laws 1842:196).

While the old system was still relatively intact, missionary Samuel Ruggles witnessed a tax-paying session on Kaua'i, evidently at Waimea during his first visit in June 1820. The mats he observed there probably were made of *makaloa* sedge but may have included ones of pandanus or other fibers. A part of the tribute, including "about 30 mats" and "upwards of 100 tappers [*kapa*], pieces of native cloth 8–10 feet square," was presented to the missionaries (Damon 1931:248). It was usual, according to Robert M. Kamins (1952:156) in his analysis of the tax system of Hawai'i, that "along the way . . . large portions of the tribute intended for the king often were diverted into the households and treasuries of the landlords, chiefs, and governors, so reducing the revenues of the central government and inducing the king to increase the levy upon the commoners." Ruggles described the scene as follows:

The week past has been a busy time with the natives. The King's rent has been brought in from all parts of the Island and from Onewhow [Ni'ihau], a small island to the westward. It consisted of hogs, dogs, mats, tappers, feathers, pearl fishhooks, calabashes and paddles. This rent is to go to Owhyhee [Hawai'i] as a present to the young King [Kamehameha II]. It was interesting to see the natives come, sometimes more than a hundred at a time, with their loads on their backs, and lay down their offerings at the feet of their great and good chief as they call him. (Damon 1931:247)

Abrogation of the old religion and its supporting *kapu* in 1819 destroyed the system of checks and balances on chiefly abuses and at the same time obviated the basic reason for the customary taxes. "No longer rationalized as an essential part of the political system," Beechert (1985:26) argued, "the continuing collections were, in effect, secularized. The net effect was to convert the political-religious system into a source of material wealth for the chiefs. The traditional tribute became a system of personal and property taxation." As one consequence of these changes, "an intense competition for status developed among the Hawaiian aristocracy. It took the form of ostentatious consumption of foreign luxury goods" (Sahlins 1985:141).

In essence, a dual system of taxation arose to pay for this new style of "celestial brilliance" (Sahlins 1985:141). The *konohiki* became a kind of central government employee, basically a tax collector, while the lesser chiefs intensified their traditional prerogatives of taxation—although without exercising their concomitant responsibilities for managing the subsistence economy (Beechert 1985:27). The emerging central government, in the decades after the death of Kamehameha, began to levy annual taxes on various profitable activities—house building and clothes washing, for example—as well as a heavy tax on produce carried to developing markets in Honolulu and elsewhere (Sahlins and Barrère 1973:25). Not to be outdone, the lesser chiefs pushed to new heights their powers to tax the *maka'āinana* on their own respective parcels of land. As Beechert (1985:27) expressed it, "a veritable orgy of confiscation by the petty chiefs began. . . . To support their lavish spending, the chiefs impressed their populations into service to supply the income required. The Hawaiian *ali'i* had moved from a political economy which supported their prestige and political ambitions to an economy of conspicuous consumption." Such is the scene Sahlins (1985:155) depicts of prominent chiefs "disporting themselves in Chinese silk dressing gowns and European waistcoats, in chambers decorated with fine teak furniture and gilded mirrors, or at dinners served on solid-silver table settings, while the commoners progressively sank into an immiseration from which they have not yet recovered."

With loss of authority and restraints in the vacuum following Kamehameha's death, taxes levied on the *maka'āinana* by the petty chiefs could be devastating indeed. Observed William

Richards before the sweeping changes of 1839–40: “The oppressiveness of the system consisted mainly in the great number of lords over the same vassals some one of whom may be presumed to have disregarded all rule and justice and therefore scarcely none of the lower orders escaped the severest rigors of unrestrained tyranny” (Sahlins and Barrère 1973:26). As a consequence, “the common laborers did not themselves receive probably on an average more than one third of the avails of their labors, while the different orders of chiefs received the remaining two thirds” (Sahlins and Barrère 1973:23).

To rectify this oppression of the *maka‘āinana*, a codified system of taxation was gradually implemented in conjunction with establishment of the constitutional monarchy between 1839 and 1846. Somewhat earlier, the 1st written law representing a direct tax levied on the *maka‘āinana* had been enacted, when foreign merchants backed by American naval forces demanded payment for debts accumulated by the chiefs. The amount was set at 15,000 piculs of sandalwood valued nominally at \$150,000 (Kuykendall 1938:92,434). According to the law, dated 27 December 1826, every able-bodied man was required to deliver half a picul (1 picul = 133½ lb) on or before 1 September 1827, or in lieu of sandalwood 4 Spanish dollars, or any valuable commodity of equivalent value; each woman was required to provide 1 mat, 6 by 12 ft, or *kapa* of equal value, or 1 Spanish dollar (Kuykendall 1938:92,434–35). (To ease the burden, each man was also permitted to cut half a picul of sandalwood for his own use.) Considerable sandalwood was amassed, but accounts were not settled, and the process was repeated 2 or 3 years later, as the sandalwood trade itself was coming to an end because of overcutting (Kuykendall 1938:92). The debt was not fully paid until 1843, but an important principle of taxation had been established.

Meanwhile, the emerging nation’s first formal code of laws was proclaimed by King Kamehameha III on 5 January 1835. Essentially a penal code based on the Ten Commandments, it was followed by the Declaration of Rights previously mentioned and by the Laws of 1839 (revised in 1840), which constituted a civil code. These instruments, and the Constitution of 1840, established tax officers and procedures to regularize the collection of taxes and included provisions directly related to 3 kinds of taxation: a poll tax of 1 Spanish dollar on each man and graduated amounts on women and children; a land tax, or rent; and a labor tax requiring each man to work 6 days per month for his landlord and king plus up to 12 days for “important public work” if required (Constitution and Laws 1842:27).

Reflecting the gradual implantation of a monetary economy, the new taxes initially were collected in a combination of specie and produce. The poll tax was accepted in money—or arrowroot, cotton, sugar, nets, and other commodities, such as candlenuts, turmeric, fish, and coffee, at different times, in the “back part of the islands where money is difficult to be obtained” (Constitution and Laws 1842:24,86). The land tax was payable in produce, usually 1 swine, size dependent upon the farm but generally equivalent to 5–10 dollars. The labor taxes, modified in 1846 and 1848, were partly abolished in 1850, except as a penalty, when a school tax of 2 dollars a year was levied on all taxable males instead (Kuykendall 1938:352–53). Greatly disliked, the labor taxes gradually fell into disuse and were eventually replaced by a road tax in 1859 (Kamins 1952:158–59). Viewed as “unequal and unjust, bearing hard upon the poor natives” (Kamins 1952:161), the land tax was eliminated by proclamation of King Kamehameha III in 1851. A quaint anachronism, the poll tax survived in various forms into the mid-20th century (Kamins 1952:159).

Initially, the new laws provided also that taxes could be assessed by the governor of each island and by the subordinate chiefs (Beechert 1985:27–28). Provisions allowing dual and triple taxation were abolished in 1842 by the chiefs meeting at Lahaina as a legislature, whose aptly titled enactment “Burdens of the Lower Classes” restricted the powers of taxation to the central government. With the Laws of 1842, according to Beechert (1985:29), “the ancient system of

social stratification and its economic base was abolished and a society based upon money values was put in its place." A tax law passed in 1841 clearly reflected this new philosophy: "Money is the standard by which all taxes and assessments are to be estimated, and it would be very well if all men would pay their taxes in money" (Constitution and Laws 1842:86). To prove the point, the legislature in 1846 made land taxes payable in money only (Statute Laws 1846:165). Labor taxes also could be commuted, at the daily rate of 12½ cents or on an annual basis. Although some continued to pay for a time in "arrow root, cotton, coffee—sugar—Turmeric, oil nuts, hogs &c at the market prices" (Sahlins and Barrère 1973:26), this practice was formally abolished in 1850 when all taxes, except labor, became payable "only in current coin of this kingdom" (Penal Code 1850:168).

Minister of Finance Edwin O. Hall rationalized the need for the new law in his report to the legislature of 1850:

On account of the considerable increase in money, even in the remotest districts of the Kingdom, from the ready sale of the productions of the Islands, it is believed that the revenue would be increased and the people not be burdened, were the taxes now allowed to be paid in produce, required to be paid in money. Much loss which formerly accrued to the revenue from this source would thereby be prevented, and much trouble and vexation would be avoided. (Hall 1850:17)

The Treasury Board, created by the legislature in May 1842 (Constitution and Laws 1842:86), worked diligently to see that taxes were collected in money wherever possible—although in a bewildering assortment of circulating coins of the realm until a national currency could be established 40 years later. In sum, the requirements for payment of taxes in money only created a whole new set of problems for the *maka'āinana*, but at least the standardized tax codes lifted the oppressive uncertainties of the past and placed the average tenant-commoner on a theoretically equal footing with all other members of society.

### THE TAX ON ANIMALS

The 1st direct tax on animals, the fundamental concern of the petitioners, was imposed by the legislature of 1843 and was a tax on dogs and cats. "All dogs and cats," the law stated, "shall be subject to an annual tax of one rial per head, payable to the tax-gatherer previously to the first of January of each year; otherwise they must be killed" (Laws 1843:4). The legislature in 1851 abolished the tax on cats but retained a "tax of one dollar on dogs" and stipulated stiff penalties for owners whose animals caused damage (Laws 1851:77).

Before the tax on cats was abolished, Minister of the Interior Gerrit P. Judd (1845:8) proposed to the legislature in 1845 to meet estimated government expenses of 80,000 dollars for the coming year, among other expedients, "by a tax on horses, mules and asses." Organic acts passed that year and in 1846 created administrative machinery of government, including a Department of Finance with control over foreign imposts and internal taxes. Article IV of the new internal tax code, later amended (Supplement to Statute Laws 1848:47), extended the laws to the beasts of the fields. All owners of "cattle, horses, mules, asses, cats and dogs" were required "on or before the first day of December, to file with the governor of the island in which they happen to be, a true statement of the number owned by them respectively attested" (Statute Laws 1846:169). Specifically, Sections VII–IX of the code called for a yearly tax of ½ dollar on all horses and mares; ¼ dollar on all mules and asses; 25 five cents on cattle; and 1 dollar per head on dogs and cats (Statute Laws 1846:170).

Assuming the ministerial portfolio of the nascent Department of Finance, G. P. Judd noted in his 1st annual legislative report that the new taxes would go into effect the following year.



"Being direct taxes," he cautioned, "they will at first prove onerous to the people and both expensive and uncertain in the collection" (Judd 1846:47). Admitting, the following year, that "taxes of the country are no doubt somewhat heavy," Judd (1847:6) further informed the legislature: "The tax on horses and mules, owing to some unaccountable neglect of the tax gatherers, has added to the revenue only \$948.61. . . . Perhaps it would be wiser not to call for it at present, or to abolish it altogether, until the system of collecting taxes can be more perfectly organized throughout the kingdom."

Still in the process of organization, the government continued to encounter difficulties in collecting animal and other taxes. Again, Judd reported to the legislature of 1848:

The Tax Officers justly complain that some of the sub-agents and Teachers of Schools, make a practice of assuming the ownership of lands, horses, dogs and other taxable property for the purpose of freeing their friends from taxation, and thereby defrauding revenue. This abuse of an immunity granted to them by law, should receive attention . . . if possible short of re-imposing the taxes from which the School Agents have been exempted. (Judd 1848:4)

Contrary to recommendations, the legislature imposed the chattel taxes on licensed teachers, and in 1855 moved to correct continuing abuses by authorizing "enumerators" to make "a faithful enumeration of all persons and animals in his district liable to be taxed, and to make a tax list of the same" (Laws 1855:22). With that, revenues from animal taxes became a regular and dependable source of income to the infant government, and a new category of expense to the Hawaiian *maka'āinana*.

There are few statistics documenting the number of horses and other animals in the kingdom at the time the new taxes were imposed. Horses were introduced from California in 1803 and imported in numbers during the 1820s and 1830s to work the cattle ranches developing on the island of Hawai'i. Cattle had been introduced by Captain George Vancouver in 1793, goats and sheep by Cook in 1778, and other European livestock by the early 19th century. Responding to a questionnaire circulated by Minister of Foreign Relations Robert C. Wyllie in 1846, missionaries throughout the islands reported that horses, as well as mules, donkeys, sheep, goats, and cattle, were plentiful and increasing. In his district, for example, Reverend Jonathan Green of Makawao, Maui, counted 16 mules and donkeys and 266 "horses, young and old, male and female. . . . More than half are mares. . . . Not a little complaint is made of damage done by horses. Some few of them are made to carry burdens, chiefly, however used only for pleasure" (Armstrong, Chamberlain & Castle 1848:22). Likewise, in the Honolulu area, Reverend Richard Armstrong estimated some 500 horses and 100 "mules and jackasses," and Reverend Peter Gulick of Waialua, O'ahu, reported "Horses three hundred and twenty-nine, mules eight, donkeys thirty-four" (Armstrong, Chamberlain & Castle 1848:22-23). Five years later there were an estimated 11,700 horses on all the islands, as well as 10,200 sheep and 40,700 cattle, some 12,000 of which were wild cattle on the island of Hawai'i (Bishop 1852). This amounted to about 1 horse for every 6 Hawaiians, whether man, woman, or child.

The value of horses and other livestock at the time the animal taxes went into effect is of some interest. In upcountry Maui a horse was worth about 60 dollars, according to Reverend Green, in line with the average 60 dollars or range of 40-100 dollars reported for the kingdom. Mules were worth about 30 dollars but ranged from 10 to 50 dollars, while donkeys averaged a bit less than 20 dollars. Horned cattle brought 20 dollars a head but sheep and goats much less—goats about 50 cents and sheep perhaps 2 dollars (Armstrong, Chamberlain & Castle 1848:22-23). By comparison, ordinary unskilled laborers could earn 12½ cents to 25 cents per day, or about 5 dollars per month (Armstrong, Chamberlain & Castle 1848:79)—about the same rate at which road and labor taxes could be commuted. Carpenters and other skilled

Table 1. Animal tax revenues collected by the Hawaiian Bureau of Internal Taxes for the period 1847–58.\*

Year**	Horses and mules***		Dogs and cats†		Total internal taxes
	\$	%	\$	%	\$
1847	949	3.4	516	1.9	27,638
1848	1,519	3.1	807	1.6	49,304
1849	2,588	4.4	819	1.4	58,748
1850	2,745	5.6	700	1.4	48,818
1851	3,795	7.2	824	1.6	52,455
1852	3,464	9.1	2,531	6.6	38,118
1853	4,161	9.7	2,921	6.8	43,033
1854	5,311	11.8	3,346	7.4	45,058
1855	10,655	13.3	11,753	14.1	83,579
1856–58	18,995	14.8	14,746	11.0	134,306

\* From reports of the minister of finance (Judd 1845, 1846, 1847, 1848; Finance Department 1848, 1849, 1850, 1851; Hall 1850; Judd 1851, 1853; Allen 1854, 1855, 1856; Kamehameha 1858).

\*\* From 1847 through 1851 the fiscal year extended from 1 April to 31 March, converting during 1852 to a calendar basis; after 1856 the fiscal year reverted to 1 April–31 March biennium.

\*\*\* Mule taxes were listed separately beginning in 1855; they amounted to \$478 in 1855 and \$923 in 1856–58 biennium. Returns for 1855 include horse and mule taxes of \$2,346 and dog taxes of \$2,176 collected in 1854 but not received until 1855. Other similar variances exist in the totals because of changes in calculating the fiscal year, but overall trends are consistent.

† Dogs only after 1851.

craftsmen, some of whom were given special tax benefits, could earn considerably more. Except for the rate of 1 dollar on dogs (and cats until 1851), the tax on livestock was not disproportionately out of line with their value or the wages of unskilled laborers, provided, of course, they could find employment.

Most of the missionaries responding to Wyllie's questionnaire in 1847 concurred that a tax on animals was proper, if not absolutely necessary, to control what they considered a common nuisance. "The existence of large herds of cattle, horses, goats or sheep, is a great evil, and calls for a speedy remedy," they believed, citing damages caused by wild cattle and unrestrained livestock. "The owners grow rich at the expense of the poor agriculturalist. Their patch of potatoes is devoured in an hour and what has he left?" (Armstrong, Chamberlain & Castle 1848:92). Reverend Green of Makawao wanted "a heavy tax on horses and dogs," and Reverend David Lyman of Hilo believed "all large herds of cattle should be taxed." Edwin O. Hall, former secular agent with the mission and sometime minister of finance, urged: "Put a tax of \$10 a year upon horses that are not in frequent use" (Armstrong, Chamberlain & Castle 1848:74,93). Reverend John Emerson of Waiialua suggested: "Let every man keep four or six head of horned cattle and one horse gratis, and let all beyond that number be required to pay to the King a heavy tax—say one or two dollars per head annually, and horses a larger tax than cattle" (Armstrong, Chamberlain & Castle 1848:75). Missionary views on the taxing of animals prevailed, and the legislature of 1856 passed a further levy of 10 dollars each on "entire horses two years old and upwards," apparently those designated for stud service (Laws 1856:48).

From inauguration of the new laws in 1847 until their revision in 1859, revenues from the animal taxes provided a steadily increasing source of income to the Hawaiian treasury (Table 1). Combined receipts from horses and mules rose from an initial 3–4% of the total annual

revenues collected by the Bureau of Internal Taxes to nearly 15% at the end of the period; revenue from dogs (including cats until rescinded in 1851) grew from nearly 2% to a high of about 14%. At their peak in 1855, combined revenues from both sources amounted to 22,886 dollars or 27% of the kingdom's internal taxes of 83,579 dollars. During most of this period animal taxes provided a dependable, if not particularly large, proportion of the total, eventually growing to about 10% of annual government income derived from all sources, internal and external. The bulk came from custom house duties, followed by miscellaneous realizations, such as land rents and sales, license fees to the Bureau of Internal Commerce, and fines and penalties (Allen 1856; Walker 1874). During the later years of the reign of Kamehameha IV (1855-63), total government income normally averaged less than 300,000 dollars annually, excluding school and road taxes (Kuykendall 1953:176).

In 1859, a new and comprehensive civil code came into being, doubling the tax on animals except for the tax on dogs, which remained the same. Enacted when the "condition of the treasury was especially critical in 1856 and 1861" (Kuykendall 1853:176), the new rates created a heavy burden for the Hawaiian taxpayer. Section 481 of the revised internal code stipulated that:

All horses more than two years old, male or female, shall be yearly taxed one dollar each. . . .

All mules and asses, more than two years old, shall be yearly taxed half a dollar each.

All dogs shall be yearly taxed one dollar each. (Civil Code 1859:105)

These revisions remained in effect with few modifications for more than 10 years. Some relief was granted when the legislature of 1870 lowered the annual tax on "horses, mares and colts" to 75 cents, but imposed an additional 10-cent fee for metal dog tags stamped with the year and number registering the animal by district (Laws 1870:54). Milking cattle and other domesticated animals not specifically mentioned in the Civil Code of 1859 were considered personal property and taxed according to prevailing rates *ad valorem*, usually 2% (Castle 1891:63).

The revised tax on animals brought significant revenues to the Hawaiian treasury, totaling some 870,000 dollars during the period 1860 through 1884 (Table 2). From doubling of the rate in 1859, to 1874 when the mat petition was presented to the king, animal taxes constituted roughly  $\frac{1}{2}$  to  $\frac{1}{3}$  of all revenues collected by the Bureau of Internal Taxes. During the 1862 biennium, when the new rates first went fully into effect, total internal tax revenues amounted to 133,237 dollars, of which 52,742 dollars or 39.6% came from the tax on horses alone; combined animal taxes from horses, mules, and dogs amounted to 49.9% of the internal tax. This percentage remained fairly consistent until the rate on horses was reduced by  $\frac{1}{4}$  in 1870. Except for real estate taxes in 1874, revenues derived from the tax on horses were greater than that from any other internal category, which included personal property, polls, mules, dogs, carriages, and native seamen as well as real estate (*cf.* Thrum 1875).

Animal taxes thus paid a significant portion of the kingdom's operating expenses, which between 1860 and 1874 grew from about 680,000 to 1,000,000 dollars biennially (Schmitt 1977:619; Walker 1874). During much of this period government income from ordinary sources averaged more than 400,000 dollars annually (Kuykendall 1953:176). Of this some 40,000 dollars a year, or  $\frac{1}{10}$  of total revenues from all sources, internal and external, was derived from the direct tax on animals. As before, import duties continued to provide the bulk (Kamins 1952:164-65); however, customs receipts were not direct internal taxes, so they proved to be far less onerous on the Hawaiian people than were the combined animal taxes.

The tax on horses must have been a heavy burden on the average Hawaiian. A newspaper

Table 2. Animal tax revenues collected as internal taxes by the Hawaiian Treasury for the period 1860–84.\*

Biennium**	Horses***		Mules		Dogs		Total internal taxes†
	\$	%	\$	%	\$	%	\$
1860	35,958	33.0	1,793	1.6	13,525	12.4	108,842
1862	52,742	39.6	2,691	2.0	11,018	8.3	133,237
1864	52,562	39.9	3,081	2.3	10,038	7.6	131,729
1866	60,296	40.0	4,265	2.8	12,016	8.0	150,662
1868	61,541	37.2	4,823	2.9	12,954	7.8	165,401
1870	60,027	36.0	5,110	3.1	15,430	9.3	166,507
1872	53,006	24.5	6,140	2.8	22,271	10.3	215,963
1874	50,088	24.2	6,073	2.9	19,555	9.5	206,723
1876	48,194	22.5	6,013	2.8	18,676	8.7	213,930
1878	47,564	14.4	3,053	0.9	16,465	5.0	331,163
1880	43,399	9.3	—	—	15,173	3.3	465,252
1882	42,819	7.2	—	—	13,965	2.3	595,973
1884	21,975	3.2	—	—	13,924	2.0	679,995

\* From reports of the minister of finance (Gregg 1862; de Varigny 1864; Harris 1866; Phillips 1868; Mott Smith 1870, 1872; Nahaolelua 1874; Walker 1876; Kapena 1878; Kaai 1880; Walker 1882; Kapena 1884).

\*\* For years 1 April to 31 March.

\*\*\* Incorporates "Stallion Tax" and "Stud Horse" fees through 1868, when receipts from these sources were no longer separately reported. Total receipts, until the taxes were rescinded in 1880, amounted to only \$1,749.92.

† Does not include road and school taxes paid directly to the Bureau of Public Instruction.

report from rural O'ahu gives some idea, if tongue-in-cheek, of the very real dilemma that many Hawaiian families faced when the horse tax doubled from 50 cents to 1 dollar in 1859.

At Waialua, on this island, the natives have begun to eat their horses, partly because they have nothing else that they can do with them, and no other place of their own but their stomachs in which to put them, and partly to avoid paying the tax of one dollar per head. Already several animals that were of no use during their lives, and were then utterly incapable of supporting a man, have helped after death to support whole families. A horse while living is not valued at one dollar a year in the shape of income tax, yet his flesh being put into that very appropriately named vessel, a harness cask, will keep a good sized household for a month. (*The Polynesian* 1859)

Why horses should account for such a high proportion of internal tax revenues seems to be the calculated result of government policy taking advantage of cultural values. Beyond their utility for cattle ranching and transportation, horses provided universal entertainment and were also numerous and, therefore, fair game to the revenue collector. As Kuykendall (1953:24) observed, "To the Hawaiians, the recreational aspect of horseback riding made the greatest appeal. They became enthusiastic and expert equestrians, and to an appreciable extent horseback riding took the place of swimming and surf-riding in the life of the people. Horse racing was early introduced and became a popular sport." Visiting in 1873, Charles Nordhoff (1874:102) found that "almost every one strong enough to ride has a horse; for the Hawaiians can not well live without horses." Moreover, "there are probably more horses than people on the Islands; and the native family is poor, indeed, which has not two or three hardy, rough, grass-fed ponies,

easy to ride, sometimes tricky but more often quite trustworthy, and capable of living where a European donkey would die in disgust" (Nordhoff 1874:70).

Whether animal taxes had the desired effect of reducing the horse population cannot be readily substantiated. That the legislature, which "troubles itself chiefly about the horse and dog tax" (Nordhoff 1874:102), did try to impose controls is apparent. Nordhoff remarks, only partly in jest, of the situation that existed at the moment the mat-weavers were framing their petition:

At a horse auction you see a singular collection of good and bad horses; and it is one of the jokes of the Islands to go to a horse auction and buy a horse for a quarter of a dollar. The Government has vainly tried to put a check to the reckless increase of horseflesh by laying a tax on these animals, and by impounding them if the tax is not paid. I was told of a planter who bought on one occasion fifty horses out of a pound, at twenty-five cents a head, and had them all shot and put into a manure pile. But if the horse is worth his tax it is pretty certain to be paid; and it is not easy to keep them off the pastures. (Nordhoff 1874:70)

What effects, if any, the mat petition had when presented to King Kalākaua is difficult to ascertain. By 1874, it is important to note, the Hawaiian economy "was at a standstill" (Beechert 1985:78). The sugar planters had had a bad year in 1872 with dim prospects for the next, sinking the whole nation and public generally into economic depression (Daws 1968:191; Kuykendall 1953:247). Citing falling customs receipts and "the rapid and steady decline of the native population," among other causes, Minister of Finance Paul Nahaolelua (1874:7) admitted to "a stationary condition of our material prosperity, and . . . in the last few years . . . a pause in the rapid progress." In light of such conditions, even Dowager Queen Emma, Kalākaua's chief rival for the throne in the 1874 campaign, was heard to promise: "if elected to take no salary repeal the horse tax roads tax and any other tax they want, and the great unwashed are whooping and yelling" (Daws 1968:198). That the direct tax on horses was decidedly unpopular among Hawaiians requires no further comment.

Kalākaua handily won the election, but he was unable to do much about "the great cause for the decrease of the Hawaiian people," which also troubled the petitioners. Although his sympathies in this regard were already well established (Kuykendall 1967:13), the government viewed the problem mostly in economic terms: a critical labor shortage would inhibit the development of sugar plantations, and as prosperity became more and more dependent on sugar export—particularly after the Reciprocity Treaty of 1874—so, too, would government revenues depend. Despite efforts by Kalākaua and others to "*Ho'oulu Lāhui* Increase the Race," the ultimate solution devolved to mass immigration of "cognate races" as cheap plantation labor. It was an implicit expectation that indentured labor, predominantly Japanese after 1885, would intermarry and augment the native population.

The plea "to change the taxes on animals, cattle, horse, asses, mules and sheep and let none of them remain" also met with mixed results. The legislature of 1876, convening in the very building where the mat petition was newly on display in the National Museum, did repeal the section of the animal tax dealing with mules and asses, which was relatively unproductive anyway (Laws 1876:145). Finally in 1882 the legislature eliminated the direct tax on horses almost as an afterthought while revising and consolidating assorted tax laws. Henceforth, horses "and all domesticated birds and animals not hereinbefore specifically taxed" were considered to be personal property and assessed ad valorem (Laws 1882:72).

Before the animal taxes were ameliorated and finally repealed, Minister of Finance J. S. Walker (1876:6) debated whether an apparent fall of revenues noted in 1876 was due to "an

actual decrease of animals, or lack of diligence on the part of assessors and collectors.” Reporting another “slight falling off in the Horse and Dog taxes” in 1882, Walker (1882:6) concluded, “While I have reasons for believing that there is a falling off in native horses I have equally good reasons for saying that dogs have not decreased.” The ultimate effect on the royal treasury of the repeal of the direct tax on horses was even less clear. Comparing 1884 receipts to the previous tax period, Minister of Finance J. M. Kapena found “reason to believe their value as personal property more than covered the decreases shown.” A contemporary analyst argued, however, “that the abolition of the tax on horses, they being transferred to personal property, did not produce a corresponding increase in the tax receipts from that source. On the contrary it probably operated simply to take off a portion of the taxes from the natives and Portuguese [after 1878] as the chief owners of horses” (Castle 1891:66–67).

Whether or not the net effect of transferring the direct tax on horses to personal property yielded any substantive benefits to the ordinary Hawaiian taxpayer, the fundamental plea of the mat petition had been achieved—at least symbolically. Ultimately, of course, the petitioners failed to obtain “release from the burden of the law that keeps us slaves under masters from the sky,” but they did succeed, at least temporarily, in calling attention to the plight of the *maka‘āinana*. While it may be argued that animal taxes were a trivial concern and insignificant burden overall, combined revenues from that source realized over a 35-year period amounted to more than 900,000 dollars extracted predominantly from the Hawaiian and part-Hawaiian community. In 1872, about the time the mat petition was created, animal taxes for the biennium totaled 81,417 dollars and represented a tax burden of \$1.58 for every man, woman, and child of the Hawaiian and part-Hawaiian population of 51,531. Since the total tax per capita for the entire kingdom in 1875 was estimated by one source to be about \$2.52 (Castle 1891:66), animal taxes were indeed a proportionately significant component of the tax burden borne by the mid-19th-century Hawaiian *maka‘āinana*. Crude as this analysis may be, it provides some quantitative evidence of the average Hawaiian’s contribution to the support of monarchical government. Inasmuch as a *makaloa* mat was also the vehicle for the protest, future lines of inquiry into the role of the material arts in the economic and cultural life of 19th-century Hawai‘i are indicated.

### THE DEMISE OF MAKALO A MAT-MAKING

It is doubtful that Kala‘i, the weaver of the mat petition, lived to see any tangible results of her labors. Aged, she herself was apparently one of the last of Ni‘ihau’s master weavers, whose art was already headed toward extinction. There are a number of reasons for loss of this famed tradition: the change to a monetary economy, and specifically the laws of 1846 and 1850 requiring payment of taxes in money rather than produce; the comparatively low financial return in view of the difficulty and time required to complete a mat for sale; changing tastes, and loss of traditional as well as practical uses for Ni‘ihau mats, especially in the latter 19th century; widespread decrease of the *makaloa* sedge through habitat destruction; a decline in the number of weavers on Ni‘ihau caused by general population loss, compounded by conversion of the island to a private ranch in 1864 and total disruption of the lifestyle of those remaining.

Ni‘ihau, small and drought-prone, was never very populous. After 2 days ashore in January 1778, a party of Cook’s men “supposed, that there could not be more than five hundred people upon the island” (Cook & King 1784:II:218). Calculating from averages, Captain King later revised this figure upward to an equally implausible 10,000 (Cook & King 1784:III:129). The missionary censuses of 1831–32 and 1835–36 recorded 1,047 and 993 individuals respectively, while government figures in 1850, 1853, and 1860 indicate a fairly stable level of 714, 790, and 647 for those years (Schmitt 1977:11). Because of the shortage of fresh water, the new owners who purchased Ni‘ihau from the king in 1864 developed an informal policy of limiting the

population to only those needed to work the ranch. After 1866, when the census recorded 325 individuals, the population steadily dropped—to 233 in 1872, 177 in 1878, and a 19th-century low of 164 in 1896 (Schmitt 1977:11). At one point about 1880, according to one source, the island was “only occupied by Mr. Sinclair’s servants and a mere handful of natives” (Bowser 1880:570).

It is impossible to know what percentage of the resident population was occupied in producing *makaloa* mats, but it is clear their numbers were severely reduced during the last half of the 19th century. For those who relocated to Kaua‘i, or O‘ahu and Maui, it is questionable to what extent either raw materials or incentives would have been available for them to continue their weaving tradition. It is interesting to note that about 1821 Queen Regent Ka‘ahumanu, Kamehameha’s widow and the ranking figure in government, carried away after a visit to Ni‘ihau “expert mat weavers” and left them at Waialua on O‘ahu (Kamakau 1961:253). What became of them is not recorded, but *moena pākea*, or *makaloa* mats without overlaid *pāwehe* designs were reportedly being made later at nearby Mokulē‘ia (HEN n. d.:I:1252). A flourishing Ni‘ihau mat-making tradition did not survive, but a poetic expression, “*Ka moena pāwehe o Mokulē‘ia* / The patterned mat of Mokulē‘ia” (Pukui 1983:160), may reflect this early-19th-century transplant.

Degradation of the natural habitat of the *makaloa* sedge on Ni‘ihau also affected the mat-making industry, ultimately contributing to its demise. Because of their destructive grazing habits, goats put ashore by Captain Cook in 1778 proved disastrous to the island’s fragile vegetation cover, causing erosion and filling of some of the intermittent lakes where the *makaloa* sedge grew. According to geologist Harold K. Stearns (1947:30), “feral goats in historic time ate so much of the vegetation that much of the deep red soil on the uplands, formed during the million years or more since the cessation of volcanism there, was washed into the lowlands, filling up Hawaiian fish ponds and many of the playas.” These conditions, coupled with lack of attention, especially in the late 19th century, severely reduced the *makaloa* sedge. At their height by 1897, feral goats were exterminated early in the 20th century as the result of concentrated efforts (Forbes 1913:18; Judd 1932:8; Tabrah 1987:131).

Sheep, however, as well as competition from introduced plants, continued to threaten the remaining stands of *makaloa* (Degener 1946–57). Mainstay of Ni‘ihau Ranch throughout much of its history, sheep numbered at least 10,000 and perhaps up to 35,000 or 40,000 during the latter 19th century (Bagot 1884:373; Lane 1888:437; Tabrah 1987:138,213; *Paradise of the Pacific* 1892). Visiting Ni‘ihau in January 1912, John F. G. Stokes of Bishop Museum observed, “The areas of *Cyperus laevigatus* which used to be tended with some care are being crowded out by another species, as well as by sheep, except where [ranch manager] Mr. Robinson has protected it by fencing as of historical interest” (Forbes 1913:19). Stokes managed to collect *makaloa* at Ka‘ali in the NW, and from the “swamp-like areas” near the S end “where various species of *cyperus* occur, including *C. laevigatus*, from which the old natives made their famous mats” (Forbes 1913:18). After a day on Ni‘ihau in October 1929, Territorial Forester C. S. Judd (1932:9) commented, “There are natural ponds of brackish water in the south central portion and it was here that the *makaloa* rush thrived before the sheep destroyed it and terminated the mat industry.” Contrary to some reports (e.g., Tabrah 1987:15,136), however, the *makaloa* sedge did not become extinct. Ni‘ihau Ranch is said to be still making some effort to protect the plant where it survives at Lake Halulu and elsewhere (Tava 1988).

The change to a monetary economy, and specifically the tax laws of 1846 and 1850 requiring payment in money rather than produce, was another major cause of the demise of mat-making. If not exactly flourishing, many of the traditional material arts were at least still being practiced when missionaries in 1847 responded to Minister of Foreign Relations R. C. Wyllie’s questionnaire. Answers from his district by Reverend Coan of Hilo to the inquiry on native manufac-

tures is typical: “kupas, mats, canoes, cordage, fishing nets, salt, and a few other things of less importance.” On Maui, fellow missionaries reported “some native kapa and mats” from Wailuku, and “mats also, and ropes, &c., &c.” from Makawao. Responses from the other islands were similar: from Honolulu, “brooms, mats, bonnets, hats, kapa, fish-nets, salt and the like”; from Waialua, “none, except of kapa”; and at Hanalei, Kaua’i, “those common to these islands, as kapa, mats, mat-bags, hats and bonnets, canoes, fish-nets, rope &c.” (Armstrong, Chamberlain & Castle 1848:15). The continuing manufacture of mats in most of the districts responding is of interest. It is not known what proportion was made from the *makaloa* sedge, but surely a large number. It is noteworthy that of nearly 150 Hawaiian mats and samplers preserved in Bishop Museum, the vast majority are of *makaloa*.

There are few eyewitness observations describing *makaloa* mats or mat-making. On first landfall off Ni’ihau, Cook was greeted by several canoes bringing “some small pigs and potatoes, and a good many yams and mats” (Cook & King 1784:II:213). The voyagers who followed, mostly seeking replenishments at this island so “famous for its yams, fruit, and mats” (Beechey 1831:I:234), rarely ventured ashore long enough to observe possible mat-making activities. One of the earliest was Gorham D. Gilman, a young Bostonian who visited in August 1845. Accompanied by a coffee planter from Kaua’i named Tobey, and Reverend Samuel Whitney of the mission station at Waimea, Gilman (1845:66) “called at several of the native houses in pursuit of Mats but found a very few, and for those they asked us exorbitant prices.” Gilman (1845:69–70) estimated the population to be about 750 and, seeing no horses and only a few goats, next day visited a village of some 14 or 16 houses with a church and small Catholic chapel nearby.

We found but few articles for trade, a few figured calabashes and mats, for which they were desirous of getting much more than we could get them for on Kauai or Oahu. The natives conducted us to a large cave where there was a very large mat in process of making for the use of some one of the nobility. It is several yards long, and the width in proportion, and will be a rich specimen of native work, the figures being neat and regularly worked in. (Gilman 1845:68)

The people of Ni’ihau relied on the sale of mats as one of their few sources of money, an increasingly necessary commodity as the 19th century wore on. Sometimes money was tight, or mats not always available for sale. In 1863, while King Kamehameha IV still owned Ni’ihau and had trouble collecting back rent, his land agent, J. Wahinekeka, complained: “I went to Niihau to demand of the natives their rent for the fifth year. The natives said that there was no money to be had belonging to us now. I said how about mats, if you have any on hand let me take them and I will take them to the King, who will buy them. They replied, there are no mats made up now” (Tabrah 1987:89). That was in December; returning in March Wahinekeka was able to collect only \$21.50—but whether from the sale of mats is not stated.

Four years later, in July 1867, a visitor anchoring at Cook’s Harbor with Captain Kinney of the *Nettie* found island produce awaiting on the shore and the “sharp Kanakas” ready to trade. Besides sweet potatoes, onions, and pineapples, he saw “those skillfully wrought and ornamented rush mats, the manufacture of which is peculiar to Niihau. They are pliable and elastic, and made of material that grows nowhere else [*sic*] on the Islands. We saw some as neatly plaited and as pliable as the best Panama hats. . . . We were struck with one ornamented with *red*” (La Paz 1867).

Only a decade later, decrying the loss of interest in mat-making throughout the islands, one of the Hawaiian newspapers took the opportunity to editorialize on this troubling response to changing times:



In days past, Hawaiian women plaited mats of bull rushes, of lauhala and makaloa [sedge] which last made pawehe mats. Some women are still making them to cover their floors and beds, but the younger generation now growing up will not know these fine arts that will be useful in their homes. Most of the girls want to learn to sew or crochet. They are both good [arts] but they should not neglect mat making, that helps to keep the house clean. Let the young women combine the knowledge from their mothers with the new knowledge from the haoles [foreigners] and new teachers. Keep the hands occupied with work, the head with knowledge and the inner person with thought. Learn that which you have and reach out for the new.

Let the grandmothers teach their grandchildren to plait mats, twist cords and sew. (*Ka Lahui Hawaii* 1877)

Clearly in decline by the 1880s, *makaloa* mat-making as a home industry seems to have disappeared within the next generation. As Brigham (1892:66; cf. 1903:15, 1915:13) first wrote in his *Preliminary Catalogue* in 1892, "these mats are still made, but the makers are fast dying out, and the younger generation of females does not take kindly to such continuous work." Undoubtedly, a few weavers continued to put their skills to occasional use, if not on Ni'ihau then at Waimea on Kaua'i and perhaps elsewhere sporadically in isolated areas into the 20th century. Brigham, for example, purchased for Bishop Museum in April 1901 a dozen mat samplers from Hannah Cook of Waimea, each a foot or two square and showing both twill and overlay designs in the *pawehe* and *pakea* techniques (Accession 1901.08). Other than the inscribed mat created by Kala'i and her husband, these newly made samplers appear to be the only *makaloa* mats whose age and maker are documented.

Heralding their demise, the *Directory and Hand-Book of the Kingdom of Hawaii* informed its readers as early as 1890 that Ni'ihau was "formerly noted for fine grass-woven mats" (Lane 1890:536). A San Francisco newspaper echoed 2 years later: "A fine grass . . . was formerly woven into 'Niihau mats'. . . . They are now very rare, and of late years the price, which formerly ranged from five to eleven dollars or so apiece, has advanced in an almost exorbitant degree since the industry was abandoned" (*Pacific Coast Commercial Record* 1892; reprinted in *Paradise of the Pacific* 1893). Honolulu's *Paradise of the Pacific* expressed like sentiments in 1899: "The handiwork of the natives in the making of a kind of mat is known all over the islands. They are called 'Niihau mats,' and bring large prices from the collectors of curios." Assessing the general state of Hawaiian mat-making in an article entitled "A Declining Industry," that same magazine suggested in 1903 that "extensive importation of cheap Chinese matting long ago discouraged the practice of the old art." Based on Brigham's writings it concluded: "Makaloa mats are still made on Niihau. . . . It would seem as though the small westernmost isle of the group is destined to be the spot where this interesting art is soon to be lost" (*Paradise of the Pacific* 1903; cf. 1908).

Quite correctly, Brigham (1906:77,81) noted in his treatise on Hawaiian mat-making in 1906 that "exact information is hard to obtain" on "this nearly obsolete mat." Believing that "a few old women still make the mats from the sedge which grows commonly enough along shores and in brackish marshes," he concluded that their "choicest mats are now very rare. . . . And another generation will have forgotten how to make *makaloa* mats" (Brigham 1906:2,77). Unfortunately, the prediction proved true. Although a journalist named Henry Dougherty supposed after a one-day visit in October 1929 that young girls "engage in Niihau reed-mat making" (Tabrah 1987:136), there is nothing to substantiate that the art was being practiced regularly. Except for the small samplers dating from the turn of the century, the mat petition presented to King Kalākaua in 1874 is among the last of the famous Ni'ihau mats to be made.

It is sadly appropriate that it also memorializes, in its way, the dying of a nation, whose struggling remnants prayed for release from burdensome taxes enslaving the Hawaiian people.

Today, there are said to be only one or two elderly women on Ni'ihau who retain some traditional knowledge of *makaloa* weaving. They no longer make the famed Ni'ihau mats, however, in part because of the scarcity of raw materials (Tava 1988; Wichman 1988). A lost art, *makaloa* weaving has only recently become a candidate for revival by a dedicated few of the current generation of students involved in perpetuating the material arts of Hawai'i.

#### LITERATURE CITED

- Accession.** 1901. Bishop Museum Accession records, 1901.08. Honolulu.
- Allen, E. H.** 1854. Annual report of the Minister of Finance. [Honolulu.]
- . 1855. Annual report of the Minister of Finance. [Honolulu.]
- . 1856. Annual report of the Minister of Finance. [Honolulu.]
- Armstrong, R., L. Chamberlain & S. N. Castle.** 1848. Answers to questions proposed by His Excellency, R. C. Wyllic, His Hawaiian Majesty's Minister of Foreign Relations, and addressed to all the missionaries in the Hawaiian Islands, May, 1846. [Honolulu.]
- Ashford-Hirano, M.** 1988. Personal interview. 23 June.
- Bagot, F., ed.** 1884. McKenney's Hawaiian directory including a city directory of Honolulu, and hand book of the Kingdom of Hawaii . . . L. M. McKenney & Co., San Francisco and Oakland.
- Barratt, G.** 1987. The Russian discovery of Hawai'i: The ethnographic and historic record. Editions Limited, Honolulu.
- Beaglehole, J. C. (ed.)** 1967. The voyage of the Resolution and Discovery 1776–1780. 2 parts. Published for the Hakluyt Society at the Cambridge University Press, Cambridge.
- Beckley, E. [Nakuina].** 1882. Historical catalog of the Hawaiian Government Museum. MS, Bishop Museum Library, Honolulu.
- Beechert, E. D.** 1985. Working in Hawaii: A labor history. University of Hawaii Press, Honolulu.
- Beechey, F. W.** 1831. Narrative of a voyage to the Pacific and Beering's Strait, to co-operate with the polar expeditions: Performed in His Majesty's ship Blossom . . . in the years 1825, 26, 27, 28. 2 vols. Henry Colburn and Richard Bentley, London.
- Bishop, C. R.** 1852. Statistics. The Polynesian, 14 August. Honolulu.
- Bowser, G. (comp.).** 1880. The Hawaiian Kingdom statistical and commercial directory and tourists' guide, 1880–1881 . . . George Bowser & Co., Honolulu and San Francisco.
- Brigham, W. T.** 1892. A preliminary catalogue of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History. Part I. Kahilis, feather ornaments, mats and kapas. [Bishop Museum Press], Honolulu.
- . 1903. A handbook for visitors to the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History. [Bishop Museum Press], Honolulu.
- . 1906 Mat and basket weaving of the ancient Hawaiians described and compared with the basketry of the other Pacific Islanders. Memoirs of Bishop Museum 2(1).
- . 1915 Bishop Museum handbook part I. The Hawaiian collections. Bishop Museum Press, Honolulu.
- Buck, P. H.** 1957. Arts and crafts of Hawaii. Bishop Mus. Spec. Publ. 45.
- Castle, W. R.** 1891. Taxation in Hawaii. p. 63–71. In: Hawaiian almanac and annual for 1892. Press Publishing Co. Steam Print, Honolulu.
- Chinen, J. J.** 1958. The great mahele: Hawaii's land division of 1848. University of Hawaii Press, Honolulu.
- Civil Code.** 1859. The civil code of the Hawaiian Islands, passed in the year of Our Lord 1859: to which is added an appendix, containing laws not expressly repealed by the Civil Code; the Session Laws of 1858–9; and treaties with foreign nations. Printed for the Government, Honolulu.
- Compiled Laws.** 1884. Compiled laws of the Hawaiian Kingdom. Hawaiian Gazette Office, Honolulu.
- Constitution and Laws.** 1842. Translation of the constitution and laws of the Hawaiian Islands, established in the reign of Kamehameha III. Lahainaluna.

- . 1852. Constitution and laws of His Majesty Kamehameha III, king of the Hawaiian Islands, passed by the nobles and representatives at their session, 1852. Printed by order of the Legislature, Honolulu.
- Cook, J. & J. King.** 1784. A voyage to the Pacific Ocean, undertaken, by the command of His Majesty, for making discoveries in the northern hemisphere. . . . in the Years 1776, 1777, 1778, 1779, and 1780. 3 vols. W. and A. Strahan for G. Nicol & T. Cadell, London.
- Cox, J. H., with Edward Stasack.** 1970. Hawaiian petroglyphs. Bishop Mus. Spec. Publ. 60.
- Damon, E.** 1931. Koamalu: A story of pioneers on Kauai and of what they built in that island garden. 2 vols. Privately printed, Honolulu.
- Daws, G.** 1968. Shoal of time: A history of the Hawaiian Islands. The University Press of Hawaii, Honolulu.
- Degener, O.** 1946–57. Book 5 of Flora Hawaiiensis or new illustrated flora of the Hawaiian Islands. Privately printed, U.S.A.
- de Varigny, C.** 1864. Reign of Kamehameha V.—first year. Report of the Minister of Finance to the Legislature of 1864. [Honolulu.]
- Ellis, W.** 1831. Polynesian researches, during a residence of nearly eight years in the Society and Sandwich Islands. 2nd ed. Vol. IV. Fisher, Son & Jackson, London.
- Finance Department.** 1848. Ke oi ana a me ka emi ana o ke Dala Aupuni, no ka makahiki i pau i ka la hope o Maraki 1848, ma ka hoohalike ana me ko kela makahiki mamua. Manuscript. Archives of Hawaii, Finance Department, Honolulu.
- . 1849. Account of the revenues received and expended at the Royal Exchequer for the year ending March 31, 1849. Manuscript. Archives of Hawaii, Finance Department, Honolulu.
- . 1850. Exhibits of receipts and expenditures from April 1st 1848 up to March 31st 1850. Manuscript. Archives of Hawaii, Finance Department, Honolulu.
- . 1851. Receipts and expenditures of the Hawaiian Treasury for the year ending March 31st 1851. Manuscript. Archives of Hawaii, Finance Department, Honolulu.
- Forbes, C. N.** 1913. An enumeration of Niihau plants. Bishop Mus. Occas. Pap. 3. p. 17–26.
- The Friend.** 1874a. Passengers: June. New Series 23 (6):45.
- . 1874b. Catalogue of the youth of Hawaii abroad. November. New Series 23 (11):96.
- Gay, L. K.** 1981. Tales of the forbidden island of Niihau. Topgallant Publishing Co., Honolulu.
- Gibson, W. M.** 1880. Sanitary instructions for Hawaiians: In the English and Hawaiian languages. J. H. Black, Honolulu.
- Gilman, G.** 1845. Excursions to Niihau, 1845. Manuscript. Hawaiian Historical Society, Honolulu.
- Gregg, D. L.** 1860. Reign of Kamehameha IV.—Sixth year. Biennial report of the Minister of Finance, to the Legislature of 1860. [Honolulu.]
- . 1862. Reign of Kamehameha IV.—Eighth year. Report of the Minister of Finance, to the Legislature of 1862. [Honolulu.]
- Hall, E. O.** 1850. Report of the Financial Department. In: Annual reports: Read before His Majesty, to the Hawaiian legislature, April 22, 1850. With the king's speech to the legislature, April 10, 1850. Printed by order of Government, Government Press, Honolulu.
- Harris, C. C.** 1866. Reign of His Majesty Kamehameha V.—Third year. Report of the Minister of Finance to the legislature of 1866. [Honolulu.]
- Hawaiian Gazette.** 1874a. A valuable gift. 29 April. Honolulu.
- . 1874b. Notes of the week. 6 May. Honolulu.
- HEN.** n.d. Mats. Hawaiian Ethnological Notes 1:1252. Typescript. Bishop Museum Library, Honolulu.
- Henking, K. H.** 1957. Die Südsee- und Alaskasammlung Johann Wäber Beschreibender Katalog. Sonderdruck aus dem Jahrbuch des Bernischen Historischen Museums in Bern XXXV. und XXXVI. Jahrgang 1955 und 1956. p. 325–89. Bern.
- Hitchcock, H. R.** 1876. The National Museum. Manuscript. Archives of Hawaii, FO & Ex., Honolulu.
- Honolulu Advertiser.** 1944. Unique Niihau mats described by Dr. Buck for science meet. 17 November.
- Honolulu Star-Bulletin.** 1944. Best bed mats were produced on Niihau Isle. 7 November.
- Hopkins, C. L.** 1906. Mamalahoa, an ancient Hawaiian law. In: The Hawaiian Annual. p. 81–86. Thos. G. Thrum, Honolulu.

- Inventory.** 1891. Inventory of articles in the Government Museum, January, 1891. Manuscript. Archives of Hawaii, FO & Ex., Honolulu.
- Judd, C. S.** 1932. Niihau. The Hawaiian Forester and Agriculturalist XXIX(1).
- Judd, G. P.** 1845. Report of the Minister of the Interior. By order of His Majesty, King Kamehameha III. Read before His Majesty, to the Hawaiian legislature, on Wednesday, May 21st., 1845. Printed by royal authority at the Polynesian Press, Honolulu.
- . 1846. Report of the Minister of Finance, read before His Majesty's Hawaiian legislature, Aug. 1, 1846. In: Ministerial reports; Read before His Majesty to the Hawaiian legislature, August 1, 1846. Printed by order of Government, Honolulu.
- . 1847. Report of the Minister of Finance, read before His Majesty to the Hawaiian legislature, April 28th, 1847. Charles E. Hitchcock, Printer, Honolulu.
- . 1848. Report of the Minister of Finance. Read before the King to the Hawaiian legislature April 28th, 1848. In: Annual reports: Read before His Majesty, to the Hawaiian legislature, April 28, 1848. Printed by order of Government, Government Press, Honolulu.
- . 1851. Report of the Minister of Finance, read May 12, 1851. In: Annual reports, read before His Majesty, to the Hawaiian legislature, May 12, 1851, with the king's speech to the legislature, May 6, 1851. Printed by order of Government, Government Press, Honolulu.
- . 1853. Annual report of the Minister of Finance, for 9 months of the year 1852. In: The king's speech, read before the Hawaiian legislature, April 6, 1853: with the reports of ministers to the same body. Printed by order of the Legislature, Government Press, Honolulu.
- Kaai, S. K.** 1880. Reign of His Majesty Kalakaua—Seventh Year. Biennial report of the Minister of Finance, to the legislative assembly of 1880. Hawaiian Gazette, Honolulu.
- Kaepler, A.** 1978a. "Artificial Curiosities" being an exposition of native manufactures collected on the three Pacific voyages of Captain James Cook, R. N. . . . Bishop Mus. Spec. Publ. 65.
- . 1978b. Cook voyage artifacts in Leningrad, Berne, and Florence museums. Bishop Mus. Spec. Publ. 66.
- Ka Lahui Hawaii.** 1877. Ka ulana ana. January 25. (Translation in Hawaiian Ethnological Notes, Material Culture, Mats.)
- Kamakau, S. M.** 1961. Ruling chiefs of Hawaii. The Kamehameha Schools Press, Honolulu.
- . 1976. The works of the people of old Na Hana a ka Po'e Kahiko. Bishop Mus. Spec. Publ. 61.
- Kamehameha, L.** 1858. Reign of Kamehameha IV. Fourth year. Biennial report of the Minister of Finance. [Honolulu.]
- Kamins, R. M.** 1952. The tax system of Hawaii. University of Hawaii Press, Honolulu.
- Kapena, J. M.** 1878. Reign of His Majesty Kalakaua—Fifth year. Biennial report of the Minister of Finance, to the legislative assembly of 1878. H. L. Sheldon, Honolulu.
- . 1884. Reign of His Majesty Kalakaua—Eleventh Year. Biennial report of the Minister of Finance to the legislative assembly of 1884. Hawaiian Gazette, Honolulu.
- Ko Hawaii Pono.** 1874. He makana ano hou i ka moi. 29 April.
- Kronkright, D.** 1988. Personal interview. 24 May.
- Kuokoa.** 1874a. He moena pawehe makana. 2 May. (Translation in Hawaiian Ethnological Notes I:2857.)
- . 1874b. Nu hou kuloko. 2 May.
- . 1874c. Nu hou kuloko. 9 May.
- Kuykendall, R. S.** 1938. The Hawaiian Kingdom, volume I, 1778–1854: Foundation and transformation. The University Press of Hawaii, Honolulu.
- . 1953. The Hawaiian Kingdom, volume II, 1854–1874: Twenty critical years. University of Hawaii Press, Honolulu.
- . 1967. The Hawaiian Kingdom, volume III, 1874–1893: The Kalakaua dynasty. University of Hawaii Press, Honolulu.
- Lane, J. C., ed.** 1888. Hawaiian directory and hand book of the Kingdom of Hawaii . . . . McKenney Directory Co., San Francisco.
- . 1890. Directory and hand-book of the Kingdom of Hawaii . . . . Pacific Press Publishing Company, Oakland, Calif.
- La Paz.** 1867. Island correspondence. Pacific Commercial Advertiser, 3 August.

- Laws.** 1843. The laws and resolutions passed at the annual council of the Hawaiian nobles and representatives convened according to the Constitution, at Lahaina, April, 1843. Seminary Press, Lahainaluna.
- . 1851. Laws of His Majesty Kamehameha III., king of the Hawaiian Islands, passed by the nobles and representatives at their session, 1851. Printed by order of the Government, Honolulu.
- . 1855. Laws of His Majesty Kamehameha IV., king of the Hawaiian Islands, passed by the nobles and representatives, at their session, 1855. Printed by order of the Government, Honolulu.
- . 1856. Laws of His Majesty Kamehameha IV, king of the Hawaiian Islands, passed by the nobles and representatives, at their session, 1856. Printed by order of the Government, Honolulu.
- . 1865. Laws of His Majesty Kamehameha V., king of the Hawaiian Islands, passed by the legislative assembly, at its session, 1864–65. Printed by order of the Government, Honolulu.
- . 1868. Laws of His Majesty Kamehameha V., king of the Hawaiian Islands, passed by the legislative assembly, at its session, 1868. Printed by order of the Government, Honolulu.
- . 1870. Laws of His Majesty Kamehameha V., king of the Hawaiian Islands, passed by the legislative assembly, at its session, 1870. Printed by order of the Government, Honolulu.
- . 1876. Laws of His Majesty Kalakaua, king of the Hawaiian Islands, passed by the legislative assembly, at its session, 1876. H. L. Sheldon, Honolulu.
- . 1882. Laws of His Majesty Kalakaua I., king of the Hawaiian Islands, passed by the legislative assembly, at its session 1882. Hawaiian Gazette Book and Job Print, Honolulu.
- Malo, D.** 1951. Hawaiian antiquities (Moolelo Hawaii). Nathaniel B. Emerson, trans. Bishop Mus. Spec. Publ. 2.
- Missionary Album.** 1969. Missionary album portraits and biographical sketches of the American Protestant missionaries to the Hawaiian Islands. Hawaiian Mission Children's Society, Honolulu.
- Mott Smith, J.** 1870. Reign of His Majesty Kamehameha V.—Seventh year. Biennial report of the Minister of Finance, to the legislature of 1870. [Honolulu.]
- . 1872. Reign of His Majesty Kamehameha V.—Ninth year. Biennial report of the Minister of Finance, to the legislative assembly of 1872. [Honolulu.]
- Nahaolelua, P.** 1874. Reign of His Majesty Kalakaua.—First year. Biennial report of the Minister of Finance to the legislature of 1874. [Honolulu.]
- Neal, M. C.** 1965. In gardens of Hawaii. Bishop Mus. Spec. Publ. 50.
- Nordhoff, C.** 1874. Northern California, Oregon, and the Sandwich Islands. Sampson Low, Marston, Low, & Searle, London.
- Pacific Coast Commercial Record.** 1892. Niihau. May. Vol. 5, No. 1, p. 22.
- Pacific Commercial Advertiser.** 1874a. Royal speech. 2 May.
- . 1874b. Passengers. 16 May.
- Papiohuli.** 1913. He moolelo kaa no Papiohuli. Kuu hae Hawaii. 4 July.
- Paradise of the Pacific.** 1892. Points of Paradise. June. Vol. V, No. 6, p. 3.
- . 1893. Lanai and Niihau. April. Vol. VI, No. 4, p. 51.
- . 1899. Untitled. September. Vol. XII, No. 9, p. 131.
- . 1903. A declining industry. February. Vol. XVI, No. 2, p. 12.
- . 1908. Mat weaving. December. Vol. XXI, No. 12, p. 30.
- Penal Code.** 1850. Penal code of the Hawaiian Islands, passed by the house of nobles and representatives on the 21st of June, A. D. 1850, to which are appended the other acts passed by the house of nobles and representatives during their general session for 1850. Henry M. Whitney, Government Press, Honolulu.
- Phillips, S.** 1868. Reign of His Majesty Kamehameha V.—Fifth Year. Report of the Minister of Finance to the legislature of 1868. [Honolulu.]
- The Polynesian.** 1859. Equine. 30 July.
- Pukai, M. K.** 1983. 'Ōlelo no'ea: Hawaiian proverbs & poetical sayings. Bishop Mus. Spec. Publ. 71.
- Pukai, M. K. & S. H. Elbert.** 1971. Hawaiian Dictionary. University Press of Hawaii, Honolulu.
- Receipt.** 1874. Different assortments of curiosities received from the palace this 23rd day of September 1874. Manuscript. Bishop Museum Library, Accession 3056, Honolulu.
- Rose, R. G.** 1980. A museum to instruct and delight. Bishop Mus. Spec. Publ. 68.

- St. John, H.** 1959. Botanical novelties on the Island of Niūhau, Hawaiian Islands. *Pacific Science* XIII:156-90.
- . 1982. Vernacular plant names used on Niūhau Island. *Bishop Mus. Occas. Pap.* XXV (3):1-10.
- Sahlins, M.** 1981. Historical metaphors and mythical realities. *Association for Social Anthropology in Oceania Spec. Publ.* 1. The University of Michigan Press, Ann Arbor.
- . 1985. *Islands of history*. University of Chicago Press, Chicago and London.
- Sahlins, M. & D. Barrère, eds.** 1973. William Richards on Hawaiian culture and political conditions of the islands in 1841. *The Hawaiian Journal of History* 7:18-40.
- Schmitt, R. C.** 1973. The missionary censuses of Hawaii. *Pacific Anthropological Records* No. 20. Bishop Museum, Department of Anthropology, Honolulu.
- . 1977. *Historical statistics of Hawaii*. The University Press of Hawaii, Honolulu.
- Stannard, D. E.** 1989. *Before the horror: The population of Hawaii on the eve of Western contact*. Social Science Research Institute, University of Hawaii, Honolulu.
- Statute Laws.** 1846. Statute laws of His Majesty Kamehameha III. King of the Hawaiian Islands; passed by the houses of nobles and representatives, during the twenty-first year of his reign, and the third and fourth years of his public recognition, A.D. 1845 and 1846: to which are appended the acts of public recognition, and the treaties with other nations. Vol. 1. Charles E. Hitchcock, Government Press, Honolulu.
- Stearns, H. T.** 1947. Geology and ground-water resources of the Island of Niūhau, Hawaii. *Bulletins of the Division of Hydrography Territory of Hawaii*, No. 12. U. S. Geological Survey, Honolulu.
- Supplement to Statute Laws.** 1848. A supplement to the statute laws of His Majesty, Kamehameha III., king of the Hawaiian Islands, containing the acts and resolutions passed by the houses of nobles and representatives, during the twenty-third year of his reign, and the sixth year of his public recognition, A.D., 1848. Government Press, Honolulu.
- Tabrah, R. M.** 1987. *Niūhau: the last Hawaiian island*. Press Pacifica, Kailua, Hawaii.
- Tava, R.** 1988. Personal interview. 14 March and 7 December.
- Thrum, T. G.** 1875. Internal taxes for biennial periods, 1862-1874. In: *Hawaiian almanac and annual for 1875*. p. 45. Pacific Commercial Advertiser Printing House, Honolulu.
- Valeri, V.** 1985. *Kingship and sacrifice: Ritual and society in ancient Hawaii*. Translated by Paula Wissing. University of Chicago Press, Chicago and London.
- Walker, J. S.** 1874. Statement of the revenues and expenditures of the Hawaiian Kingdom for 18 years, for each biennial period, from 1856-7 to 1872-3, with the amounts under the different heads. [Honolulu.]
- . 1876. Reign of His Majesty Kalakaua.—Third year. Biennial report of the Minister of Finance, to the legislative assembly, 1876. [Honolulu.]
- . 1882. Reign of His Majesty Kalakaua.—Ninth year. Biennial report of the Minister of Finance to the legislative assembly of 1882. Hawaiian Gazette Office, Honolulu.
- Wichman, R.** 1988. Personal interview. 8 August.
- Wilkes, C.** 1844. *Narrative of the United States Exploring Expedition. During the Years 1838, 1839, 1840, 1841, 1842*. Vol. I. C. Sherman, Philadelphia.