

The Petroglyphs of Kaho'olawe Island, Hawai'i

Edward Stasack, Ronald Dorn, and Georgia Lee

UPDATE: Ten years have passed since this paper was written (1994). Since then Federal funds were secured to continue the restoration of the Island from the devastation wrought upon it from its use as a bombing target by the U.S. Navy. When enough unexploded ordnance was cleared, an inventory level archaeological survey was done; only a few additional petroglyphs were located. Many more rock art sites have been recorded in Hawaii since 1994, and the broad picture of Hawaiian rock art has changed, requiring some additions and modifications to the original manuscript by the authors. The reports on the Kaho'olawe archaeological survey and the newfound petroglyphs are not available at this time; hence, the changes in the manuscript do not reflect this forthcoming data but are based on the information obtained from reports on twenty Hawaiian rock art sites recorded since 1994 and data from approximately sixty others. Edward Stasack

For nearly two hundred years after Captain Cook first sailed past Kaho'olawe, it was said that life there was, and always had been, impossible. Early visitors to Hawai'i ignored the island. When Kaho'olawe was noticed at all, it was described as barren, desolate, and impoverished. For the most part it was simply passed by.

But, on the 15th of August 1819, Jacques Etienne Victor Arago, artist on board the French corvette Uranie, observed Kaho'olawe with the sensitivity and perceptivity others of this and later periods lacked. He wrote, "Taouroe arose before the corvette, reddish on the sides, black at her base, copper at her summit; Taouroe, island of rock, embattled, notched at the peak in pointed ridges, similar to a decrepit wall of lava chiseled by the centuries. Who, then, has touched this ground barren of any greenery, who then has tried to scale these formidable ramparts on which the waves thunder and crash with such violence? No one. And yet the long and perilous reefs surround Taouroe, as if the crags had to fear the

*Edward Stasack
Ronald Dorn
Georgia Lee*

Table 1
Petroglyph Distribution – Kaho‘olawe Island

Location	Total Petros	Total Figures (% of Total Petros.)	Linear Body Figures (% of Total Figs.) Triangular Body Figures (% of Total Figs.)	Typical Heads	Total Other Heads	Inverted Triangular Heads (% of Total Figures)	Detached Heads	No Heads
Hakioawa Area	66	54 (82%)	39 (72%) 15 (28%)	36	18	5 (9%)	7	4
Kūheia	24	17 (100% ¹)	1 (6%) 16 (94%)	16	1	1 (6%)	0	0
Ahupū Iki Area	120	76 (63%)	43 (57%) 33 (43%)	43	32	10 (13%)	11	11
Kaukauptapa Area	122	104 (85%)	65 (63%) 37 (37%)	58	46	4 (4%)	19	5
SE Uplands, Loa‘a	91 ² 48 ³	43 (47%) 43 (91%)	40 (85%) 7 (15%)	25	18	8 (19%)	5	1
TOTALS (Kaho‘olawe)	423 370 ⁴	294 (70%) (79% without cupules)	188 (64%) 108 (36%)	177	117	28 (10%)	42	11
Puakō, Hawai‘i	3081	2361 (74%)	2080 (88%) 214 (12%)					
Lāna‘i, Hawai‘i	1102	801 (73%)	324 (40%) 384 (60%)					

1 Kūheia has two sites: historical beach site; ancient inland site which are all figures.

2 There are 53 non-representational petroglyphs, 33 of which are cupules.

3 Forty-seven non-figurative petroglyphs, 34 of which are cupules.

4 Op. cit. f.n. 2

traditional and contemporary Hawaiian culture, including religion.” (Kaho‘olawe Island: Restoring a Cultural Treasure 1993:3). The restoration of Hakioawa village and the replanting thus far has been successful. Adding to this renaissance, the U.S. Military has completed the initial phase of “sweeping” the island of portions of the huge accumulation of ordnance making many areas safe again.

The major finding of the Kaho‘olawe Island Conveyance Commission is that “Kaho‘olawe is a *wahi pana* and a *pu‘uhonua*—a special place with unique and important cultural, archaeological, historical, and environmental resources of local, national, and international significance.” (Kaho‘olawe Island: Restoring a Cultural Treasure 1993: 3). The same must be said about the rock art.

Of equal importance, Kaho‘olawe emanates a living spirit that is revealed to those who are perceptive and patient.

The preponderance of petroglyphs on Kaho‘olawe are found at five of the island’s twenty sites: Hakioawa; Ahupū and vicinity; Kaukauptapa; the Southeast Interior, sometimes called Loa‘a; and Kūheia. Each is distinctive and illustrates the diversity of the petroglyphs of Kaho‘olawe Island. (Figure 1).

The recorded petroglyphs were found at 82 loci, and include at least 423 units. Seventy percent of all the petroglyphs documented represent human figures; if we exclude the cupules (*poho*), this percentage increases to 79%. This is similar to other major sites in Hawai‘i which have been recorded to date,

TABLE 2. COMPARISON OF RADIOCARBON AND SILICA GLAZE INFILLING AGES FOR KAHO'OLAWE ISLAND PETROGLYPHS

Petroglyph Analyzed (see Fig. 2)	Silica Glaze Infilling Calibrated Age	¹⁴ C Calibrated Age with 1 Sigma Range
K10: Triangle head, generation figure	AD 1600-1900	AD 1660-1950
K19: Triangle body with bird head	AD 1550-1900	AD 1650 (1670, 1790) 1950
K26: Stick figure; right arm raised	AD 1400-1700	AD 1460 (1510, 1600, 1620) 1640
K16B: Stick figure†	AD 1350-1600	AD 1432 (1465) 1634
K15A: Stick figure (under goat)	AD 1350-1550	AD 1320 (1410) 1440
K16A: Triangular body	AD 1300-1500	AD 1301 (1401) 1434
K30: Dog	AD 1300-1550	AD 1286 (1310,1353,1385) 1416
K11: Running stick figure	AD 1300-1500	AD 1290 (1300, 1370) 1400
K12: Stick figure; left arm raised	AD 1300-1450	AD 1282 (1303) 1404
K22: Fish hook	AD 1150-1350	AD 1230 (1280) 1290
K28: Upsidedown stick figure	AD 1100-1300	AD 1037 (1188) 1272
K33: Lying down stick figure	AD 1050-1200	AD 992 (1029) 1168
K23: Stick figure	AD 1050-1250	AD 983 (1027) 1168

†K16B is superimposed over K16A.

such as Puakō, Lāna'i Island, Ka'ūpūlehu, and portions of Pu'uloa and 'Anaeho'omalu, Hawai'i. (Table 1).

We were able to collect tiny bits of carbonized woody tissue from the silica glaze coatings that rest on top of thirteen petroglyphs from Kaho'olawe. These remains were radiocarbon dated by accelerator mass spectrometry (AMS): nine for stick figures, two for triangular-bodied figures, one for a dog, and one for a fishhook. Our ages are experimental, because it is possible that the carbon could pre-date petroglyph making if the remains came from old wood such as drift wood. It is also possible that the dated carbon could significantly post-date petroglyph making, since the silica glaze coating "glued" the carbon to rock surfaces sometime after the petroglyphs were made. Still, the only way that we can advance our understanding of Kaho'olawe petroglyph chronology is to report our experimental results and our uncertainties.

The earliest ages were obtained for stick figures from Hakioawa, AD 983, and Kaukukapapa, AD 992. According to Hawaiian scholar Rubelite Kawena Johnson, these may be different views of the same constellation, the god Maui. Each has one three-toed foot. (Figure 2).

Along with three periods of petroglyph activity,

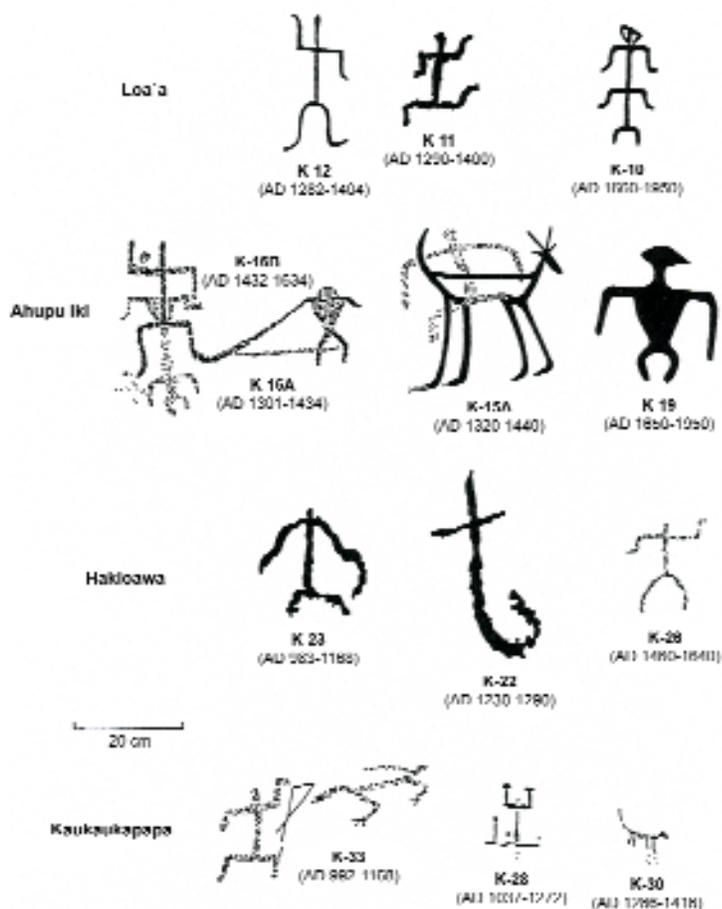


Figure 2: Kaho'olawe Island Dated Petroglyphs.

which tentatively can be identified through style, there are also periods for which no ages have yet been obtained. Further research revealed that silica glaze slowly fills in the pores in the rock of the engraving (Gordon and Dorn, 2005; Cerveny, 2006).

When the rate of infilling is calibrated by the U.S. Geological Survey's radiocarbon dating of lava flows (cf. Gordon and Dorn, 2005), a set of calibrated ages are available for comparison with the previously published ^{14}C ages (Stasack et al. 1996). Table 2 presents the comparison of results from these two different chronometric strategies.

At this time, however, there appears to be no evidence of correlation between style change and periods of activity.

In the early period, prior to AD 1300+, linear body figures were the chosen form for anthropomorphs and were made using both straight and curved lines. On Kaho'olawe, as on all the islands, linear body figures were much alike. For the most part, the differences were in proportion, size of line, and technical skills. Most were pecked; some were pecked and then abraded. There are nine AMS dated petroglyphs from this early period. (Figure 2). At Loa'a, 85% of the anthropomorphs are linear body figures, suggesting that this may be the oldest rock art site on Kaho'olawe. Thirty-three of the Island's 34 *poho*, cupules, are here.

Four AMS dated petroglyphs were obtained from the middle period, AD 1300±-to-1800±, when triangular torso figures first emerged: the linear body figure from Ahupū Iki, AD 1432; the linear body figure from Hakioawa, AD 1460; the triangular-bodied figure with bird head from the gulch west of Ahupū Iki, AD 1650; and the composite figure with bisected, inverted triangular head, AD 1660, from Loa'a. Possibly during this period, stylizations appeared such as the birdman types, and various body types with headdresses, winged arms, unusual proportions, etc. In this period on other islands it is likely that the first petroglyph representations of family gods, *'aumakua*, were made in the form of humans with animal attributes, such as birds, turtles, dogs, and fish. Influences and/or connections from Lāna'i and Maui seem strong during this time. Judging by style alone, the figures at Kūheia were all made during a short time span in the middle period. (Figure 3A).



Figure 3: A: Kūheia, Kaho'olawe; B: Kukui Point, Lāna'i; C: Keliikipi; D: Koia

In the final period, post 1800's, names and words were inscribed. Figures and animals in heterogeneous styles continued to be made, and were intermingled with older images and writing. The lettering may be attributable to the influence of nearby Lahaina, Maui, where a printing press and a school were established in the early nineteenth century. The name of a man, Keliikipi, living on Kaho'olawe during the 1866 census, is inscribed on a boulder at the bay east of Ahupū. (Figure 3C). We chose not to date any petroglyphs that were obviously from the historic period.

Approximate ages of such images as goats, the "spaceman," various written names and words, and sailing ships are self-evident. On the other islands representations of things newly-introduced were carved, such as guns, handsaws, sailing ships, wide brimmed hats, spurs, and the reigns of the horse of

the *paniolo* cowboy.

What little information we have for Kaho'olawe suggests that the island held some special importance in the ancient Hawaiian culture. Oral tradition tells us that the hill at Moa'ula Iki was the site of a school for astronomy and navigation. Atop this hill is a large slab boulder on a pedestal which, when struck, rings with a sonorous tone similar to the boulder at Loa'a. Nearby is the second largest adze quarry in the islands. The Hawaiian language newspaper, *Ka Lahui Hawai'i* reported in 1875 that King David Kalākaua retreated to Kaho'olawe for spiritual purification as others had done before him. The island was said to be the resting place of the major god, *Kanaloa*, and the western-most point, *Kealaikahiki*, was a navigational aid for voyagers, possibly the departure place for the legendary voyagers to Tahiti.

Compared to the petroglyphs on the other islands, Kaho'olawe's designs most resemble those from Maui and, in particular, the petroglyphs at Kukui Point, Lāna'i. (Figures 3A and 3B). Many of the softly curved triangular-bodied figures there are almost identical to those at Kūheia. There were *'ohana*, extended family from Maui and Lāna'i that were related to *ohana* on Kaho'olawe. They were accustomed to fishing and camping on Kaho'olawe. They may have authored some of these petroglyphs.

Cupules (*poho*) on Kaho'olawe are a rarity in contrast to many other petroglyph sites in Hawai'i. These cup-shaped man-made depressions are the preponderant type at sites such as Pu'uloa and 'Anaeho'omalū on the Big (Hawai'i) Island and are found in varying proportions at most sites on Hawai'i Island. There they are carved, however, in comparatively soft *pāhoehoe*. Those pecked and abraded into the dense basalt boulder at the inland site of Loa'a imply a serious purpose and speak almost audibly of ceremony and ritual. There may be archaeoastronomical implications here. At sunset, a stick held vertically in one of the cupules casts a shadow along one of the three lines pecked along the length of the boulder. In different seasons there would be other alignments. The shadow-dagger at Kūkaniloko, O'ahu, is a valid testimony to the use in Hawai'i of petroglyphs for astronomical purposes. There, a shadow is cast to a dot in the center of

three concentric circles at the autumnal equinox. In dramatic fashion, this occurs at sunset on September 23rd, as the sun descends between the two peaks of Kolekole Pass on O'ahu.

On the ridge east of Ahupū Iki is another example of the Hawaiians' interest in the heavens. At this site the word *Koia* is pecked into a boulder. (Figure 3D). Kaho'olawe is said to have been a place for the teaching of navigation and the study of the stars and constellations. In Hawaiian, *Koia* has the same meaning as *Kona*, which is the name of a particular star. There is a carefully carved five pointed star inscribed beside it.

The petroglyphs found on Kaho'olawe appear to span a long period of time, perhaps from before AD 983, the oldest age thus far obtained, to the early years of the 20th century. In the gulch west of Ahupū Iki, historic petroglyphs occur on panels, side-by-side, with ancient-style images. At times an historic image, such as a goat, is superimposed on the apparently older figure. The great time span, the small numbers, the superimpositions, and the heterogeneous styles imply long intervals in which no rock art was made. These fallow periods could possibly correspond with the periods when these places were unoccupied. Development of a "local style" which requires continuity in order to advance toward conventionalizations would have been inhibited. Hence, Kaho'olawe rock art, as a whole, seems disconnected, lacking unity and harmony. To the eye of the modern-day viewer it is inconsistent, elusive, quirky, and idiosyncratic.

Style-wise, the inverted triangular heads with a bisecting center line are a rare type. In fact, 40% of the heads are "unusual," a greater percentage than at other sites in Hawai'i at this recording. At more typical sites such as Puakō and Pu'uloa, the dominant head-type is a dot of varying size, usually with a neck. Proportionately, Kaho'olawe has slightly more figures with detached heads, headless figures, and figures with various types of headdresses and special heads than at most other sites. Headdresses would probably be associated only with kings, *ali'i*, *kahuna*, and demi-gods, hence, these numbers indicate an unusual concern with high status subjects.

The petroglyphs at most Hawaiian rock art sites tend to have a personality, to be of a dominant type and function. Most sites are found near settlements,

the remainder are usually located at sacred places or *wahi pana*. On Kaho'olawe each site has its own style mix and a defining personality. For example, Kūheia is a trove for the repetition of the softly curved triangular body form; Hakioawa is the home for a conservative but imaginative mix of classic forms; Ahupū Iki is the place for superimpositions of late over early images with emphasis on the presence of quadrupeds; Kaukakupapa is the flea market for anachronisms, older styles done hurriedly, some might say inappropriately, long after the fashion had passed; and Loa'a is the shrine for rock art, a spiritual center and a destination in itself.

In Hawai'i there are only a few known petroglyphs of triangles standing alone. However, some are found in tattoo and *tapa* (*kapa*) designs. When sufficient data is available from the major sites in Hawai'i it should be possible to establish when the triangle first was used as a shape either as part of a figure or in some other way. The AMS dating indicates that this occurred around AD 1300. The emergence of the triangular body represents a move from the use of line to the use of shape, a step toward the representation of three-dimensional form. A line is, after all, a man made convention most often utilized to suggest a contour, an edge, or a form which is essentially linear, such as the fishhook. A large fishhook petroglyph at Hakioawa was drawn emphasizing its linear qualities.

Experimental results support the hypothesis that the ancient petroglyphs were linear, and that for some reason, perhaps around AD 1300, some petroglyph makers began to utilize line to enclose and define a shape. This extended the artist's range for visual representation of particularized forms and expressive content. For example, an inverted triangle was utilized both as an expression of strength and to visually represent the mass of the body of a broad shouldered male. This development paved the way for the attempts at achieving a simplified verisimilitude in the depiction of such things as a sailing ship, a church with steeple, a saw, a gun, a sail, a clothed figure, and so forth. A few petroglyph makers from other islands achieved a degree of naturalism similar to the late *akua* sculptures, such as several of the figures from Ka'ūpūlehu, Hawai'i.

The overall aesthetic quality of Kaho'olawe rock

art may not match the level of the petroglyphs from other islands in Hawai'i but the imagination, inventiveness, and sense of individuality of many of the images is comparable. It seems apparent that each settlement did not have a resident petroglyph maker with the talents and skills of a master. Some, which appear to be unskilled or to have been done in haste, may be unfinished. But, as a whole, the Kaho'olawe petroglyphs are purposeful, sincere, and reveal the imagination and perceptivity of their makers.

The occasionally striking similarities of some Kaho'olawe petroglyphs to those on nearby islands suggest that a number of them were made by visitors from these islands. In a few cases, a very well-crafted petroglyph has a less skillfully made image near it and appears to be an inferior copy. Such juxtapositions are found at most rock art sites in Hawai'i. This pattern is typical of the evolution of an art form. Once introduced, an innovative form may either be copied, perfected and, conventionalized, or suffer a gradual or sometimes precipitous deterioration. Without an apprenticeship to teach and/or indoctrinate, succeeding generations are removed from an understanding of the idea behind the form, its meaning, and the initial motivation for creating it. It may be dropped and remain as an isolated example. This seems to have been more the rule on Kaho'olawe than on the other islands and could be due to the lack of an apprentice system. However, there is no definite information about this, nor about the authorship of the petroglyphs of Kaho'olawe or anywhere else in Hawai'i.

The Kaho'olawe petroglyphs were undoubtedly made for the same purposes as those of the other islands. It seems evident that some possessed *mana*, or spiritual power. Many would have had the same variety of uses as did writing, for example: as records; for the commemoration of events, political and historical; recording of legends; proclamation of domain or custodianship; births and perhaps deaths of great significance; battles won or lost; genealogical records, as adjunct to or focus for ritual or ceremonial activities; recreation; possibly sorcery; cues for the story tellers; *piko* (umbilical stump) centered rituals; and more.

Is there a Kaho'olawe style? Hard to say, but there is a discernable local flavor. It is subtle and difficult

to recognize and define because of the small number of petroglyphs and their diversity. For example, the inverted bisected triangular head is rare but occurs twice at one site, Loa'a. Forty percent of the figures have special heads but no two are really alike. The petroglyph makers of Kaho'olawe placed slightly more than the usual emphasis upon the heads of their figures, implying a serious concern for status and religious association. Hawaiians considered the head to be sacred, the focus for *mana*, power. One of the individual's three *piko* was located in the head, at the fontanel, providing him or her access to ancestral spirits and demi-gods. According to Rubelite Kawena Johnson, a highly respected *kupuna* (elder), the Hawaiian culture was based on power. On Kaho'olawe this emphasis on the design of the head may be evidence that petroglyphs were made to commemorate the visits of *ali'i* and personages of great importance.

The five major petroglyph sites on Kaho'olawe echo the diversity and uniqueness of the style and content of Hawaiian sites in general. Kaho'olawe rock art is beginning to reveal something about the ancient and evolving culture, its values, and the recurrent settlement periods at and near the petroglyphs sites. The images provide a visual history of a people living and working within a strong cultural tradition who, nevertheless, had an emerging sense of individuality. The rock art of Kaho'olawe is a microcosm of the rock art of Hawai'i; it appears to have been essentially traditional until around AD 1300, and thenceforth was characterized by the growth of individualism, incongruity, and the difficulties of adaptation to Western influence

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