Hei – Hawaiian string figures: Capturing the Poetic Visions of a People

Kalani Akana

Abstract

Hei is the Hawaiian tradition of string figure making that is unlike the western tradition of cat’s cradle and is more closely related to the dance tradition of my people. Our dance tradition, hula, is poetry based and conveys the thoughts, visions, and prophecies of that poetry through chant accompanied by hand, face, and body gesture and movements that are employed to interpret the essentials of the story being told or remembered.

Hei preserves genealogical, geographical, biographical, and biological information. This paper will explore two of these functions: 1) hei as capturing geographical information; and, 2) hei as preserving genealogical information.

In addition, I will discuss my own heuristic experience in learning hei. Spiritual learning is an essential part of my own native Hawaiian heuristics. Spiritual learning is also an important element in my indigenous research methodology.

Poetic Visions of a People

Dr. Peter Hanohano and I were talking about a mutual acquaintance of ours, Emil Wolfgramm, a scholar who lectures frequently on the ‘poetic visions’ of his Tongan people. I especially like when Emil lectures on our common Polynesian ancestor, the so-called trickster, Māui. I demonstrated to Peter the Hawaiian string figure showing Māui’s lasso which he used to slow the sun so that the people of Hawai‘i would have enough time to do their work. Peter exclaimed, ‘that’s a poetic vision of our people’. Indeed, hei or ‘string figures’ are our Hawaiian people’s way of perpetuating and recreating the poetic visions of our ancestors.

For me, relearning these figures has been an exciting process of discovery on both a cultural and spiritual level. Because I was only able to learn three hei figures from a kupuna ‘elder’ when I was a teenager, I relied on Dickey’s String Figures of Hawai‘i, the sole book on Hawaiian hei in the world, to learn other figures. When the instructions were too complicated, I was reminded of and shown other ways of learning and researching which I believe many indigenous peoples already utilize – indigenous research.
Indigenous research is quite exciting because it affirms the teachings of our küpuna or elders, especially spiritual learning. This is what sets indigenous research apart from other qualitative research methodologies. Here, spiritual knowing is a natural part of the methodology of the native researcher. Gregory Cajete (2000) writes that dreams and visions are some of the “methodological elements and tools of Native science that have traditionally facilitated such learning” (p. 67). Ermine (1999) also writes about this kind of spiritual knowing and Marlene Brant-Castellano (2000) also identifies revelation, dreams, visions, cellular memory and intuition as sources of knowledge (p. 24). Lastly, Margaret Kovach (2009) addresses the issue of direct instruction from ancestors in her new book, Indigenous Methodologies (pp. 57, 58, 117).

As more and more of our elders pass away, native Hawaiian researchers like me are seemingly disadvantaged and cut off from our cultural sources of knowledge and wisdom. However, direct instruction from our ancestors is one way in which we Hawaiians can remain connected to those who have passed on to ke ao pōpolo hiwa a Kāne “the deep purple clouded realm of Kāne”. To establish this connection, the researcher must know his/her own genealogy because in the Hawaiian belief system the _aumākua or ancestors will only share information with family members. If the researcher cannot identify his or her ancestor, the validity of claimed information received is highly questionable. Moreover, it is implausible for a Hawaiian to receive spiritual information from the ancestors of the First Nations peoples as we have no known genealogical tie to them. Spiritual information is thus privileged information which cannot be accessed by people not belonging to the indigenous group. There is no getting around it.

The indigenous researcher must also know his or her own native language. Others have shared that in a dream such-and-such chief told them to do so-and-so. When I ask what that ancient chief said, they share his words in English. This is questionable because the language of the ancestors is Hawaiian. Although I learned Hawaiian as a second language learner in high school and college, I was fortunate to have close associations with many Hawaiian elders such as my surrogate kupuna, Elizabeth Kauahipaula, and others who strengthened my speaking ability. From these elders I learned a way of listening and speaking. Along with that way of listening and speaking, they also modeled a way of understanding. It is this way of understanding or worldview which further enables the indigenous researcher in problem solving, decoding, and interpreting data.

Lastly, it is also imperative that the indigenous Hawaiian researcher of today have some hands-on, breathing and living experience in a cultural activity. For some indigenous peoples, culture is a continuing way of life. For most of us Hawaiians, assimilation and alienation from the land has separated the majority of us from our living culture so cultural activities like _hula _traditional dance_, canoeing, planting, fishing, arts such as barkcloth fabrication and design, featherwork, and carving, and more recently the warrior art of _lua_ are ways to remain culturally connected. Mastery of one or more of these cultural ways of knowing assists the researcher in understanding other aspects of culture. In my situation, previous
training and ritual graduation in Hawaiian chant and dance assisted much in my understanding of how the chants and stories that accompanied the string figure worked, and, as a result gave me insights as to how to reproduce the figures based on the deeper meanings of the chants.

The following two case studies are examples of my indigenous Hawaiian research.

**The Sun Teeter Totters**

The string figure, *Kūhau Piyyo ka Lā*, is considered a classic amongst Hawaiian practitioners. It is accompanied by an unusually long chant in terms of string figure making:

Kūhau Piyyo ka Lā
Ka lā i ke kula o _Ahuýena_
Komo i ka lajyi o Kailua lā, _O Kona_
_OKona ia o ke kai malino_
He lae o waho o Kapülu
Kani ke ayyo i Waiýulaýula, _O Kaýü_
_OKaýü ia, āna kua makani,

Lele koaýe Kaumea lā, _o Puna_
_OPuna ia o ke kai köloa i ka ulu hala_

E nú ana ke kai o Keaýau lā, _O Hilo_
_OHilo ia o ka ua kinaí_
Kinakinai i ka ua maoyole lā,
_o Hámäkua,
_OHámäkua i ka pali Koýolalau_
E nahu ana ka niho i ka ipu_
I ka pali o Koholalele
_OWaipiýo lāu _o Waimanu_
_OKohala iki, _OKohala nui_
_OKohala ua Ápaýapaýa_
_OPili lāu _o Kalähikola_
_Oná puýu haele lua o ke kanaka_
_OKáneýoýopa e neýe ana_
_ma ka huyahuýa_
_me ka _alaýala páýina pöhaku_
_Aloha kákou.

The **sun** rises and totters over the plains of Ahuýena
It enters into the calm of Kailua here in **Kona**
Kona of the calm seas
Now at the cape outside of Kapülu
The puffins of Waiýulaýula cry, now at **Kaýü**
This is Kaýü, a wind-blown land hauna i ka lepo suffuse with earthiness
Where the tropic bird flies, now at **Puna**
This is the Puna district where the sea roars in the hala grove
And the sea of Keaýau groans
Now at **Hilo** of the neverending rains
Unextinguishable are the rains that never clear now at **Hámäkua**
Hámäkua of the windward cliffs
The teeth bite into the gourd
The feathergathers go along the cliffs of Koholalele
Now the valleys of **Waipiýo** and **Waimanu** appear
Great **Kohala**, Small Kohala
Kohala of the strong Ápaýapaýa wind
Now appear **Pili** and **Kalähikiola** hills
The **companion hills** of man
There is Lame Káne crawling about in the sea foam
where the ink sacs burst open.
Let us love.

According to Dickey (1928), the chant is a love song recounting the travels of young lovers in Kona who eventually break apart in Kaýü, come together in Puna, travel to Hámäkua and
finally come together in Kohala. As the chant moves from district to district, the string figures are changed into new shapes representing each of the districts that the lovers pass through.

With regards to Kūhau Piʻyo ka Lā, Dickey (1928) wrote that “the chant is known to many Hawaiians who do not know how to make the string figure.” (p.14) That statement motivated me to learn the figure. I had learned and mastered the chant but did not know how to construct it.

While I was successful learning a dozen or so figures from Dickey, I could not interpret the instructions recorded for Kūhau Piʻyo ka Lā. There was a major roadblock to learning. Sometime during my yearlong attempt and daily frustration, I was reminded of the admonition of some kūpuna ‘elders’ at a song writing workshop in the mid 80’s. That workshop was two hours and every elder in the room spoke of his or her own version and experience with this saying: “If you want to write a chant or song, you have to pray. You have to pray to God (Jehovah, added for clarity) and He will give you the ability to write.” We didn’t get step-by-step instructions, handouts, or formulas. Just the words, “Pray!” This advice worked for me when I wrote my first song so I embraced their guidance again. As the sun was setting, I put away my string, said a prayer and uttered a short Hawaiian chant asking for insights into learning Dickey’s seemingly difficult-to-understand written instructions. That night I received a dream in which one of my kupuna ‘ancestor’ visited and chanted to me. This female ancestress did not show me any sign or even demonstrate how to create the string figure. All she did was chant.

The next day I sat down to decipher Dickey and in my usual frustration I set the instructions aside to clear my mind. During that waiting period I was somehow led or inspired to allow my fingers to move intuitively. This is what I was led to do:

1. Loop over thumbs and index fingers.
2. Hook little, ring, and middle fingers over distal index string then bring hands close together so that index fingers can hook the thumb-index back string. With indexes facing downward and pulling away turn from each other simultaneously turn them outwards and upwards under their own distal strings. Release little, ring, and middle fingers.
3. From proximal side the little fingers enter the index loops from below and hook down the proximal index string.

Compare this to Dickey’s instructions (only first 3 of 21 steps):

1. Position 1 (loop over thumbs and little fingers with strings running over palms)
2. From distal side pick up left palmar string with ball of right index. Pass left index from proximal side into right index loop, and from the distal side with ball of left index pick up right palmar string. Extend, keeping indexes bent. This is Opening A with indexes turned down.
The aforementioned, inspired initial steps unlocked the rest of the instructions which were more easily decipherable. I would explain that my muscles also seemed to have some memory of the figure although I had not learned it before.

I would compare my result with the figures illustrated in Dickey as a way to affirm and test the resulting figures. This is largely how I learned each figure in the progression of moving string figures made for the retelling of the story of Kūhau Pīyo ka Lā. Thus the figure of the sun rising and tottering of the plains of Kona transforms to a figure representing Kona, which changes to a figure representing Kaÿü, then Puna, Hilo, Hāmākua, Waipiyo and Waimanu, and lastly Kohala, then companion hills, then a man crawling along the shoreline. These figures are very much like road signs on one level. They are also symbolic with deeper meanings at another level that will be discussed below.

Some movements described by Dickey seemed nonsensical to me. For example, when creating Hāmākua and when chanting the line “the gourd is being gripped by the teeth” he lays the figure on a table, separates out two dangling loops and picks it up again. Instead, I took a lead from the Hawaiian text “e nahu ana ka ipu i ka niho”, and grabbed hold of the lead string (representing the rim of a gourd) with my teeth as I separated the two dangling loops in the air that would eventually represent the valleys of Waipiyo and Waimanu.

Throughout the learning of the chant and hei, knowledge of the Hawaiian language assists the creator in constructing the figure. For example, when the chanter says Komo i ka lāyi, he inserts both indexes below each arm of the figure representation for the teetering sun. Komo “to enter” is a signal word for the stringer to insert the indexes into the spaces below the arms of the sun. Dickey does not explain this so only a Hawaiian language speaker would pick up on the signal. Another example happens at Kaÿü, when one chants lele “to jump” a string is released and it “jumps” upwards revealing the new figure, Puna. At Puna when the word nū “to groan” is chanted, the index fingers twists over a string causing the figure to buckle and sway like a groaning sea. Key words appear throughout the chant to assist the hei figure maker in the storytelling. Again, these nuances in the chant are understood only by knowing the Hawaiian language.

As Dickey himself observed, “The Hawaiian is fond of motion or change in a string figure.” These motions and actions assist the viewer and learner in understanding and appreciating the story being told. Here the string, constructed within the confines of the hands, assist in the storytelling just as the hands and feet movements of hula assist in the storytelling. The same cultural rules that dictate the movements of hula also apply to hei and as such, a novice learner of Kūhau Pīyo ka Lā can also apply these rules to the learning of the piece. For example, if the fingers move away from the body they must return back. If the hei is moved up, it must return down. A movement on the right is usually repeated on the left.
As in *hula*, the art of Hawaiian dance, the word clues in the accompanying chant helps the audience to fully understand the *kaona* or hidden meaning of the poetry and assists the performer in how to convey meaning. For example, when I form *Hilo* my eyes widen to express my awe at seeing the large rain clouds of Hilo represented by the large rectangular shapes of the figure. When I form *Hāmākua*, my eyes narrow because I must now concentrate on pulling the figure downwards to show the narrow opening into the precipitous terrain of Hāmākua. The epithet for Hāmākua is "puka kihikihi" or Hāmākua of the "narrow opening" and that is shown symbolically in the figure. When I bite down upon the string to pull it apart (as explained above), my expression is fraught with concentration as one would be scaling the cliffs of Hāmākua collecting bird feathers to place within the gourd dangled and grasped only by the human beak. When my fingers successfully unloosen the lower part of the figure, my eyes widen again and expression lightens up even as a weary traveler would when his eyes beset upon the beautiful vistas of Waipiō, the Valley of Kings.

The last key to solving the problem of relearning *Kūhau Pi'io ka Lā* is the application of traditional Hawaiian knowledge and worldview. In *mele* 'son g, chant', much of the thinking and values of the kūpuna are encapsulated in its *kaona* or 'hidden meaning'. Dickey's Hawaiian informants provided him some *kaona*. For example, he ends the chant saying that these two hills then stand for the lovers as they finally travel the journey of life together. This is true as the hills, Pili and Kalāhikiola, have traditionally been referred to as lovers and he would have only gotten this information from the Hawaiians he interviewed. The meanings of the hills also provide a deeper understanding. Pili means "to be close, to cling" and Kalāhikiola means the "life-bringing sun" or "the day bringing salvation".

The end figure of *Kūhau Pi'io ka Lā* suggests more than stated by Dickey. When the string practitioner chants the last line, *e ne'ye ana ma ka hu'ahu'ua* "creeping amidst the seam foam", the index fingers and thumbs manipulate the figure so that the two hills actually move away from each another. They also get smaller and will actually disappear when extended to the fullest. This suggests a more natural conclusion; the two lovers have come to the end of their natural journey in life.

This idea is supported by traditional knowledge. In speaking of another song, "Hilo Hanakahī", which also tells of a similar journey through the same districts of Hawai'i as in *Ku Hau Pi'io ka Lā*, a noted educator writes:

> Mary Kawena Pukui says that old people advised her when seeking knowledge of the past to travel with her right (strong) arm on the side of the mountains, where strength lies; if one journeys for relaxation or to assuage grief, he journeys with the sea on his left (weaker) side, so that it may wash away his sorrows and tribulations (Elbert & Mahoe, 1970, p. 50).

The journey in *Kūhau Pi'io ka Lā* circuits the island of Hawai'i in a counterclockwise fashion with the left shoulder to the mountains and right shoulder to the sea. This kind of travel also
indicates a journey to wash away the sorrows and tribulations of life. The loving couple apparently has tribulations as suggested in the Kona, Ka‘ū, and perhaps the Hämãka‘u verses. They apparently come together in Kohala at the two hills, Pili and Kalähikiola, but also apparently spend their sunset years separated by death as suggested by the line, ŷo Kãne‘yo‘ypo e ne‘ye ana i ka hu‘ahu‘a, _lame Kãne creeping along the sea foam.

**Maimed Woman in the Moon**

I overlooked the string figure, Lonomuku, for many years. The drawing (figure 25) in Dickey's *String Figures from Hawai‘i* was not attractive to me. In fact, I thought it ugly because it was so assymetrical. It wasn't until I read the description provided that I realized that I knew this story. I had both read the story *Lonomuku* in an old Hawaiian language newspaper as well as heard it told by a kupuna.

Lonomuku was a woman born at Iwi o Pele near the hill Kauiki on Maui. Her husband was a taskmaster who made her carry the refuse a long way in two gourds (pa-ipu) and throw it off a cliff. She finally rebelled and with a gourd under each arm, leaped to the moon. Her husband seized one foot, and when he found he could not hold her back, bit it off. She may still be seen in the moon with a gourd under each arm, and but one foot (Dickey, 1928, p. 51).

There are many variations of the story with the Hawaiian language texts offering more and clearer details. Some versions say that Lonomuku detached her foot to escape her husband's grip. Other versions say that the gourds were actually her children that she transformed in her escape upon rainbow that transported her to the moon. Yet other versions say that the husband, _Aikanaka was abusive. There is an O‘ahu island version of this story because Hi‘iaka points to the hill, Mä‘eyeli‘eli near He‘yeia, which Lonomuku uses as a launching spot to the moon.

In any case, the story of Lonomuku motivated me to learn the string figure. While I had no living kupuna to show me how to construct *Lonomuku*, I had Dickey's instructions, prior knowledge of the story, and prior experiences with Hawaiian hei construction. However, learning *Lonomuku* by reading Dickey's instructions were as daunting as learning Kūhau Pi‘io ka Lā. The instructions were also a major roadblock for me. As I learned to do with Kūhau Pi‘io ka Lā I uttered my pule _prayer_. Again, I received a dream visitation. Pukuÿi (1972, p.172) describes this kind of dream:

The hōiike na ka pō, the revelatory dream, nearly always brought a message from the _yaumâkua_. These ancestor gods spoke clearly or in allusion; they appeared virtually in any of mystical plant, animal, or mineral forms; they hid their appearance in symbol and allegory. But, invariably, the _yaumâkua_ revealed matters close and pertinent to the waking life of the dreamer and his family.
Kameyeleihiwa (1992) and later Benham (1998) also described knowledge received from the _umakua or _kumupa_a spiritual guardians and guides_

In my dream I saw a kupuna merely stepping over the roots of a large tree. This “stepping” I later interpreted as being the instructions as to how the fingers were to move over and under strings. As I learned through my experience in mastering Kūhau Piyo ka Lā, I allowed muscle memory and intuition to guide my fingers in the manipulation of the string. In addition, I used Dickey’s instructions as confirmation and his figures as affirmation to see if my figure was the same and it was.

This hei figure is remarkable because it shows Lonomuku’s torn leg. One side of the figure is long and one side is short. Here is where cultural knowledge must be applied to understand the _kaona_ ‘hidden meaning’ of the figure. Symbolically, the two lateral sides of Lonomuku refer to the two genealogical branches descended from Lonomuku – senior and junior lines. The Hawaiian genealogist and kupuna know that Lonomuku was also called Hina and her husband called _Aikana. Thus, in that genealogy, the longer, vertical lateral string represents Puna, the oldest son. The shorter, vertical lateral represents Hema, the youngest son. From Puna descend all of the chiefs of the islands of Kaua‘i and O‘ahu. From Hema descend all of the chiefs of the islands of Maui, Moloka‘i and Hawai‘i. Genealogical connections are valued and important to Hawaiians because it shows how we are all spiritually connected. Thus, when the grandparent created Lonomuku, she not only retold a story of old but also left her genealogy No doubt part of her storytelling also included admonitions against spouse abuse as well. The elders also used Lonomuku to explain the lunar phases caused by the lame woman’s walkbouts and the craters in the face of the moon, reported to being Lonomuku’s transformed children whom she took with her as she escaped _Aikana.

Sun and Moon Lessons

Hawaiian ancestral knowledge can be accessed when the indigenous researcher knows his or her genealogy, native language, and is grounded culturally. For many Hawaiian researchers, alienation from our ancestral lands and resources separated us from living our culture. Moreover, then, the Hawaiian researcher must ground himself deeply in a cultural activity. When these conditions are met, the researcher may be better able to receive spiritual learning, a final and essential element to indigenous research.

Although string media have changed the vibrations caused by the working of _olonā_ fiber can now be recreated in the vibrations of yarn, kitestring, or nylon. The “string” imprints of yesterday continue to linger in time and space so that when we recreate string figures today; those same imprints are visible to us again. When coupled with the stories and chants of yesterday, the string figure maker also continues to recreate the poetic visions of our ancestors. By remembering these poetic visions we are educated and inspired by the deep knowledge of the old ones that is still accessible to us descendants today.
i Hei also means “to capture or snare”

ii Lua is hand-to-hand combat style involving bone breaking, joint dislocation, and nerve destruction.

iii It is customary to not make string figures at night as the word ‘hei’ also means ‘rigor mortis’ and the movements of the hands at night were thought to resemble the hands of one dying.

iv See Dickey, page 11

v The traditional art of Hawaiian dance uses symbolic hand gestures, feet and body movement, and facial expressions to tell stories that to glorify and honor the gods, the chiefly classes who descended from the gods, and the land, sky and sea which were manifestations of the gods. There is generally a group that chants and a group that dances.

vi Ibid, 18

vii Lonomuku, Ka Nupepa Kuÿokoÿa, March 30, 1865

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