

“MAUNA KEA – KUAHIWI KU HA‘O I KA MĀLIE”

A Report on Archival and Historical Documentary Research

Ahupua‘a of Humu‘ula and Ka‘ohe, Districts of Hilo and Hāmākua Island of Hawai‘i



Summit Region of Mauna Kea (ca. 1926)

(Gregory Photo Collection; Bernice Pauahi Bishop Museum, Neg. No. CP 14982)

Foreground (left and center) – Slope of Pu‘u Mākanaka and ‘Umikoa Trail; Pu‘u (left to right) – Pu‘u Poepoe; Ridge to Pu‘u Kūkahau‘ula (in background); Pu‘u Māhoe; and Pu‘u Ala



Kumu Pono Associates

*Historical & Archival Documentary Research · Oral History Studies · Partnerships in
Cultural Resources Management · Developing Preservation Plans and Interpretive Programs*

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***A Report on Archival and Historical
Documentary Research***

***Ahupua‘a of Humu‘ula and Ka‘ohe,
Districts of Hilo and Hāmākua
Island of Hawai‘i***

BY:

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and Native Lands Institute (NLI)*



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EXECUTIVE SUMMARY

At the request of Ms. Lehua Lopez, President, Native Lands Institute: Research and Policy Analysis (NLI), cultural resources specialist, Kepā Maly (Kumu Pono Associates), conducted archival-historical documentary research and prepared the present study reporting on Native Hawaiian traditions, history, culture, practices, and beliefs; and post contact history for the summit and mountain slopes of Mauna Kea, on the Island of Hawai‘i.

In 1997, the Legislature of the State of Hawai‘i, instructed the State Auditor to prepare an audit of the management of Mauna Kea and the Mauna Kea Science Reserve (Senate Concurrent Resolution 109, Regular Session 1997). Describing Mauna Kea, the State Auditor (Feb. 1998) reported:

Mauna Kea, located on the island of Hawaii, is the highest peak in the Pacific Basin and a distinctive landmark. At 13,796 feet, Mauna Kea’s summit is a unique and fragile environment that houses a number of rare or endemic species. (emphasis added – Auditor’s Report No. 98-6, Feb. 1998:1)

Beyond the unique natural environment, Mauna Kea is also of great significance to the traditions and beliefs of the Hawaiian people. Simply stated, the above referenced audit also observed that “The cultural value of Mauna Kea is largely unrecognized” (emphasis added – *ibid.*:23).

The primary research cited in this study was conducted between August 1996 to March 1997, and is meant to help readers gain further understanding of, and appreciation for the cultural values and history of Mauna Kea. In preparing the study a wide range of archival and historic literature (both in Hawaiian and English) was reviewed. Newly translated native Hawaiian accounts, as well as narratives from early historic surveys and expeditions through the lands around Mauna Kea, and to the summit of the mountain have been compiled and presented in this report. As a result, readers are given access to richly detailed historical narratives documenting that:

- (a) Mauna Kea is the focal point of numerous traditional and historical Hawaiian practices and narratives recorded by both Native Hawaiians and foreign visitors; and
- (b) Mauna Kea is the home of many traditional Hawaiian sites, including, but not limited to: *heiau* and other ceremonial sites, temporary residences, burials, trails, *ko‘i* (adze) quarry complexes, and other cultural-natural resources that are of both traditional and contemporary importance to the Hawaiian people.

When viewed in a cultural historical context, it becomes clear that culturally sensitive and responsible management practices need to be formulated for Mauna Kea. Prepared in consultation with native Hawaiian practitioners and resources specialists, long-term protection of the cultural and natural resource of Mauna Kea can be achieved.

While a great deal more has been, and could be said about the history of Mauna Kea, the present study includes resources that have had only limited availability. Thus, this study, in conjunction with previously reported research (several key references cited in text), and much needed oral historical interviews with Native Hawaiian families—with generational ties to the lands of Mauna Kea—and native practitioners can help set a culturally responsible foundation for long-term protection, management, and interpretation of Mauna Kea.

As spoken of in traditions. As seen from afar, or while touching her slopes, one appreciates that —

Mauna Kea, kuahiwi kū ha‘o i ka mālie

Mauna Kea [is the] astonishing mountain that stands in the calm. (cf. Pukui 1983:2147)

ACKNOWLEDGMENTS

Native Lands Institute

The Native Lands Institute: Research and Policy Analysis (hereinafter NLI), would like to acknowledge, with deep gratitude, The Lannan Foundation, the Pōhaku Fund, and the Wallace Alexander Gerbode Foundation for supporting the “Mauna Kea Project” and our work over the last three years to protect all the cultural and natural resources of Mauna Kea Volcano. Their faith and trust in our abilities and plans, backed by their financial support, allowed the means to recover the knowledge of our *kūpuna* (elders) to begin the lifetime work of restoring and guarding *nā mea Hawai‘i*.

We would also like to acknowledge the general support of the Foundation for Deep Ecology. Their long commitment to fund our office and staff, and continual encouragement from Jerry Mander, has afforded us the time and office resources to do this important work. We also want to give our heart-felt *aloha* to Roger Boone, Peter Thomas (who passed away in December 1997), and Raymond and Janet Ickes, whose individual financial contributions have become invaluable to our existence as a non-profit research institute.

This document is dedicated to all of our *kūpuna* who gave us their time, their prayers, and their well-needed advice in this Project. In particular, we honor our Project advisors, Auntie Pualani Kanaka‘ole Kanahale, and her husband, Uncle Edward Kanahale, for their generous and unflagging support and *aloha* to us. We also extend our *aloha* and *mahalo* to Mililani Trask, Kia‘āina of Ka Lāhui Hawai‘i, whose selfless efforts on behalf of our Project and the Mauna Kea Coalition serve as one of the finest examples of Hawaiian Leadership today.

NLI’s Board of Directors would like to acknowledge with particular gratitude the outstanding work of Kepā Maly, our cultural resources specialist, who doggedly pursued the published and unpublished records to uncover the informational treasures about Mauna Kea Volcano and who wrote this report. We also humbly give a special *mahalo* to Thomas E. Luebben, our volunteer Director of Litigation, and Eric Jantz, our unpaid law intern, for their many long hours of work over the last three years on behalf of our effort to protect Mauna Kea. Just as important to us has been the continuing work of Bruce Masse, Ph.D., our volunteer archaeologist, whose *aloha* for Hawai‘i and its people continues unabated across the span of miles and years.

*Me ke aloha pumehana,
Lehua Lopez, President*

Kumu Pono Associates

In reading this collection of archival and historical documentation and oral histories, I wish to ask you to think of a saying taught to me by *Tūtū papa* Daniel and *Tūtū mama* Hattie Kaōpūiki, my *kūpuna hānai* (adoptive grandparents) on Lāna‘i — “*O ka mea maika‘i mālama, o ka mea maika‘i ‘ole, kāpae ‘ia*” (Keep that which is good and set that which is not good aside). *Tūtū mā* used this saying to ask forgiveness if something was said or done that gave another offense. Thus, I too ask you to keep the good and set the bad aside, for no offense has been meant.

Also, as *Tūtū Kawena Pukui* taught me, I can only “*speak from the door of my own house,*” from that which I have experienced, or that which was shared with me, by natives of the land. I do not profess to have recorded all that could, or should be said about Mauna Kea or the study matter. But, a sincere effort has been made to present readers—with an overview of the rich and varied history of the area; to present the information in its cultural context; and to provide readers with access to sources from which further research may be done.

To all of you—

*E ke Akua a me nā kūpuna a me; kupuna Emma Kauhi; Lehua Lopez (the Native Lands Institute); The Lannan Foundation; the Pōhaku Fund; the Wallace Alexander Gerbode Foundation; Tom Luebben, Esquire; Mililani Trask (*Ka Lāhui Hawai'i*); the late June Gutmanis (curator of the Theodore Kelsey Collection); Kamakaonaona Pomroy-Maly; Yvonne Yarber; the State Survey Division (Randy Hashimoto); the staff of the Hawai'i State Land Management Division and State Archives; the Bernice Pauahi Bishop Museum Archives; the Hawaiian Historical Society Archives; the Lyman House Memorial Museum Archives; and to the many people unnamed here, who provided logistical support, and helped to ensure that the archival research could be completed—*

— *Mahalo nui nō, ke aloha o ke Akua pū me 'oukou a pau!*

'o wau nō me ka ha'aha'a — Kepā Maly

“A'ohē hana nui ke alu 'ia”

— *No task is too big, when done together by all
(Pukui 1986:18).*

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INTRODUCTION

Background

At the request of Ms. Lehua Lopez, President, Native Lands Institute: Research & Policy Analysis, Inc. (NLI), cultural resources specialist, Kepā Maly (*Kumu Pono Associates*), conducted historical-archival documentary research and prepared the present study reporting on Native Hawaiian traditions, history, culture, practices, and beliefs; and post contact history for the summit and mountain slopes of Mauna Kea, on the Island of Hawai'i (*Figure 1*). Primary funding for the study was made available through grants of the Lannan Foundation, the Pōhaku Fund, and the Wallace Alexander Gerbode Foundation.

Approach to Conducting the Study

This study was conducted in a manner so as to comply with the basic guidelines and requirements of the Antiquities Act of 1906, as amended (16 U.S.C. 431-433); the Historic Sites Act of 1935, as amended (16 U.S.C. 461-467); the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470 [note Sections 106, 110, 111, 112, and 402]); the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321-4347); the Advisory Council on Historic Preservation's "Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review" (ACHP 1985); and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended (25 U.S.C. 3001); National Register Bulletin 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties" (Parker and King 1990); the Hawai'i State Historic Preservation Statue (Chapter 6E), which affords protection to historic sites, including traditional cultural properties of ongoing cultural significance; the criteria, standards, and guidelines currently utilized by the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) for the evaluation and documentation of cultural sites (cf. Title 13, Sub-Title 13:274-4,5,6; 275:6); and aspects of the recently adopted guidelines for cultural impact assessment studies (the Office of Environmental Quality Control, November 1997).

Cultural Attachment¹ and Traditional Cultural Properties — An Overview of Federal and State Guidelines

Laws and guidelines, as referenced above have been developed to provide protection for cultural and historic sites, including traditional cultural properties of ongoing cultural significance to native Hawaiians. Thus, they are applicable to the unique cultural and natural landscape of Mauna Kea. In National Register Bulletin 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties" (Parker and King 1990), we find that agencies are required to take the *importance of traditional cultural beliefs or practices (cultural attachment)* into consideration while evaluating cultural resources and proposed actions that will affect their integrity (cf. NRB 38). In defining "*traditional cultural properties*," the National Register states:

"Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a

¹ "*Cultural Attachment*" embodies the tangible and intangible values of a culture—how a people identify with, and personify the environment around them. It is the intimate relationship (developed over generations of experiences) that people of a particular culture feel for the sites, features, phenomena, and natural resources etc., that surround them—their sense of place. This attachment is deeply rooted in the beliefs, practices, cultural evolution, and identity of a people. The significance of cultural attachment in a given culture is often overlooked by others whose beliefs and values evolved under a different set of circumstances (cf. James Kent, "Cultural Attachment: Assessment of Impacts to Living Culture." September 1995).

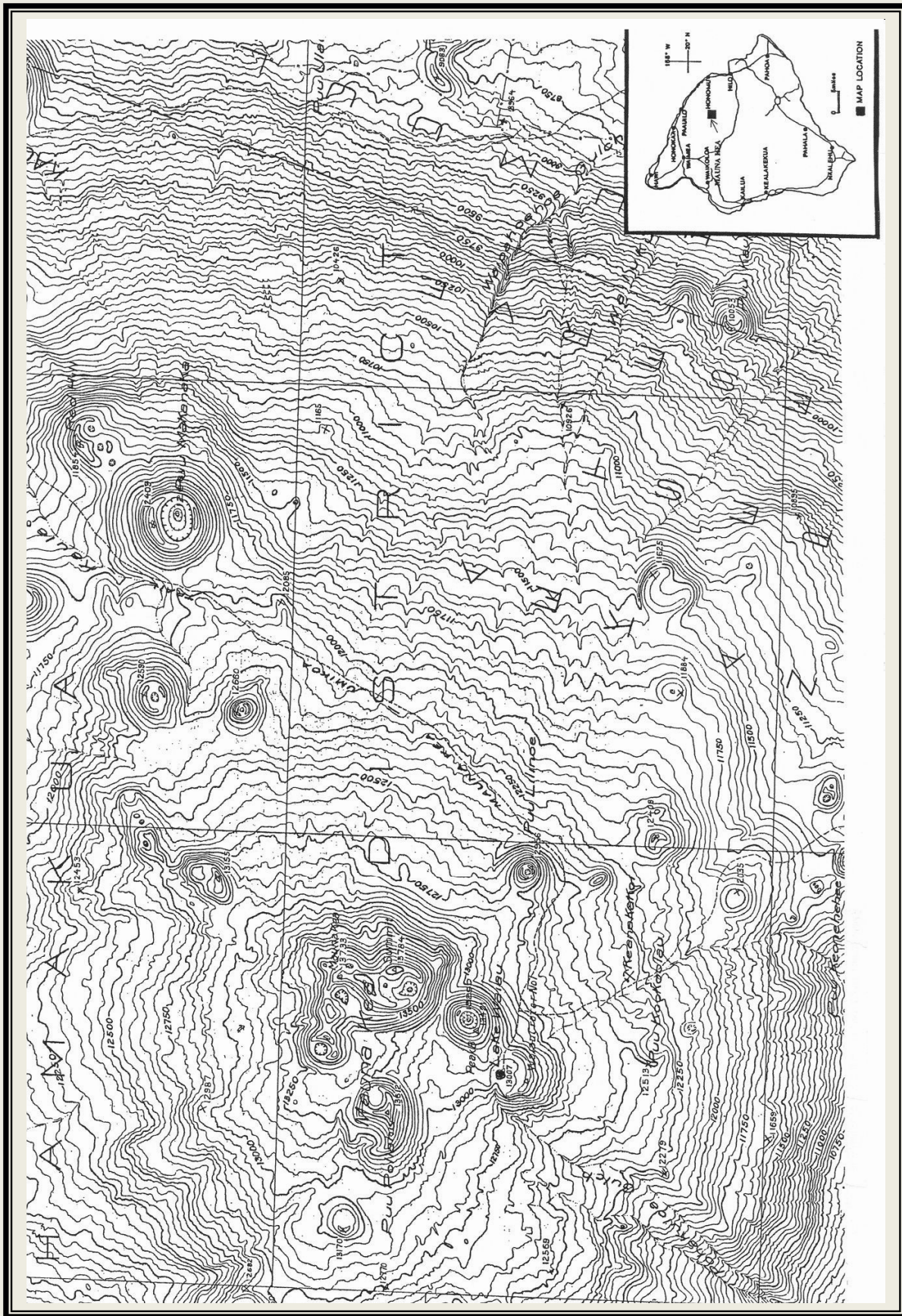


Figure 1. Mauna Kea on the Island of Hawai'i (portion of Lake Waiau Quadrangle; USGS 1926 – Contour interval 50 feet)

historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices...

...A traditional cultural property, then, can be defined generally as one that is eligible for inclusion on the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (Parker and King 1990:1).

The "Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review" (ACHP 1985), states that sites with potential cultural significance are to be evaluated under specific guidelines as prepared by the Advisory Council on Historic Preservation. The guidelines define *cultural value* as:

...the contribution made by an historic property to an ongoing society or cultural system. A traditional cultural value is a value that has historical depth... (ACHP 1985:3)

The guidelines further specify that "[a] property need not have been in consistent use since antiquity by a cultural system in order to have traditional cultural value..." (ibid.:7)

Based upon the traditional and cultural significance—the traditions, sites, practices, and continuing significance of Mauna Kea in the cultural identity of native Hawaiians—the author posits that Mauna Kea would be eligible for nomination as a traditional cultural property under federal law and policies. The native people of Hawai'i have had, and continue to have a deep "cultural attachment" to the broad spectrum of natural and cultural resources of the Mauna Kea. See the section titled, "*Studies of the Twentieth Century*" which also includes limited preliminary recommendations for protection of sites.

Archival and Historical Resources

Archival and historical literature research was primarily conducted between August 1996 to March 1997. The documentary resources reviewed as a part of the study included, but were not limited to: traditional Hawaiian accounts published in Hawaiian language newspapers and manuscripts; land use records—including the *Māhele* (Land Division) of 1848, Boundary Commission Testimonies, and Survey records of the Kingdom of Hawai'i (c. 1860-1900); Malo (1951); I'i (1959); Kamakau (1961, 1964, 1976, and 1991); Ellis (1963); Cook (in Beaglehole 1967); Douglas (1914); Stewart (1970); Bingham (1969); Fornander (1917-1919 and 1973); Thrum (1923); Henke (1929); Coulter (1931); Beckwith (1919, 1970); Stearns and Macdonald 1946; Handy, Handy and Pukui (1972); McEldowney (1982); and Cordy (1994). Resources were viewed in the collections of the State Survey Division, Archives of the State of Hawai'i, Library Archives of the Bernice Pauahi Bishop Museum, the University of Hawai'i-Hilo, Mo'okini Library (microfilm collections), and in the collection of the author.

In this study, readers are given access to richly detailed historical narratives documenting that:

- (a) Mauna Kea is the focal point of numerous traditional and historical Hawaiian practices and narratives recorded by both Native Hawaiians and foreign visitors; and
- (b) Mauna Kea is the home of many traditional Hawaiian sites, including, but not limited to: *heiau* and other ceremonial sites, temporary residences, burials, trails, *ko'i* (adze) quarry complexes, and other cultural-natural resources that are of both traditional and contemporary importance to the Hawaiian people.

The current operational procedures and development conditions on Mauna Kea leave room for the undertaking of a significant amount of work to ensure that culturally sensitive and responsible management practices are developed. Management polices which take into account native traditions of Mauna Kea—developed in consultation with native Hawaiian practitioners and cultural resources specialists—should define how long-term protection of the cultural and natural resource of Mauna Kea will be accomplished, and guarantee the continuation of native cultural practices associated with Mauna Kea.

“MAUNA KEA, KUAHIWI KU HA‘O I KA MĀLIE” A CULTURAL HISTORIC OVERVIEW

An Introduction to the Natural Landscape of Mauna Kea

Like all of the islands of the Hawaiian Archipelago, the island of Hawai‘i² was formed by volcanic eruptions. Approximately 4,095 square miles in size, five volcanic mountains are clearly visible on Hawai‘i today. Kohala, at the northern end of the island, contains the oldest remnant lava flows, some 700,000 years old above sea level. Subsequently, Kohala was followed by Mauna Kea, Hualālai, Mauna Loa, and Kīlauea. Mauna Kea, the area of interest in this study, stands 13,796 feet above sea level. Seasonal temperatures in the summit region range from approximately 18° F., to 65° F., and the summit area receives less than 20 inches of rainfall annually. Typically, the summit region may be covered with snow January through March (Carlquist 1980:64, 69), though snow fall may be seen at various times during the year, as a result of varying weather conditions.

In a discussion of the geology and glacial activities that shaped Mauna Kea, Gordon Macdonald (IN Greeley, 1974), reports that:

Mauna Kea had already reached its present size by the time the last Pleistocene glacier disappeared from its summit, 15,000 years or so ago. Only three lava flows are known that are later than the glacial moraines. There are no Hawaiian traditions of eruptions of Mauna Kea, and it probably has not been active during the last 2,000 years, but it is quite impossible to say whether the volcano is extinct or only dormant. Occasional earthquakes originate beneath it and emphasize the possibility that is may some day erupt again (Macdonald 1974:90).

Macdonald also observes that the oldest exposed lavas of Mauna Kea (above sea level), are visible along the sheer cliffs of Hilo Pali-kū, generally between Hilo Bay and Pa‘auilo (ibid.)

Among the many interesting natural features of Mauna Kea are its high elevation water sources. But, beyond their environmental interest, the springs and pond are of substantial cultural significance in the native traditions of the mountain and it’s deities (see traditional Hawaiian accounts in this study). Stearns and Macdonald (1946) provide us with a description of the “perched ponds” and “high-level ground water” of Mauna Kea, commenting:

Lake Waiau is a nearly circular pond, 300 feet in diameter, situated on the summit platform of Mauna Kea at an altitude of approximately 13,007 feet. It is the highest lake within the boundaries of the Pacific Ocean Basin... The southern rim of the depression containing the lake is a low segment of a cinder cone, Puu Waiau, on which rests moraine of the latest period of glaciation... The lake water is perched on a layer of silt and mud washed into the basin from the sides of the cone and from the glacial moraine... The lowest point of the rim is on the western side, where the lake water occasionally overflows into the headwaters of Pohakuloa Gulch... The water is derived entirely from precipitation and runoff from the edges of the basin... (Stearns and Macdonald 1946:245).

Stearns and Macdonald also observe that the water of Waiau is “probably perched on ground ice” (ibid.:227). While the spring of Waihū, situated at an elevation of 10,387 feet above sea level, is “perched on ashy hill wash interbedded with lavas” (ibid.). Stearns and Macdonald also suggest that “the Waihu Springs on Mauna Kea are supplied in part by melting ground ice” (ibid.:227).

² In deference to Hawaiian nomenclature, the modern term “Big Island” is not used in the original texts of this study. By context, use of the name “Hawai‘i” indicates the island being referenced.

Interestingly, when geologists describe the mass that makes up the single volcanic form of Mauna Kea, they report that it is the tallest mountain on earth. They not only measure it's elevation of 13,796 feet from sea level to peak, but also measure it from it's foundation which is planted on the ocean's floor, nearly 18,000 feet below the surface. Thus, Mauna Kea stands almost 32,000 feet high, with most of the mountain slope hidden beneath the sea (cf. Greeley, ed. 1974 and Kaye 1976).

Mauna Kea — A Cultural Landscape and Sense of Place

Today, as a result of the cultural diversity of our island community, island residents look at the natural and cultural resources around them in different ways and apply different values to them. In the Hawaiian context, these values—the “sense of place”—have developed over countless generations of evolving “cultural attachment” to the natural, physical, and spiritual environments. In any culturally sensitive discussion on Mauna Kea and environs, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins. Cultural resources are not only things of a physical, geographic, practitioner's, or archival nature, but, they are also natural resources—the earth and elements around them. Indeed, the spiritual beliefs, cultural practices, and cultural landscape of the Hawaiian people, were intricately bound to the natural landscape of the islands.

Hawaiian *mo'olelo*, or traditions express the attachment felt between the Hawaiian people and the earth around them. *Mo'olelo* tell us that the sky, earth, ocean, natural phenomena, nature, animate and inanimate forms of life—all forms of the natural environment, from the skies and mountain peaks, to the watered valleys and plains, and to the shore line and ocean depths were the embodiments of Hawaiian gods and deities. One Hawaiian genealogical account, records that Wākea (the expanse of the sky) and Papa-hānau-moku (Papa—Earth-mother who gave birth to the islands)—also called Haumea-nui-hānau-wā-wā (Great Haumea—Woman-earth born time and time again)—and various gods and creative forces of nature, gave birth to the islands. Hawai'i, the largest of the islands, was the first-born of these island children. As the Hawaiian genealogical account continues, we find that these same god-beings, or creative forces of nature who gave birth to the islands, were also the parents of the first man (Hāloa), and from this ancestor, all Hawaiian people are descended (cf. David Malo 1951).

One of the ancient *mele* (chants) handed down through the generations, that records the *mo'okū'auhau* (genealogy) of the islands records:

<i>'O Wākea Kahikoluamea ea,</i>	Wākea the son of Kahikoluamea,
<i>'O Papa, Papa-nui-hānau-moku ka wahine;</i>	Papa, <i>Papa-nui-hānau-moku</i> the wife
<i>Hānau o Kahiki-kū, Kahiki-moe</i>	Kahiki-kū and Kahiki-moe were born
<i>Hānau ke 'āpapanu'u,</i>	The upper stratum was born,
<i>Hānau ke 'āpapalani,</i>	The uppermost stratum was born,
<i>Hānau Hawai'i i ka moku makahiapo,</i>	Hawai'i was born, the first-born
	of the islands,
<i>Ke keiki makahiapo a lāua...</i>	The first born child of the two...
(S.M. Kamakau 1991:126)	

A native account recorded in the early twentieth century by historian Theodore Kelsey (c. 1920), also associates the name of Mauna Kea with the name Wākea—*kea* was an abbreviated form of the name Wākea. Citing conversations with Mr. James A. Iokepa, a native of Hilo, Kelsey noted that he believed Mauna Kea commemorated Wākea (Mauna Kea being “Wākea's Mountain”) (Kelsey notes, page 39; June Gutmanis, Curator; page 24 in this study). Genealogically, the height and prominence of Mauna Kea may be interpreted as the mountains being the eldest of the mountain siblings of Hawai'i, and as the eldest, all others look up to it and are subject to the elder's authority (cf. Malo 1951:55, 243; *Kahu* T.K. Reinhardt, pers comm., Oct. 2, 1996; and P. Kanaka'ole-Kanahahele 1997).

Through the brief narratives cited above, one begins to sense that in a traditional context, natural resources—such as rock outcrops, a pool of water, a forest grove, an ocean current, a mountain, and even the sunrise-tinted snows of Mauna Kea—are valued as cultural properties by the Hawaiian people. It is this “cultural attachment” to the natural world that defines a significant body of traditional cultural properties and cultural practices in Hawai‘i.

Environmental Zones

In Hawaiian Land Management Systems

In this discussion of place names and their cultural value, it is also appropriate to briefly discuss traditional Hawaiian land terms and land management customs. It is important for contemporary readers to know that in the Hawaiian mind all aspects of the land—all natural and cultural resources are interrelated, and that all are culturally significant. Thus, when speaking of Mauna Kea, its integrity and sense of place depends on the well-being of the whole entity, not only a part of it. As introduced in the above narratives, and further recorded later in this study, native testimonies and historical accounts, provide readers with a glimpse into the detailed knowledge that Hawaiians had of the land.

It is also significant that the record of the vast regional land divisions (*ahupua‘a*) of Humu‘ula (in Hilo) and Ka‘ohe (in Hāmākua) included environmental zones and resources that extended from shore to mountain summit, is also significant. Indeed, the high mountain natural and cultural resources added to the wealth and well-being of the *ahupua‘a* residents. Hawaiian customs and practices demonstrate the belief that all portions of the land and environment are related, like members of an extended family, each zone was named, and their attributes were known. Acknowledging the relationship of one environmental zone (*wao*) to another, is rooted in traditional land management practices and values. Indeed, just as place names tell us that areas are of cultural importance, so to, the occurrence of a Hawaiian nomenclature for environmental zones tells us that there was an intimate relationship between Hawaiians and their environment.

The native tradition of Ka-Miki (in *Ka Hōkū o Hawai‘i*, 1914-1917), provides readers with a detailed account of Hawaiian land divisions and environmental zones. While competing in a riddling contest at the court of the chief, Palikū-a-Kīko‘oko‘o, the hero, Ka-Miki sparred with Pīna‘au, the foremost riddler of the district of Hilo Palikū (northern Hilo). The riddles covered topics describing regions from the mountain tips to the depths of the ocean, and descriptions of *kalo* (taro growth), the *ala loa* (trail systems), and *nā mea lawai‘a* (fishing practices). As the contest unfolded, it was seen that each of the competitors were well matched. In one of the riddles, Ka-Miki described the various regions of the island of Hawai‘i, extending from the mountain to the sea. Ka-Miki then told his opponent, that if he could rise to the challenge of answering the riddle, his knowledge could be compared to one who has ascended to the summit of the “*mauna o Polīahu*” (mountain of Polī‘ahu, or Mauna Kea) (IN *Ka Hōkū o Hawai‘i*, September 21, 1916).

Through one of the riddles reader learn about the traditional *wao* or regions of land, districts, and land divisions of the administrators who kept peace upon the land (diacritical marks have been added to these texts). The environmental zones include:

1–*Ke kuahiwi*; 2–*Ke kualono*; 3–*Ke kuamauna*; 4–*Ke ku(a)hea*; 5–*Ke kaolo*; 6–*Ka wao*; 7–*Ka wao ma‘u kele*; 8–*Ka wao kele*; 9–*Ka wao akua*; 10–*Ka wao lā‘au*; 11–*Ka wao kānaka*; 12–*Ka ‘ama‘u*; 13–*Ka ‘āpa‘a*; 14–*Ka pahe‘e*; 15–*Ke kula*; 16–*Ka ‘ilima*; 17–*Ka pu‘eone*; 18–*Ka po‘ina nalu*; 19–*Ke kai kohola*; 20–*Ke kai ‘ele*; 21–*Ke kai uli*; 22–*Ke kai pualena*; 23–*Kai pōpolohua-a-Kāne-i-Tahiti*.

1–The mountain; 2–The region near the mountain top; 3–The mountain top; 4–The misty ridge; 5–The trail ways; 6–The inland regions; 7 and 8– The rain belt regions; 9– The distant area inhabited by gods; 10–The forested region; 11–The region of people below; 12–The place of ‘*ama‘u* [fern upland agricultural zone]; 13– The arid plains; 14–The place of wet land planting; 15–The plain or open country; 16–The place of ‘*ilima* growth [a seaward, and generally arid section of the *kula*]; 17–The

dunes; 18—The place covered by waves [shoreline]; 19—The shallow sea [shoreline reef flats]; 20—The dark sea; 21—The deep blue-green sea; 22—The yellow [sun reflecting— sea on the horizon]; and 23—The deep purplish black sea of Kāne at Tahiti. (ibid.)

Hawaiian Residency and Land Use Practices

As ancient Hawaiian land use and resource management evolved, the *moku puni* or islands were subdivided into land units of varying sizes, and the largest division was the *moku-o-loko* (district - literally: interior island). It appears that the six districts of the island of Hawai'i and the system of developing smaller manageable units of land became formalized by the early 1600s, in the reign of 'Umi-a-Līloa (cf. Kamakau 1961 and Cordy 1994). The districts of Hilo and Hāmākua—in which Mauna Kea sits—are two of the six *moku-o-loko* of the island of Hawai'i. The large districts were in turn, further divided into 'okana or *kalana* (regions smaller than the *moku-o-loko*, yet comprising several other units of land).

In the system of traditional land management, the next, and perhaps most important unit of land was the *ahupua'a*; subdivisions of land whose boundaries were usually marked by altars with images of a pig, carved of *kukui* wood, placed upon them. The *ahupua'a* within which the native Hawaiians lived, represented land divisions that were complete ecological and economic production systems. The boundaries of the *ahupua'a* were generally defined by cycles and patterns of natural resources that extended from the mountainous zone, or peaks, to the ocean fisheries. The natural cycles within the *ahupua'a* were also the foundation of the Hawaiian family, social, political and religious structure, and it can be said that the Hawaiian culture itself, is rooted in the land. This concept is demonstrated in the Hawaiian saying – “*He kalo kanu o ka 'āina*,” which translates literally as “A taro planted on the land.” The saying has been used for generations, to describe someone who was a native of a particular land (Pukui 1983:1447).

The *ahupua'a*, like the larger districts they belonged to, were also divided into smaller manageable parcels. The *'ili lele* were detached parcels with resources in various environmental zones; *kīhāpai* were gardens; *māla* were dryland agricultural parcels; and *kō'ele* were agricultural parcels worked by commoners for the chiefs, and these small land units are among those which were identified by the ancient Hawaiians. These smaller parcels were inhabited and managed by the *maka'āinana* (people of the land) and their extended families. In each *ahupua'a*—from mountain slopes to the ocean—the common people were generally allowed access to all of the various natural resources within a given *ahupua'a* (cf. Kamakau 1961, Boundary Commission Testimonies in this study, and Handy, Handy, and Pukui 1972).

Entire *ahupua'a*, or portions of the land were generally under the jurisdiction of appointed *konohiki* or lesser chief-landlords, who answered to an *ali'i-'ai-ahupua'a* (chief who controlled the *ahupua'a* resources). The *ali'i-'ai-ahupua'a* in turn answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire district). Thus, *ahupua'a* resources also supported the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resource management planning.

Mauna Kea in “Hawaiian Land Matters” (C.J. Lyons, 1875)

In 1875, Curtis J. Lyons, son of Reverend Lorenzo Lyons, of Waimea, and one of the foremost surveyors of the Hawaiian Kingdom, authored a paper on “Hawaiian Land Matters” (Lyons 1875). In his discussion, he provided important references to Mauna Kea and its relationship to the *ahupua'a* of Ka'ōhe and Humu'ula and neighboring lands (underlining is used to emphasize selected points):

The ordinary *ahupuaa* extends from half a mile to a mile into this [forest] belt. Then there are larger *ahupuaas* which are wider in the open country than others, and on entering the woods expand laterally so as to cut off all the smaller ones, and extend toward the mountain till they emerge to the open interior country; not however to

converge to a point at the tops of the respective mountains. Only a rare few reach those elevations, sweeping past the upper ends of all the others, and by virtue of some privilege in bird-catching, or some analogous right, taking the whole mountain to themselves... The whole main body of Mauna Kea belongs to one land from Hamakua, viz., Kaohe, to whose owners belonged the sole privilege of capturing the *ua'u*, a mountain-inhabiting but sea-fishing bird. High up on its eastern flank, however, stretched the already mentioned land of Humuula, whose upper limits coincide with those of the *mamane*, a valuable mountain *acasia*, and which starting from the shore near Laupahoehoe, extends across the upper ends of all other Hilo lands to the crater of Mokuaweoweo... (Lyons 1875:111) (for further documentation on sites and gathering rights, see the Boundary Commission Testimonies in this study)

Kekāhi Inoa ‘Āina a me nā Wahi Pana ‘o Mauna Kea (Some Place Names and Storied Places of Mauna Kea)

There are many place names on the landscape of Mauna Kea that demonstrate the broad relationship of natural landscape to the culture and practices of the people. The occurrence of place names extending from the shore line to the summit of Mauna Kea, is important in that it demonstrates the Hawaiian familiarity with the sites and features, and varied elevations of the mountain. Coulter (1935) observed that Hawaiians had place names for all manner of feature, ranging from “outstanding cliffs” to what he described as “trivial land marks” (Coulter 1935:10). History tells us that named locations were significant in past times, and it has been observed that “Names would not have been given to [or remembered if they were] mere worthless pieces of topography” (Handy and Handy with Pukui, 1972:412). In ancient times, named localities served a variety of functions, including — (1) triangulation points such as *ko‘a* (land markers for fishing grounds and specific offshore fishing localities); (2) residences; areas of planting; (3) water sources; (4) trails and trail-side resting places (*o‘io‘ina*), such as a rock shelter or tree shaded spot; (5) *heiau* or other features of ceremonial importance; (6) may have been the source of a particular natural resource or any number of other features; or (7) the names may record a particular event or practice (e.g., use for burials, or making of *ko‘i* {adzes}) that occurred in a given area.

In 1902, W.D. Alexander, former Surveyor General of the Kingdom (and later Government) of Hawai‘i, wrote an account of “Hawaiian Geographic Names” (1902). Under the heading “Meaning of Hawaiian Geographic Names” he observed:

It is very difficult, if not impossible, to translate most of these names, on account of their great antiquity and the changes of which many of them have evidently undergone. It often happens that a word may be translated in different ways by dividing it differently. Many names of places in these islands are common to other groups of islands in the South Pacific, and were probably brought here with the earliest colonists. They have been used for centuries without any thought of their original meaning... (Alexander 1902:395)

This section of the study provides readers with an introduction to selected place names that have been recorded for sites and features of Mauna Kea. Where possible, the author has included either literal or interpretive translations for place names that lend themselves to such interpretations. It is noted here, that some place names are easily translated, being either a single word, or a compound of two or more words that remain in common usage. Such names are generally descriptive of a landscape or event. Between 1975-1977, the author discussed place names and their interpretations with *kūpuna*, Dr. Mary Kawena Pukui (Tūtū Kawena). In those conversations, Tūtū Kawena shared with the author her opinion that where obvious translations could be made—ones for which traditional interpretations existed, or which were made up of words that remained in common use in the language—place names could be given “literal” translations. For other names, generally, a compound of two or more words that lent themselves to various translations, “interpretive

translations” might be given. In such cases, it is important to make it clear that the translations are “interpretive.” And for some names, it is inappropriate to offer translations, as the possible meaning is too obscure (pers comm. M.K. Pukui).

In this study of historic literature it is seen that the mountain environment of Mauna Kea has played an important role in the growth and evolution of the Hawaiian traditional narratives and cultural significance of Mauna Kea. Early traditional and historic accounts provide readers with documentation of cultural significance, place names, and use of resources of Mauna Kea. Written by Hawaiian and foreign authors from as early as the 1820s, and oral testimonies of native Hawaiians, collected in the 1870s-1880s, narratives exist for areas ranging from the slopes to the summit of Mauna Kea (see selected accounts and testimonies in this study). Also, a number of historic surveys and maps from ca. 1862-1892 identify several sites and features that bear the names of Hawaiian gods and goddesses that are intimately associated with the history of the mountain (cf. *Figure 2* – at the end of this study).

In the summit region of Mauna Kea (from approximately 11,000 feet and above) and on the lower mountain slopes are found several features associated with Hawaiian gods and deity. Among the identifiable place names—deity names—are the following:

Mauna Kea –

May be literally translated as “White Mountain,” because during the winters, the summit is often covered with snow. The peak of Mauna Kea (Pu’u Kūkahau’ula) stands 13,796 feet above sea level. Also, early native accounts (cf. Malo 1951 and Kamakau 1991) suggest that other translations are appropriate. One such account, recorded by an elderly Hawaiian source in c. 1917 by researcher and translator, Theodore Kelsey tells us that “Mauna Kea” may also be translated as “Wakea’s Mountain.” Wākea, also written and pronounced as Ākea and Kea, was the god-father of the island of Hawai’i. The island child was born by Papa or Haumea, the goddess who gave birth to islands. Mauna Kea as a place name, can be traced to the earliest written and cartographic resources of the Hawai’i; for examples see the Journals of Captain James Cook (Beaglehole 1967) and S.C. Wiltse (in Register Map No. 668).

Houpo-o-Kāne

also written

Ka-houpo-o-Kāne –

May be literally translated as “The chest (bosom) of Kāne.” The god Kāne is believed to be foremost of the Hawaiian gods, and is credited with creation, procreation, light, waters of life, abundance, and many other attributes. A land being likened to the chest of Kāne, can imply that the land was cherished and blessed by the god Kāne. (This name is now written Hopukani; known as one of the springs near the 10,000 foot level on the north side of Pōhakuloa Gulch.)

S. N. Hale’ole’s tradition of Lā’ie-i-ka-wai (In *Kū ‘Oko’a* 1862-1863), records that “Kahoupokane” was one of three companions of Poli’ahu. The other two companions were Lilinoe and Waiau.

The area identified as Ka-houpo-o-Kāne is situated below Waiau, on the southwestern slopes of Mauna Kea, in the land of Ka’ohe (Figure2). One of the primary attributes of Kāne are the wai ola (life giving waters), sacred springs and water sources made by Kāne around the islands, to provide for the welfare of the people and the land (cf. Kamakau 1976 and Beckwith 1970). Interestingly, at Ka-houpo-o-Kāne are found the waters of Pōhakuloa, Hopukani, and Waihū (also known by the name “Ka-wai-hū-a-Kāne”).

Pu'u Lilinoe –

Lilinoe hill (Interpretive): named for the goddess Lilinoe (Mist), a goddess of mists and sister of Poli'ahu (Pukui and Elbert 1971:392). Traditional accounts cited in this study also identify Lilinoe as having been a chiefess, who secluded herself on Mauna Kea, and upon death was also buried in a cave near the summit. Lilinoe is a hill that rises to 12,956 feet above sea level, and situated to the southeast of the summit peak. As a place name, Lilinoe is cited in accounts dating back to at least the 1500s (cf., Kamakau 1961:215, 285), and is cited in surveys and testimonies in 1873 (Lyons Reg. Map No. 1641).

During the course of conducting this study, it was found that the original field survey books of W.D. Alexander, identify the presence of a *heiau* or possible burial platform near Lilinoe, on the Lilinoe side of a trail and the “axe maker’s caves” (1892 – Reg. No. 429 in the collection of the State Survey Division) (*Figure 3*).

Pōhaku-a-Kāne –

May be literally translated as the “Stone made by Kāne.” A traditional Hawaiian account recorded in the early twentieth century tells us that Pōhaku-a-Kāne, also called *Ka-paepae-kapu-a-Kāne* (the sacred platform of Kāne), was named for a form taken by the god Kāne. A platform near Waiau was named for and dedicated to this deity (see the historical narratives in this study).

Kū-ka-hau-'ula –

Kū of the red hewed dew or snow: named for a male deity form of the god Kū and lover of Poli'ahu, goddess of the mountain (see the section of traditional narratives in this study). Kūkahau'ula is identified in the Boundary Commission testimonies of 1873 as the highest peak on Mauna Kea (now generally identified as Mauna Kea peak or Pu'u Wekiu) and is recorded by C. Lyons in his 1884 survey the summit peaks of Mauna Kea (cf. Register Map 1210 of 1884; in the collection of the State Survey Division). (*Figure 2*)

Ka-lua-kā-ko'i –

The cave (or pit) for making adzes (Literal). Kaluakāko'i was identified by native informants as early as 1862, and recorded by Wiltse on his survey map of the *ahupua'a* of Humu'ula (*Figure 4* –Register Map 668; at the end of study). The site is identified in oral testimonies of native Hawaiians (“Kaluakaakoi” cf. Boundary Commission Testimonies of 1873; in this study), who's families had collected the dense stone for making *ko'i* or adzes. By the 1890s, the name was being written as “***Ke-ana-ka-ko'i***” (translated similarly to the earlier name) (*Figure 5* – Register Map 1860; at end of this study).

Though the name, Kaluakāko'i is not directly associated with a deity, the god Kū, in a variety of his forms, was evoked in the rituals and observances associated with procuring the stone and making the adzes (cf. Malo 1951; cited in this study).

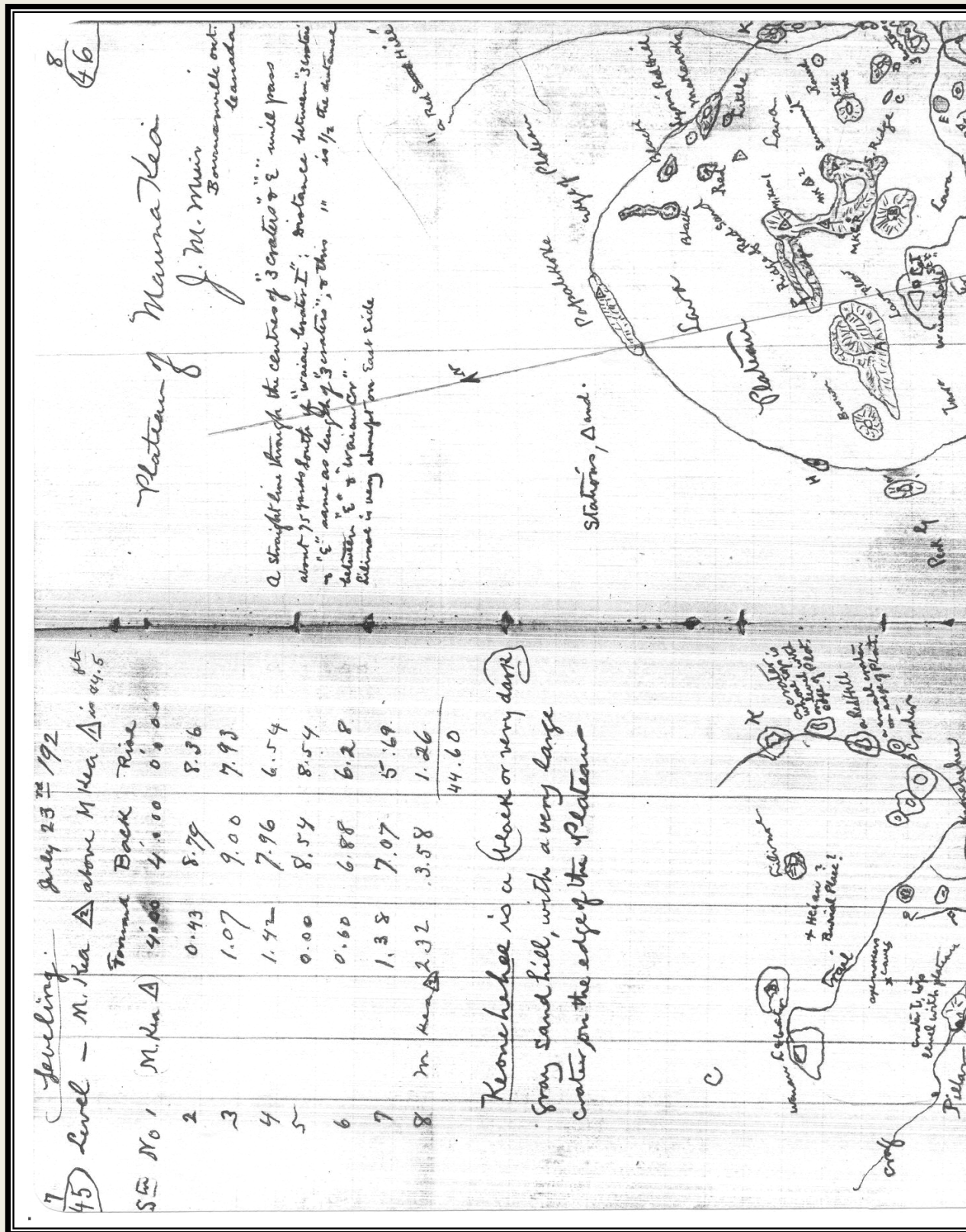


Figure 3. Sketch of the Mauna Kea Summit with area of Heiau or Burial Place (W. D. Alexander, Field Note Book, Reg. 429:7-8)

Pōhaku-loa –

May be literally translated as the “Long Stone.” A traditional account recorded in the early twentieth century tells us that Pōhakuloa was named for a deity who was a guardian of *Ka-wai-kapu-a-Kāne* (The sacred water of Kāne) at Waiau. The name Pōhakuloa is applied to a land area, gulch, and water source situated on the slopes of Mauna Kea and making up a portion of the saddle between Mauna Kea and Mauna Loa. As a place name, Pōhakuloa can be traced back to at least the Boundary Commission testimonies of native informants in the 1870s (see selected narratives in this study).

Pu’u Poli’ahu –

Poli’ahu hill (Interpretive): named for Poli’ahu (Clothed or garment covered breast), goddess of the snows of Mauna Kea. A hill that reaches 13,612 feet above sea level, Pu’u Poli’ahu is to the west of the summit peak. Poli’ahu is recorded as a place name in accounts dating back to at least the 1500s (e.g., Kamakau 1961:16-17), and is cited in surveys as early as the 1860s (Wiltse Reg. Map No. 668).

Waiau –

Is literally translated as “Water current,” or “Swirling water.” In 1862-1863, S. N. Hale’ole penned the traditional account of “Lā’ie-i-ka-wai” in the Hawaiian newspaper, *Kū ‘Oko’a*, translated by Martha Beckwith (1919 and 1970; excerpts cited in this study). In Hale’ole’s original account (viewed by the author in the microfilm collection of the University of Hawai’i-Hilo, Mo’okini Library) the place name was printed “Waiau³.” Hale’ole recorded that “Lilinoe, Waiau, and Kahoupokane” were three god-companions of the goddess Poli’ahu (Hale’ole Jan. 24, 1863). In 1873, ten years after Hale’ole’s writing, native informants (some of whom were close to 90 years old), testifying before Boundary Commission, identified the pond as being named Waiau (selected texts cited in this study).

Two other early historic accounts also reference the site, simply identifying it as the spring or pond of Poli’ahu. In 1870, Samuel Kamakau recorded that in the 1500s, the already “ancient mountain trail between Hāmākua and Hilo passed Poli’ahu’s spring at the summit” (Kamakau 1961:16). During his mapping survey of Humu’ula in 1862, Wiltse cited the presence of “pond Poli’ahu” (Register Map No. 668). Wiltse did not personally see the pond of Poli’ahu (Waiau), but was provided information from native informants who guided him through the Humu’ula region.

Another traditional account recorded in the early twentieth century tells us that the crater and lake known by the name Waiau, were named for a goddess chiefess “*Ka-piko-o-Waiau*,” who was the ward of Poli’ahu and Lilinoe (see account from the story of Ka-Miki, translated by the author in this study). Indeed, Waiau is situated to the southwest of the summit at an elevation of 13,007 feet above sea level, and, is figuratively watched over by the higher peaks.

³ Relying upon Beckwith’s 1919 and 1970 translations of Hale’ole’s “Lā’ie-i-ka-wai” texts, previous writers have perpetuated a typographical error in the name of Waiau. Typed as “Waiaie” in Beckwith’s manuscripts, later writers assumed that Hale’ole had not used the name “Waiau,” thus crediting later authors with use of the name (cf. McEldowney 1982:A-6). As a part of the present study, the author reviewed Hale’ole’s texts in the Hawaiian newspaper *Kū ‘Oko’a* (1862-1863), and found that Hale’ole had indeed used the name “Waiau,” not “Waiaie.”

Kekāhi Hana Ma‘a Mau ma ke Kuahiwi (Some Native Practices on the Mountain)

The preceding discussion on place names and some of the native customs, beliefs, and practices associated with of Mauna Kea and the surrounding lands, shows that the Hawaiians shared an intimate relationship with, and understanding of the diverse resources of the area. David Malo, eldest of the early Native Hawaiian historians wrote about the *akua* (gods) that his *kūpuna* called upon in the mountainous regions. He also described some of the early practices and ceremonial observances associated with going to the mountains, the gathering of stone for *ko‘i* (adzes or axes), and the harvesting of *koa* from the forests for canoes. One of Malo’s accounts (1951) also provides a clue as to the naming of the Humu‘ula region. Selected excerpts from his writing are presented here as they demonstrate the depth of the native relationship with the land.

Kā Ko‘i (Adze making)

1. The ancients applied to various hard, or mineral, substances the term *pohaku*, rocks or stones... [2.] A great many names were used to distinguish the different kinds of rocks. In the mountains were found some very hard rocks... Axes were fashioned from some of these rocks, of which one kind was named *uli-uli*, another *ehu-ehu*. There were many varieties.
3. The stones used for axes were of the following varieties: *ke-i*, *ke-pue*, *ala-mea*, *kai-alii*, *humu-ula* [Humu‘ula], *pi-wai*, *awa-lii*, *lau-kea*, *mauna*. All of these are very hard, superior to other stones in this respect... [Malo 1951:19]
1. ...The ax [adz] of the Hawaiians was of stone. The art of making it was handed down from remote ages. Ax-makers were a greatly esteemed class in Hawaii nei. Through their craft was obtained the means of felling trees and of cutting and hewing all kinds of timber used in every sort of wood work. The manner of making an ax was as follows:
 2. The ax-makers (*poe ka-ko‘i*) prospected through the mountains and other places in search of hard stones suitable for ax-making, carrying with them certain other pieces of hard stone, some of them angular and some of them round in shape, called *haku ka-ko‘i*, to be used in chipping and forming the axes... [ibid.:51]
 12. ...The *ko‘i*, or stone ax, was a possession of value. It was used in hewing and hollowing canoes, shaping house timbers and in fashioning the agricultural spade, the *o-o*, and it had many other uses. [ibid.:78]

The Gods of the Heavens, Mountains, and Forests and those called upon by Native Practitioners

8. ...Of the gods that were worshipped by the people...the following are such as were worshipped by those who went up into the mountains to hew out canoes and timber: *Ku-pulupulu*, *Ku-ala-na-wao*, *Ku-moku-halii*, *Ku-pepeiao-loa*, *Ku-pepeiao-poko*, *Ku-ka-ieie*, *Ku-palala-ke*, *Ku-ka-ohia-laka*. *Lea*, though a female deity, was worshipped alike by women and canoe makers.
9. *Ku-huluhulu-manu* was the god of bird catchers, bird snarers (*poe ka-manu*), bird limers and of all who did feather work... [18.] The deities worshipped by the male chiefs were *Ku*, *Lono*, *Kane*, *Kana-loa*, *Ku-makaiki*, *Ku-maka-nui*, *Ku-makela*, *Ku-makaakaa*, *Ku-holoholo-i-kaua*, *Ku-koa*, *Ku-nui-akea*, *Ku-kaili-moku*, *Ku-waha-ilo-o-ka-puni*, *Ulu*, *Lo-lupe*—this last was a deity commonly worshiped by many kings. Besides these there was that countless rout of (woodland) deities, *kini-akua*, *lehu-akua*, and *mano-akua* [40,000, 400,000, and 4,000 gods] whose shouts were at times distinctly to be heard. They also worshiped the stars, things in the air and on the earth, also the bodies of dead men. Such were the objects of worship of the kings and chiefs...

19. ..The following gods were supposed to preside over the different regions: *Kane-hoalani* (or *Kane-wahilani*) ruled over the heavens; the god who ruled over the earth as *Kane-luhonua*; the god of the mountains was *Ka-haku-o*; of the ocean, *Kane-huliko*.
20. The god of the east was *Ke-ao-kiai*; of the west, *Ke-ao-halo*; of the north, *Ke-ao-loa*; of the south, *Ke-ao-hoopua*. The god of winds and storms was *Laa-maomao*.
21. The god of precipices (*pali*) was *Kane-holo-pali*; of stones, *Kane-pohaku*; of hard (basaltic) stone, *Kane-moe-ala*... [ibid.:82-83]

In describing the process of entering the mountain forests to choose a *koa* tree for a canoe, Malo (1951) reports that the *kahuna kālai wa'a* (master canoe maker-priest) prayed first, and then entered the forest. Rituals were observed to determine if the selected tree was good, and upon learning it was:

5. ...Preparations were made accordingly to go into the mountains and hew the *koa* into a canoe. They took with them, as offerings, a pig, coconuts, red fish (*kumu*), and *awa*. Having come to the place they camped down for the night, sacrificing these things to the gods with incantations (*hoomana*) and prayers, and there they slept.
6. In the morning they baked the hog in an oven made close to the root of the *koa*, and after eating the same they examined the tree... [7.] The *kahuna* took the ax of stone and called upon the gods: "O *Ku-pulupulu*, *Ku-ala-na-wao*, *Ku-moku-halii*, *Ku-ka-ieie*, *Ku-palalake*, *Ku-ka-ohia-laka*." These were the male deities. Then he called upon the female deities: "O *Lea* and *Ka-pua-o-alakai*, listen now to the ax. This is the ax that is to fell the tree for the canoe..." [ibid.:126-127]

Similarly, most native writers and a number of early historic visitors, document that each task, and every action undertaken in the forests and on the mountain slopes was accompanied by rituals.

Nā Mea Kilo Hōkū ***(Those who Observed and Studied the Stars)***

A number of native writers of the nineteenth century described the importance and relationship of *hōkū* (stars) in Hawaiian beliefs, culture and practices. Kamakau (1964) tells us that there were many orders of *kāhuna* (priests and expert practitioners). He also recorded that generally, those practitioners in the various orders of the priesthood were of the *papa ali'i*, or chiefly class (Kamakau 1964:7). Among the *kāhuna* were several classes of priest-experts, who specialized in learning about the heavens—both near earth and in the distant night skies. Those *kāhuna* belonged to the classes of:

Papa kilokilo lani those who could read the signs, or omens, in the sky; the *kilo hoku*, those who studied the stars; the *kilo 'opua*, those who studied and read the omens in clouds... (Kamakau 1964:8)

In native traditions, it is recorded that the stars and their alignments in the heavens played an important role in the lives of the people. The appearance and position of stars and constellations in the Hawaiian skies announced the beginnings of ceremonial periods, the transitions of seasons, set in place the times of worship of particular gods, and were portends of events of personal and national importance (cf. Malo 1951, I'i 1959, and Kamakau 1964 and 1976). One of the *mele pule* (prayers) of the god Lono, which announces the *Makahiki*⁴, coinciding with the arrival of *Makali'i* (Pleiades) on the horizon, attributes the placement of the stars in heaven to Lono —

⁴ A traditional festival dedicated to the god Lono, beginning about the middle of the month of October and lasting four months till around mid February. The season was dedicated to the celebration of Lono's abundance on earth (harvest, rains, and fertility, etc.), and a period of festivities, with restrictions on war.

*'Ou kino e Lono i ka lani
He ao loa, he ao poko,
He ao kiei, he ao halo,
He ao ho'opua i ka lani...
'Oi ho'okui aku o Lono ka
hōkū e miha i ka lani...*

Your bodies o Lono are in the heavens,
⁵A long cloud, a short cloud,
A watchful cloud, a peering cloud
A cloud that rises in the heavens...
It is Lono who set the stars
that flow through the heavens...
(cf. Malo 1951:146; pers comm.
M.K. Pukui 1976)

In 1865, S.M. Kamakau wrote about ancient Hawaiian astronomy, as he had been instructed by the aged Kāneakaho'owaha of Kamehameha I's time (translated by W.D. Alexander, 1891). Several alignments were followed by the ancient navigators. Among them were "*Ke alaula a Kane*" (the dawning, or bright road of Kane), on the east; "*Ke alanui maaweula a Kanaloa*" (the much traveled highway of Kanaloa), on the west; and "*Ke alanui i ka Piko o Wakea*" (the way to the navel [equator] of Wakea) (Kamakau in Alexander 1891:142). After describing several other customs and practices, Kamakau closed his article saying:

All this knowledge contemplate frequently, and remember it by heart, so that it may be useful to you on the rough, the dark and unfriendly ocean. (ibid.:143)

Hawaiian Astronomy and Navigation The Journal of William Richards (1841)

The following narratives are excerpted from an 1841 manuscript written by William Richards, in answer to a series of questions asked by Captain Charles Wilkes, Commander of the United State Exploring Expedition. While Richards comments are at times bigoted and minimize the extent of traditional Hawaiian knowledge of the universe around them, the documentation pertaining to aspects of native knowledge of the skies and navigation, is of historic value. His manuscript offers readers one of the earliest written accounts of such knowledge and the documentation of native customs and practices.

Wm. Richards was among the party of first American missionaries to arrive in the Hawaiian Islands (in 1820), and by the death-bed request of the sacred chiefess Keōpūolani (in 1823), he raised Kauikeaouli (Kamehameha III) and his sister, Nahi'ena'ena. In his life time, Richards served in many official capacities in the Hawaiian Kingdom. Richards identifies chief and counselor to Kamehamehas I, II, and III, Hoapili, as the primary source of his information, which was reportedly corroborated by Kamehameha III prior to Richards sending it to Wilkes (in text below).

Ulumaheihei Hoapili was the son of Kame'eiamoku, one of the "four Kona uncles" and confidants of Kamehameha I. Kame'eiamoku and his twin brother Kamanawa were of a line of priest of the "class of Ka-uahi and Nahulu" (Kamakau 1961:188, 190, 231). When Kame'eiamoku died in 1804, his son Hoapili, inherited his father's position, which he retained until his death in 1840. It was also Hoapili, who in 1819, cared for and hid the bones of Kamehameha I (Kamakau 1961:211, 212, 215).

⁵ Malo (in this study) also identified the "ao" cloud-forms as deity of the mountains and forests.

[page 1]

Wm. Richards Journals
Lahaina March 15—1841

Capt. Wilkes

Dear Sir

Previous to your departure from the Islands, I must acknowledge the reception of yours of the 9th. But, in which you have done me the honor to propose several very important questions in relation to these Hawaiian Islands.

I beg you to receive this rather as an apology, than as a full reply to those questions, for though I feel the deepest interest in the subject of them, and the strongest wish that they should be correctly answered, yet your very limited stay at this place removes all possibility of doing justice to a reply. The simple subject of the Government would require a volume to give a full view of it. I can not even enter up on the theory of it in its various branches but simply state a few facts representing it...

[Page 37]

...**"10th If any knowledge of Astronomy."**

Of the system by which the heavenly bodies are regulated, the Hawaiians had no knowledge. With a few of the most noticeable facts in relation to the planets they were acquainted. They were some what accurate observers of some of the phenomina [sic] of the heavens. There was a clan of persons whose profession it was to watch the motions of the stars. The late Hoapili with whom I have often conversed on the subject was accounted one of their most skillful astrologers. From him I learned that they had names for many of the largest stars, and principle constellations. They were acquainted with five planets, which they called "traveling stars." Hoapili was much in the habit of observing these that he could at any moment tell the then present positions of each.

[page 38]

Their names were as follows:

Kawela — Mercury

Naholoholo — Venus

Hoomanalonalo — Jupiter

Holoholopinaau — Mars

Makulu — Saturn.

Hoapili said he had heard from others that there was one more traveling star, but he never recognised [sic] it, and was acquainted with only these five. The more distinguished fixed stars and constellations not only had their distinct names, but the people were in the habit of observing them so accurately that they judged the hours of the night quite as correctly as they did the hour of the day. This remark applies most particularly to the fishermen and those persons whose employment called them to be out considerably in the night.

It was by the particular positions of the planets in relations to certain fixed stars and constellations , that the prophets grounded their predictions in relation to the forte of battles, the success of new enterprises [page 39] &c, &c. The contiguity of their

planets to certain fixed stars was considered to be a real indication of the pending death of some high chief. The goddess of the Volcano was also supposed to hold intercourse with these traveling stars, and from their movements therefore, the people often predicted hers.

The motions of the stars in the vicinity of the north pole, attracted their attention considerably and were often a subject of dispute among the astrologers. These there said were "traveling stars, but they travel regularly, where as the others wander here and there."

Of the true manner of accounting for these phenomina they had not the most distant conception.

Their best Chronologists, measured time by means both of the moon and fixed stars. They divided the year into twelve months, and each month into thirty days. They had a distinct name for each of the days of the month, and commenced the numbering on the [page 40] first day that the new moon appeared in the west. This course made it necessary to drop a day about once in two months, and thus reduce their year to twelve lunations instead of three hundred and sixty days which they numbered according to their theory.

This being about eleven days less than the sidereal year, they discovered the discrepancy, and corrected their reckoning by the stars. In practice therefore, the year varied, having some times twelve, and some times thirteen lunar months. So also they sometime numbered twenty nine days in a month.

Though their system was thus broken and imperfect, still as their chronologists could tell the name of the day and the name of the month on which any great event occurred, it was generally easy to revise their time to ours by a reference to the phase of the moon at the time. But when the change of the moon takes place about the middle of our calendar month, then we are liable to a mistake of a whole month in reducing their time [page 41] to ours. We are also liable to another mistake of a single day from the uncertainty of the day that the moon was discovered in the west. Having nothing to rely upon except merely their memories, they were also liable to numerous mistakes even in their own method.

Eclipses were uniformly considered to be brought about by an attack of the gods on the sun & moon, and always presaged a war, the death of some high chief, or some other disaster.

The ability of foreigners to predict eclipses, and other astronomical phenomina at first created the highest astonishment. The first almanac published by the American missionaries predicting the phases of the moon, eclipses, tides &c., in 1834, was received by them with great interest, and tended much to confirm their belief in the testimony of the missionaries on every subject.

They were however themselves, in the habit of referring the tides to the actions of the moon, and when they could see the moon, were able to tell the state of [page 42] the tides.

Though they thought much of their success depended on their acting on it were in unison with the heavenly bodies, yet as they were unable to calculate even the most simple of all the movements of the planets for any length of time before hand, they were unable to plan their battles or their enterprises with reference to any particular positions of those planets, and therefore, when the time arrived and they saw that position to be what they supposed unfavorable, they were often at once discouraged and gave up their enterprise, or fled from their enemies even though not pursued.

Could one of their ancient warriors have known enough of astronomy to have calculated even a few of the more simple celestial phenomina, it would have given

him vast advantage over those who had not that knowledge; for he might then have planned his attacks and his enterprises in conjunction with the heavenly bodies, and his followers seeing their positions favorable would [page 43] have been inspired with undaunted courage, while his enemies would have fled in dismay, thinking that they were contending not only with human enemies but with the stars in their course too.

The first little book which was published containing some of the true principles of astronomy awakened their surprise and they at once brought forth the common vulgar objections to it.

Hoapili the astrologer mentioned above, said however, respecting the figure of the earth, "Stop, do not be so quick with your objections to the foreign theory. Fact is look at it. This is what I have always seen. When I have been far out at sea on fishing excursions [sic], I always first lost sight of the beach — then the houses and trees — then the low mountains and last of all the high ones. So, when I returned, I first saw the high mountains, then the lower ones, then the trees and houses, last of all, the beach. I think these foreigners are right, and that the earth is round." [page 44]

11th If any knowledge of Navigation.

The Hawaiians were in the habit of sailing frequently from one Island to another in the group, and were frequently out of sight of land, both on these voyages and on their fishing excursions, but still they can hardly be said to have any knowledge of navigation. They were pretty accurate observers of the weather, and of certain atmospheric phenomina, & their observations of these together with the heavenly bodies, when in sight, enabled them to sail a little distance from land with considerable safety.

They usually never went out of sight of land except by accident.

When they found themselves in these circumstances, they rely mostly on the heavenly bodies if in sight. If not, they were able to judge of the points of compass by the winds and state of the atmosphere, there being considerable difference in the appearance of the weather according to the direction of the wind. The appearance of the clouds in the vicinity of or in the direction of land afforded them another beacon. Probably very few Hawaiians have ever been lost at sea by mistaking the points of compass and sailing away from land. Their disasters arose from the frailty and smallness of their canoes, which being in some manner disabled by stress of weather, they were prevented from shaping their course in the direction they desired.

Their skill in the management of canoes was perhaps unexampled, especially in the surf. But since the high chiefs have possessed foreign vessels, there is sailing to a distance in canoes, and the people are probably losing a portion of their skill.

They do well in the management of their own vessels. No one has ever been lost by being driven away from land. The science of navigation is now taught in the seminary and a considerable number have made proficiency in the study... [page 59]

...Thus Sir, in a very hasty and imperfect manner have I attempted the near outline of a reply to your important questions. I regret my inability to do it in a more perfect manner.

Several of the subjects were too extensive to allow even an outline of an answer in this letter. But what I have written you may rely upon as correct, for you have it not on my authority only but also on the King's as I have read the above to him and he pronounces it the truth.

Be pleased Sir to accept the assurance of the high considerations and esteem with which I remain very truly your most obedient servant.

To Charles Wilkes ESQ

Commander of the U.S.A.

Exploring Expedition.

(Hawaii State Archives Series M-126)

It is noted here, that while conducting this study, the author found no specific archival references to *kilo hōkū* on Mauna Kea. But, the significant association of the gods and deity whose forms are seen in the heavens and whose names are also commemorated at locations on Mauna Kea is important to the cultural significance of the mountain. It is very likely that practices of the native *kilo hōkū* occurred on Mauna Kea, but, they were either unwritten, or await being brought to light once again.

While today, Mauna Kea is valued as an astronomical center—and this may be rooted in earlier native practices—the ancient Hawaiian practitioners were mindful of their foundation, the *papa honua* (earth) upon which they stood. These islands, the children of the native gods and creative forces of nature, also gave birth and life to the *kānaka* (people). Naturally, one could not look out heavenward, without first looking down, and being mindful of the responsibility people have to care for the *papa honua*. This is a custom which is of value to all who cherish Mauna Kea.

KEKĀHI MO‘OLELO NO MAUNA KEA (SELECTED HISTORIC NARRATIVES OF MAUNA KEA)

In native Hawaiian traditions may be found documentation of land use, cultural practices, belief systems, and features of the cultural and natural landscape. The narratives convey a sense of place and cultural attachment that Hawaiians of the time applied to given areas, and also offer us a glimpse into the depth of the relationship that ancient Hawaiians shared with their environment. This relationship and cultural attachment remains strong for many native Hawaiian today, and is being actively taught to the youth.

To understand some aspect the significance of Mauna Kea in ancient Hawaiian life, one must look not only at the summit peaks, but also at the lands and diverse resources that rested upon its slopes. Parts of three of the *moku-o-loko*, or major districts of the island of Hawai‘i (Hilo, Hāmākua, and Kohala) are nestled upon the slopes of Mauna Kea. Within these districts, the native Hawaiians found some of the richest natural resources of the island of Hawai‘i. The resources of Mauna Kea in turn sheltered and gave life to the people of the land.

Perhaps because Mauna Kea rises nearly 14,000 feet above sea level, much of its Hawaiian history appears to be recorded from afar. This fact is easily understood in native culture, where Hawaiian people considered lands situated within and above the cloud line to be *wao akua*, a region peopled by the gods and spirits, who gave life to, and who were worshipped by the *kama‘āina* (children of the land, natives). The *wao akua* and upper slopes were a place where the creative forces of nature chose to walk upon the land, with their activities concealed by the clouds and mists that rested upon the earth.

In the Hawaiian traditions of Mauna Kea that were formally recorded in the 19th and early 20th centuries we are provided a body of documentation pertaining to traditions of Mauna Kea and its neighboring lands. A number of narratives, as referenced above, associate the names of ancient gods and deities with specific sites and place names on Mauna Kea. Additionally, there are narratives that record the collection of mountain resources, and the occurrence of funerary practices on Mauna Kea. The following texts, provide readers with single-source access to some of the earliest records of Mauna Kea as a mountain entity, and also includes a few historic selections that have not been readily available to readers.

1823-1880: Hawaiian Traditions and Early Historic Narratives

“Kai-a-ka-Hina-lii”

In 1823, British missionary William Ellis, and members of the American Board of Commissioners for Foreign Missions (ABCFM) toured the island of Hawai‘i seeking out community centers in which to establish church strongholds for the growing Calvinist mission. In Ellis’ Journal (1963), we find the first Hawaiian tradition written in reference to Mauna Kea (Mouna-Kea). Following a sermon, in which Ellis had mentioned the biblical account of the Great Flood and Noah’s Ark, several Hawaiians approached Ellis with questions. Ellis reports:

They said they were informed by their fathers, that all the land had once been overflowed by the sea, except a small peak on the top of Mouna-Kea, where two human beings were preserved from the destruction that overtook the rest, but they said they had never before heard of a ship, or of Noah, having always been accustomed to call it the *kai a Kahinarii* (sea of Kahinarii)... (Ellis 1963:321).

“Na Kaao a Kekahi Elemakule o Hawaii”

One of the earliest recorded native Hawaiian accounts that offers readers a glimpse into the history of Mauna Kea was collected in 1853. Significantly, the account presents offers readers with one of the few descriptions of *heiau* (temples) built on the slopes of Mauna Kea; reportedly by ‘Umi-a-Līloa (king of Hawai‘i in the mid 1500s), and of his temporary residence near one of the *heiau*. While Fornander (1973) referenced this early account, it appears that a translation (Hawaiian to English) of the narratives cited below, has not been previously published (by reference to the Mauna Kea sites). A brief background of the article is included here to introduce the historical narratives and translations by the author of this study.

In 1865, the Hawaiian newspaper “*Ke Au ‘Okō‘a*” published an article titled “*Na Kaao a Kekahi Elemakule o Hawaii*” (The Stories of an Elderly Hawaiian Gentleman) (May 8, 15, & 22, 1865). The accounts were collected by Jules Remy, a French man who came to Hawai‘i in 1851. While introducing the article, readers are told that Remy dwelt in Hawai‘i, for about three years, during which time, he became quite proficient in the Hawaiian language. While here, Remy traveled around the islands documenting the sites and events which he witnessed, and recording histories that were relayed to him. His narratives, written in French, reached Hawai‘i and were translated into Hawaiian by young Alexander at Punahou (*Ke Au ‘Okō‘a; Mei 8, 1865*).

“*Na Kaao a Kekahi Elemakule Hawaii*” was collected by Remy in March 1853, when he visited Ho‘ōpūloa, South Kona. Upon landing, Remy records that he was warmly greeted by the people on the shore, and among the many people gathered, he observed an elderly gentleman. He was stout and broad-chested, and on the account of his age, his hair was reddish gray. Remy learned that the old man was Kanuha⁶, a man of chiefly descent, born before the time that Alapa‘i-nui died, in 1752 (ibid.). Remy notes that Kanuha was nearly 116 years old, and in good health. Because of his advanced age, he spoke with authority of ancient customs and history of the Hawaiian people, that few, if any other, people were able to (ibid.).

Among the traditions which Kanuha told Remy, was an account of the ascent of ‘Umi to the position of the king of the island of Hawai‘i. In the account Kanuha describes the history behind the construction of the famed *heiau* (temple) Ahu-a-‘Umi, and the construction of three other *heiau*, one *heiau* on Mauna Loa and two on Mauna Kea. It is noted here, that in his own work, Abraham Fornander (1973), acknowledged the age and authority of Kanuha, but he also found inconsistencies in the genealogical relationship of individuals mentioned by Kanuha (Fornander 1973:99-101). In particular, Remy reports that Kanuha conveyed to him that ‘Umi went to war with Keli‘iokaloa, a chief of Kona. Historical accounts by native writers and Fornander record that Keli‘iokaloa was the son of ‘Umi, and that he became king of Kona for a time, following his father’s death (ibid.). This historical inconsistency may actually be attributed to Remy’s own hand, rather than the narratives of Kanuha.

Regardless of the possible genealogical differences, one of the unique qualities of the account is that it provides us with otherwise unrecorded documentation⁷ on the construction and placement of *heiau* in the high mountainous region of Hawai‘i. The following narratives, with excerpts of the original Hawaiian, and translations of the accounts—by the author of this study—are taken from Remy’s recording of Kanuha’s story in 1853, and published in *Ke Au ‘Okō‘a* on May 22, 1865:

‘Umi ruled in place of Hakau, and his friends Koi and Omaokamau dwelt with him. Pi‘imaiwa‘a, ‘Umi’s war leader dwelt in Hilo. With ‘Umi, there was also his trusted companion Pāka‘a, and his priest Lono. At this time, ‘Umi ruled the eastern side of Hawai‘i, while on the western side, his relative Keli‘iokaloa, ruled and dwelt at Kailua...

⁶ Kanuha is found in several historical accounts recorded by Kamakau (1961) and Fornander (1973). One of the historical events in which Kanuha participated with Kame‘eiamoku mā in the capture of the vessel Fair American, in 1790, at Ka‘ūpūlehu (Kamakau 1961:147)

⁷ It appears that later writers did not translate the Kanuha-Remy account of the *heiau* on Mauna Kea.

In the time that he dwelt in Kailua, Keli'iokaloa was known as an evil chief, he cut down the coconut trees and desecrated the cultivated fields. It was because of these evil deeds that 'Umi made preparations to go to war against him. 'Umi marched to battle, joined by his famous warrior, Pi'imaiwa'a, and his companions Koi and Omaokamau. Also with him were his favorite, Pāka'a, and his priest Lono.

The Hawaiian narrative then reads:

Mawaena o Maunakea a me Hualalai ka hele pualu ana o ua alii nei me kona manao e iho ae i Kailua. Aole nae i kali o Keli'iokaloa, aka, ua pii nui aku oia me kona poe koa e houka aku ia Umi. Ua halawai na puulu kaua a i elua maluna o kekāhi wahi papu i hoopuni ia e na mauna ekolu, a i kapaia hoi ke Ahu a Umi. Kaua mai o Laepuni ma (he mau kanaka makaainana pili alii ole) ia Umi, a aneane e make o Umi ia laua, lele mai o Piimaiwaa e kokua ia ia, a oia ka mea nana i hooholo ae ka lanakila ma ko Umi aoao. Aohe mau mea nui i hai ia mai, aka, me he mea la, ua make ke alii o Kailua iloko oia kaua ana. Ma keia kaua ana, ua lilo holookoa ia Umi ke Aupuni, a lilo iho oia ke alii ai moku o ka mokupuni o Hawaii. I mea e ili aku ai ka hoomanao ana no ia kaua ua hanauna aku a ia hanauna aku, ua kukulu ae la ia i ke ahu aa, e o ia nei a hiki i keia wa ke ahua a Umi...

Between Mauna Kea and Hualalai the chief and all his party traveled, with the thought of descending to Kailua. Keli'iokaloa did not wait though, but instead, traveled with his warriors to meet Umi in battle. The two armies met on a broad open plain, surround by the three mountains, at the place [now] called *Ahu-a-'Umi*. There, Laepuni and them (people who were unattached to a chief) fought with Umi. Umi was almost killed, but Piimaiwaa leapt in and helped him, it was he that turned the battle in the favor of Umi's side. There is not much else that is said, but, it is known that the chief of Kailua died in the battle. Thus, with this battle, the entire kingdom was gained by Umi, he became the chief that controlled the entire island of Hawaii. So that the battle would be remembered from generation to generation, he (Umi) built the stone altar, that remains to this day, the *altar (ahua) of Umi...* (*Ke Au Okoa; Mei 22, 1865*)

The narrative records that early in 'Umi's life, the priests Nunu and Wawa, had discerned 'Umi's nature, and foretold that his god, Kā'ili, made with a feather from the god Halulu, had empowered him. Indeed, 'Umi was a religious chief, and made many temples for his god:

...Ua kukulu no hoi ia he heiau malalo o Pohaku Hanalei, a ua kapaia o ke ahua o Hanalei; a ma na aoao o Maunakea e hele ala i Hilo, ua kukulu no ia i ke kolu o ka heiau, ma kahi i kapa ia o Puukekee; a ma Mauna Halepohaku malaila ia i kukulu ai i ka ha o na heiau, a malaila no hoi i olelo ia ai ua noho o Umi malaila me kona mau kanaka. Ua olelo ia o Umi he alii noho mauna, no kona aloha i kona poe kanaka, nolaila, ua hoi aku ia i waenakonu o ka mokupuni ilaila kona wahi i noho ai me kona poe kanaka, a na kona makaainana e noho ana ma na kapakai, e lawe mai i ka ai na lākou, mai kēlā pea, kēia pea...

...He (Umi) also built a *heiau* (temple) below Pohaku Hanalei, it is called the *altar of Hanalei*; and on the side of Mauna Kea, by where one travels to Hilo, he built the third of his temples, at the place called Puukekee; and there at Mauna Halepohaku he built the fourth of his temples; there, it is said, Umi dwelt with his many people. It is said that

Umi was a chief who dwelt upon the mountain, it was because of his love of his people, that he (Umi) returned and dwelt in the middle of the island [Ahu-a-Umi], that is where he dwelt with his beloved people. His commoners lived along the shores, and they brought food for them (in the uplands), from one side of the island to the other... (ibid.)

“Laie-i-ka-wai”

Another early account, penned by a native writer, was recorded in the Hawaiian newspaper *Kū ‘Okō’a* in 1863, by S. N. Hale’ole. The narratives are found in the tradition of the chiefess-goddess Lā’ie-i-ka-wai, translated by Martha Beckwith (1919 and 1970). In the story, Hale’ole refers to Poli’ahu, “goddess of the snow covered mountain,” Mauna Kea:

The young chief of Kaua’i when he goes to seek the beauty of Puna makes a vow to enjoy no other woman until he has won Laie. At Hana on Maui, he is attracted by the lovely Hina-i-ka-malama as she rides the famous surf at Puhele, and he turns in at Haneoo. The chiefess falls in love with the handsome stranger and wins him at a game of *konane* (Hawaiian checkers). He excuses himself until his return and goes on to Hawaii, where he courts an even more beautiful chiefess in the person of Poli’ahu, who also promises him her hand. When he finally loses hope of winning Laie-i-ka-wai, he “claps his hands before his god” to free himself from his rash vow and proceeds to a marriage with Poli’ahu, whom he fetches home with a great cortege to Kauai. While the festivities are proceeding at Mana, the disappointed Hina, apprised of her lover’s duplicity, appears and claims the forfeited stake. Aiwohikupua is obliged to relinquish himself to her embraces, but the angry Poli’ahu envelopes the lovers in alternate waves of unendurable heat and cold until they are obliged to separate, when the mountain goddess retires to her home attended by her three maidens, Lilinoe, Waiaie [sic⁸], and Kahoupokane, and Aiwohikupua finds himself bereft of both ladies [Beckwith 1970:222].

Also in the 1860s, Hawaiian historian Samuel Mānaiakalani Kamakau (1961), provided readers with several early Hawaiian historical accounts of Mauna Kea and environs (either directly or indirectly by association with place names). These accounts are particularly significant because they can be dated by genealogical associations with individuals identified in text. Two of Kamakau’s narratives are set in the period of the great king ‘Umi-a-Līloa, who in c. 1600, unified the island of Hawai’i under his rule, and established the land division and land management system that remained in place until the Māhele of 1848.

In Kamakau’s description of the rise of ‘Umi to power, we learn of his conquest of Hilo, and the route traveled from Waipi’o, Hāmākua, across Mauna Kea, and down through Kaūmana, Hilo:

It was decided to make war on the chiefs of Hilo and to go without delay by way of Mauna Kea. From back of Ka’umana they were to descend to Hilo. It was shorter to go by way of the mountain to the trail of Poli’ahu and Poli’ahu’s spring at the top of Mauna Kea, and then down toward Hilo. It was an ancient trail used by those of Hamakua, Kohala, and Waimea to go to Hilo. They made ready to go with their fighting parties to Mauna Kea, descended back of Hilo, and encamped just above the stream of Wai-anuenue... (Kamakau 1961:16-17).

Later during the reign of ‘Umi, Kamakau relates an account of the death and burial of the *kahuna* Pae, who served ‘Umi. Kamakau reports that Pae was “a descendant of Lilinoe, the woman of the mountains” (Kamakau 1961:215). Kamakau also reports that Lilinoe was an important ancestral

⁸ Written as “Waiiau” in Hale’ole’s original text (see footnote No. 3 above).

figure in the genealogy's of Hawai'i's *ali'i* (royalty), and that she was buried on Mauna Kea. He observes that in 1828 Ka'ahumanu traveled to Hawai'i to:

...attempt the recovery of the bones of Lilinoe on Maunakea where her body was said to have lain for more than a thousand years in a well-preserved condition, not even the hair having fallen out. Others deny this and say her body was too well-hidden ever to have been found. Her offspring count from Hua-nui-i-ka-la'ila'i; she was the ancestress of ruling chiefs, and from her line was born 'Umi-ka-lani [father of the Mahi family on Hawaii], son of Keawe-nui-a-'Umi by Ho'opili-a-Hae. It is said that Ka-'ahu-manu did not find the bones of Lilinoe... (Kamakau 1961:285)

Kūkahau'ūla and Lilinoe

An undated account from the archive collections of the Bernice Pauahi Bishop Museum, translated by Mary Kawena Pukui, provides us with further details regarding Lilinoe, and her husband Kūkahau'ūla (Kukahaula). The narrative also records that Kauikeaouli (King Kamehameha III) visited the graves of Lilinoe and Kūkahau'ūla, and tells us that Pōhe'epali, a descendant of the retainers of Kūkahau'ūla, hid their bodies following the visit of Kamehameha III.

A Tale of a Royal Couple who Froze on Mauna Kea

Kukahaula was a chief of Waimea, So. Kohala. He took to wife, Lilinoe of Kau and because his people resented her, chief Kukahaula went to dwell on Mauna Kea, above Lake Waiau. They died there and their bodies were wrapped for burial.

When King Kauikeaouli (Kamehameha III) reigned, he went there to visit them and was the last ruler to see these chiefs who had practically turned to stone because there were frozen and so remained. It was believed that they were a good likeness of themselves when they were alive except that their bodies were so stiff.

After this visit of King Kamehameha III (Kauikeaouli) the bodies of Kukahaula and Lilinoe were hidden by the attendant of Kukahaula, Poheepali, who was the very last of the family of retainers who upheld their chiefs. It is said that these chiefs lived in a cave and it was in this cave that their bodies remained until Poheepali hid them away.

It is said that when these chiefs lived on Mauna Kea, two strangers went up there on a visit. They became thirsty and discovering a woman wrapped in several layers of tapa, they asked where they could get some water to drink. The woman answered, "There is no water now." The sun was shining brightly at the time and they saw the reflection of water on the woman's chest. They said, "There is the water you are hiding, reflected on your chest." The woman was Lilinoe and the water she was hiding was the water of Poliahu. (Bishop Museum, Hawaiian Ethnological Notes; Legends Vol II:149)

"Lilinoe and Nu'u"

Abraham Fornander, a prominent foreign historian, married to a Hawaiian woman of chiefly rank from the Kāne'alai line of Moloka'i. During his residence in the Hawaiian Islands (c. 1830-1887), Fornander compiled a great collection of Hawaiian history, much of it directly from native informants. While he worked closely with prominent native historians like Kamakau and Kepelino, he also had contact with many individuals from remote areas, who retained personal family accounts and knowledge. Over the years, it has also become clear that some of the work that Fornander did, also incorporated knowledge or concepts that were foreign to the native Hawaiian experience—his accounts would sometimes link Christian and other religious philosophies into Hawaiian lore and genealogies.

Among the accounts that blended Christian concepts with Hawaiian tradition is a narrative about Lilinoe, her husband Nu'u, and their children, in the time of a great flood. Fornander (1973) reports:

Nuu, by command of his god, built a large vessel with a house on top of it, which was called and is referred to in the chants as He Waa-Halau-Alii o ka Moku, “the royal vessel,” in which he and his family, consisting of his wife Lili-nae, his three sons, and their wives, were saved. When the flood subsided, “Kane,” “Ku,” and “Lono” entered the “Wa’a Halau” of Nu’u and told him to go out. He did so and found himself on top of Mauna Kea the highest mountain on the island of Hawaii), and he called a cave there after the name of his wife [Lili-noe], and the cave remains there to this day... (Fornander 1973:91).

Fornander’s narratives were in part constructed from texts recorded previously by native historians, though he added details which none of the earlier versions of the account included. Indeed, native historians, David Malo (1951:234-237) and S. M. Kamakau (1964:13-14:)⁹, refer to a great flood caused by the rising sea (not an inundation of rainfall). Neither of the earlier narratives mention Mauna Kea or sites known to be associated with the mountain. The account collected by Ellis, cited above, conforms with the early Hawaiian accounts, and in reference to Mauna Kea, may reflect localized embellishments to the account.

Traditional Accounts Recorded in the Late Historic Period (ca. 1890-1930)

By the latter part of the nineteenth century and in the early twentieth century, a large number of writers (both Hawaiian and non-Hawaiian) were recording Hawaiian history and traditional narratives in the native newspapers. Through the articles and narratives—some serialized over several years—many native writers were trying to preserve aspects of their history, lore, and practices. Their narratives may be likened to oral histories that are waiting to be heard again today, several generations after they were told. In reading many of the native texts, we are given the gift of once again hearing the voices of those who came before us. This section of the study incorporates a few selections from this period, one of them having only recently been translated from the Hawaiian texts into English, by the author of this study.

As noted earlier, several prominent Hawaiian historians were busily recording Hawaiian history in the native language newspapers in the mid to late 1800s. The most prominent of those writers—particularly those who documented the tie of the Kamehameha line to the ancient chiefs, and the history of the rise of the dynasty—have been translated and are available to contemporary readers.

Interestingly, a wealth of information is still yet available in the Hawaiian language in the newspapers, and awaits rediscovery. Many of these accounts intertwined various aspects of early stories, and at times added new material, thus embellishing the texts.

One of the prominent late historic writers, was W. D. Westervelt, who resided in Hawai’i between 1889-1939. McEldowney 1982, notes that Westervelt retold a portion of Hale’ole’s narratives of Poli’ahu, and also cited accounts of conflicts between Poli’ahu and Pele (McEldowney 1982:A-6). In Westervelt’s narratives of the conflicts between Pele and Poli’ahu, readers are told how Poli’ahu came to gain control over northern portion of Hawai’i, while Pele retained dominance over the arid and volcanically active southern part of Hawai’i. In his tradition of “Pele and the Snow-Goddess,” Westervelt reported an eruptive event that took place after Hawaiian settlement (contrary to geological research) of the island group, explaining how Laupāhoehoe and Onomea Arch were formed. Westervelt writes:

Poliahu...loved the eastern cliffs of the great island Hawaii—the precipices which rise from the raging surf which beats against the coast known now as the Hamakua

⁹ It is noted here, that in his “*Na Hunahuna no ka Moolelo Hawaii*,” Hawaiian historian, John Papa I’i, made no direct references to Mauna Kea (cf. I’i, 1959; “Fragments of Hawaiian History”).

district. Here she sported among mortals, meeting the chiefs in their many and curious games of chance and skill. Sometimes she wore a mantle of pure white kapa and rested on the ledge of rock overhanging the torrents of water which in various places fell into the sea... (Westervelt 1963:55).

Westervelt then tells readers that once, when Poli'ahu and her companions were competing in the sport of *hōlua* (sledding), on the slopes of Mauna Kea, south of Hāmākua. There appeared among them a beautiful stranger, who was invited to participate in the sport with them. But, the woman instead:

...threw off all disguise and called for the forces of fire to burst open the doors of the subterranean caverns of Mauna Kea. Up toward the mountain she marshaled her fire-fountains. Poliahu fled toward the summit...Soon she regained strength and threw the [snow] mantle over the mountain...the lava chilled and hardened and choked the flowing, burning rivers... The fire-rivers, already rushing to the sea, were narrowed and driven downward so rapidly that they leaped out from the land, becoming immediately the prey of the remorseless ocean.

Thus the ragged mass of Laupahoehoe was formed, and the great ledge of the arch of Onomea, and the different sharp and torn lavas in the edge of the sea which mark the various eruptions of centuries past (ibid.:61-63).

Ka'ao Ho'oniu Pu'uwai no Ka-Miki ***(The Heart Stirring Story of Ma-Miki)***

One example of the rich materials recorded by native writers, is found in "*Ka'ao Ho'oniu Pu'uwai no Ka-Miki*" (The Heart Stirring Story of Ka-Miki). The story of Ka-Miki is a long and complex account, that was published over a period of four years (1914-1917) in the weekly Hawaiian-language newspaper *Ka Hōkū o Hawai'i*. The narratives were primarily recorded for the paper by Hawaiian historians John Wise and J.W.H.I. Kihe (translators of the work of A. Fornander and others). While "Ka-Miki" is not an ancient account, the authors used a mixture of local stories, tales, and family traditions in association with place names to tie together fragments of site specific history that had been handed down over the generations. Also, while the personification of individuals and their associated place names may not be "ancient," the site documentation within the "story of Ka-Miki" is of both cultural and historical value. The English translations below (Kepā Maly, translator), are a synopsis of the Hawaiian texts, with emphasis upon the main events of the narratives. Also, when the meaning was clear, diacritical marks have been added to help with pronunciation of the Hawaiian.

This *mo'olelo* is set in the 1300s (by association with the chief Pili-a-Ka'aiaea), and is an account of two supernatural brothers, Ka-Miki (The quick, or adept, one) and Maka'iole (Rat [squinting] eyes). The narratives describe the journey of the brothers, as they walked around the island of Hawai'i along the ancient *ala loa* and *ala hele* (trails and paths) that encircled the island. During their journey, the brothers competed alongside the trails they traveled, and in famed *kahua* (contest fields) and royal courts, against *ōlohe* (experts skilled in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawai'i. Ka-Miki and Maka'iole were empowered by their ancestress Ka-uluhe-nui-hihi-kolo-i-uka (The great entangled growth of *uluhe* fern which spreads across the uplands), who was one of the myriad of body forms of the goddess *Haumea*, one of the creative forces of nature—also called *Papa* or *Hina*— who was also a goddess of priests and competitors.

The excerpted narratives from Ka-Miki, in this study, include place name accounts that range from the summit of Mauna Kea, to the depths of Waipi'o Valley. In a Hawaiian cultural context, the narratives demonstrate depth of the relationship of various points of land and resources to one another.

Synopsis of Translations from the Historic Account of Ka-Miki

Born in 'e'epa (mysterious – premature) forms, Ka-Miki and Maka-'iole were the children of Pōhaku-o-Kāne (*kāne*) and Kapa'ihilani (*wahine*), the *ali'i* of the lands of Kohana-iki and Kaloko, North Kona. Maka-'iole was the first born child and Ka-Miki was the second. Following their birth, Ka-Miki was given up for dead and placed in the cave of Pōnahanaha, and though Maka-'iole was of a misshapen form, he was taken to his paternal grandparents Pohokinikini and Pu'uwalea to be cared for. Being aware of all that took place at the time of their birth, Ka-uluhe retrieved Ka-Miki from the cave and reared him at Kalama'ula on the heights of Hualālai. It was there that Ka-uluhe began instructing Ka-Miki in the uses of his supernatural powers. Maka-'iole joined his young brother and together, they learned various techniques of contest skills, in preparation for their journey around Hawai'i Island.

After a period of training and tests, Ka-uluhe instructed Ka-Miki to journey to the *hālau ali'i* (royal compound) of one of their elder relatives, Poli'ahu. Poli'ahu and her companion Lilinoe, were the guardians of Waiau and the sacred water of Kāne. While Maka-'iole was to go collect the 'awa (*Piper methysticum*) of the god Luanu'u at Waipi'o. These two items would be used in an 'ai-lolo (ceremony of graduation), commemorating sacred nature of the brothers and completion of their training in 'ōlohe skills. Ka-uluhe told the brothers:

Reference:

Narrative:

Waipi'o
Ha'iwahine
'awa of
Waipi'o

O 'oe e Maka-'iole, e ki'i 'oe i ka 'awa 'ili lena a ke akua e inu ala, a 'ona, 'ōleha, kūnewanewa nā maka, aia la ia i ka pali kapu o Waipi'o i ka poli (ka-ulu) o Ha'iwahine - i ka papa lohi mai o 'Āpua...

...You, Maka-'iole, are to fetch the yellow barked 'awa which the gods drink till they are drunk, and bleary eyed, till their eyes are reeling, it is the 'awa that is there along the sacred cliff of Waipi'o in the breast (the ledge) of Ha'iwahine - at the long plain of 'Āpua...

Maka-'iole stood up straight, prepared to fly like the 'iwa bird soaring upon the winds... The ancestress then called to Ka-Miki, telling him:

Poli'ahu
Lilinoe
Waiau
Pōhaku-a-Kāne
& Pōhakuola
a platform
feature on
Mauna Kea

...e ki'i 'oe i ka wai a Kāne, aia i luna i ka piko o ke kuahiwi i ka hālau ali'i o Poli'ahu a me Lilinoe, me ka hānai a lāua o Ka-piko-o-Waiau. Aia malalo mai o kaulu o ka paepae o Pōhaku-a-Kāne e nānā iho la iā Pōhakuola, o ka 'ohana 'ia o ko makuakāne. E ki'i 'oe i ka wai no ka 'awa o 'olua...

[...You are to fetch the sacred water of Kāne which is there atop the summit of the mountain (Mauna Kea), at the royal compound of Poli'ahu, Lilinoe, and their ward, Ka-piko-o-Waiau. The water is there below the ledge of the platform of Pōhakuakāne, from where you may look down to Pōhakuola; they are your family through your father's genealogy. You are to fetch the water that will be used to make the 'awa for you two...]

Telling Ka-Miki to travel with all swiftness, Ka-uluhe then offered a traveling chant, to keep Ka-Miki warm while traveling the trail to the *hālau ali'i* of Poli'ahu — *mele*:

A mele for
traveling on
Mauna Kea

*Ala hele mauka la
Ala hele makai la
Ala hele mehameha i ke
kualono
Ala hele kuo-ū ko'eko'e*

The path goes to the uplands
The path goes to the lowlands
It is a lonely path to the
mountain
A damp dreary path

<i>He ahi kou kapa e mehana ai</i>	A fire will be the wrap which warms you
<i>E lala ai i ke ala kapu la</i>	Warming you along the sacred trail
<i>A ko kūpuna wahine</i>	[Fire] of your ancestress with many
<i>kino manamana</i>	body forms
<i>Manamana ke ala nui ou</i>	Your path will have many branches
<i>e ku'u kama</i>	my child
<i>E Nana-i-ka-ulu-o-Kamalama</i>	O Nana-i-ka-ulu-o-Kamalama (Ka-Miki)
<i>Ku ana ho'olono i ka leo o'u</i>	Stand and heed my voice
<i>O ko kūpuna wahine nei la</i>	It is I your ancestress
<i>Kū—e, kū la</i>	Stand, make ready
<i>Kū ho'olono, lono e!</i>	Stand and hear, listen!

Ka-uluhe also told the brothers that they were to:

Lani-mamao items used for an 'awa ceremony

Go to the place of their ancestress Lani-ku'i-a-mamao-loa (whose name is commemorated in the place name Lani-mamao at Waimea); for she had the *kānoa* ('awa bowl) that was called Hōkū'ula and the *mau'u* 'awa (strainer) Ka-lau-o-ke-Kāhuli, which would be used in preparing the 'awa ceremony. Ka-uluhe then told Ka-Miki:

Sacred water of Kāne and Kanaloa; awe inspired by Mauna Kea

...e ukuhi ai i ka wai kapu a Kāne mā lāua me Kanaloa, a e hi'i a'e i ka poli a huli ho'i mai. Maluna mai 'oe o nā kualono, kuahiwi, kuakea, e lehei ana ma nā kuamauna, mauna kapu kameha'i ho'opa'e'e i ke kanaka, a moe luhi ka leo—e, 'ae...

[...dip into the sacred water of Kāne and Kanaloa and hold it close to your breast while returning. You shall be at the heights of the mountainous region, at the whitened peaks, leaping on the mountain top, the sacred and astonishing mountain, that causes people to go astray, and the voice is wearied by calling out—indeed it is so...]

Lani-mamao

Ka-Miki and Maka-'iole then set out to complete their tasks, first traveling to meet their ancestress Lani-mamao on the windward plains of Waimea (in the region of Mahiki). [February 5, 1914]

The brothers greeted their *kupuna* with genealogical chants, and gained her recognition of their descent. When Lani-mamao inquired of their journey and quest, Maka-'iole called out to her with a *mele* (chant):

<i>Mele 'awa</i>	<i>Aia la ilalo o Waipi'o,</i> <i>I ka pali o Kaholokuaī</i> <i>I ka 'awa 'ili lena</i> <i>I ka papa lohi o 'Āpua</i> <i>A kini o ke akua</i> <i>A ka mano o ke akua</i> <i>A ka lehu o ke akua</i> <i>e inu a—i...</i>	[The 'awa] is there below in Waipi'o Along the cliff of Kaholokuaīwawa The yellow barked 'awa of the long plain of 'Āpua ['Awa] of the 40,000 gods ['Awa] of the 4,000 gods ['Awa] which the 400,000 gods drink...
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Lani-mamao exclaimed:

Luanu'u, the god of ghosts

What is your *kupuna* thinking of, sending you to fetch the cherished 'awa of Luanu'u-a-nu'u-pō'ele-ka-pō-loa, king of the hordes of ghosts who dwelt at Waipi'o? And where is the water that she told you to fetch?

Ka-Miki answered:

The water of Kāne and Kanaloa; sacred platform of Kāne; the mountain mist Kākīkepa

I ka wai kapu a Kāne mā lāua me Kanaloa, i ka paepae kapu o ka Pōhaku-a-Kāne, ke na'i 'ia ala e ka 'ohu Kākīkepa, e ka 'uwahi noe a ka wahine o ka lua...

(It is the sacred water of Kāne and Kanaloa at the sacred platform of Pōhaku-a-Kāne, overcome by the mists Kākīkepa, that is like the steaming mists of the woman [Pele] who dwells at the crater...)

The thick mountain fog likened to a supernatural net

Because of the great challenges the brothers would face while going to fetch the 'awa and water of the gods, Lani-mamao tested their 'ōlohe skills to make sure that they were prepared to meet the challenges which lay ahead of them. Lanimamao set out the supernatural net *Ku'uku'u* which was also called *Kanikawī - Kanikawā* [the thick rainbelt fog] that trapped and ensnared many travelers. She told Ka-Miki and his brother to leap into the net, which they did, she then pulled the net closed and placed high overhead in the rafters of her house. In no time, Ka-Miki had pulled on the lines and caused the net to *ho'omōhala* (to blossom or open), thus the brothers were freed. *Lani-mamao* then told Nana-i-ke-kihi-o-Kamalama (Ka-Miki):

Great is your alertness, bravery, skill, cleverness, strength, and wisdom; indeed if you possessed only half of your abilities you would not have been able to free yourself. No one has ever escaped from this net, and if you had not been able to free yourselves, your training would not have been adequate. Because of this sign, it is you Ka-Miki who must fetch the 'awa of the ghost king Luanu'u, for only you could succeed. [February 12, 1914]

Waipi'o
Waikōloa

Thus, Ka-Miki agreed to go to Waipi'o. Lanimamao then told Maka'iole, that he was to go to fetch the strainer *Ka-lau-o-ke-kāhuli* [from the plain of Waikōloa]. And this is why *Ka-uluhe* sent you to me, to test your abilities. Lanimamao then warned Ka-Miki not to make any sounds lest he awaken the gods as he drew near the ledge of Ha'iwahine. She went on to tell him:

Sites and features in Waipi'o

"When you reach the hill of Pua'ahuku, gaze below to the *heiau* of Pāka'alana, and look upon Waipi'o, there you will see the cliff of Kaluahine. Then look to the side and go into the 'ōhi'a forest of Ka'auana. It is there that you will find the 'awa container called *Ka-pāpāiaoa* [*Ka pāpāia'awa* (The ceremonial 'awa)], which *Luanu'u-a-nu'u-pō'ele-ka-pō* uses as his pillow so that no one may take it. *Luanu'u* will be there in the center of his *hālau hale ali'i* (royal compound), and the assembly of 4,000, 40,000, 400,000 ghosts will be outside."

Mahiki
The royal compound of Luanu'u

When Lanimamao completed her instructions, she allowed Ka-Miki to depart. In the blink of an eye Ka-Miki disappeared, leaping to the forest of Mahiki. Leaping again, Ka-Miki arrived at Pua'ahuku, and he looked upon the beauty of Waipi'o. Ka-Miki then turned and leapt to the heights of Ka'auana, and went to the cliff of Kaholokuaīwa where he saw the royal compound of *Luanu'u* along the ledge of Hea-ke-Akua, overlooking *Nā-po'opo'o* (The nooks and crannies), in Waipi'o, not Kona.

The ghost hordes of Luanu'u; Hālau thatched with bird feathers

Indeed, there were innumerable ghost beings throughout the region. Ka-Miki called upon *Ka-'ohu-kolo-mai-iluna-o-ka-lā'au*, and a thick mist settled on Waipi'o, even covering the compound of the god [*Luanu'u*]. Ka-Miki then leapt and landed upon the ridge pole of the god's long house. Ka-Miki parted the bird feathers, for this is what the house was thatched with, and looked in. He saw that the god and those with him were sleeping, nestled in the mists

of the 'awa. Now those in the house were of various shapes and sizes, some with hollow eyes, others with long thin necks, or hands that reached to their feet, truly, things which living people would fear.

While Ka-Miki was looking in the house, he heard the voice of Luanu'u's lead ghosts, *Hio* and *Nana-nui* call out — *mele*:

<i>mele kahea</i>	<i>Mū e, Mū a</i> <i>Mū ho'i, Mū na'ana'a</i> <i>Mū ho'okiki'i,</i> <i>Mū ho'olono a lono</i> <i>Mū kānaka, Mū hauna</i> <i>Mū hono—a, 'Oia...</i>	O <i>Mū</i> ghosts, Say <i>Mū</i> Return <i>Mū</i> , <i>Mū</i> of the protruding bellies <i>Mū</i> which lean back, <i>Mū</i> which listen and hear <i>Mū</i> like men, <i>Mū</i> of the unpleasant odor <i>Mū</i> of the excrement, So it is...
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Upon hearing the call, all of the ghosts arose and left *Luanu'u* alone in his house with only his guardians *Mū-kī* and *Mū-kā*, who also served as Luanu'u's messengers.

Before taking Luanu'u's 'awa, Ka-Miki played a trick on *Luanu'u* and awakened him from his 'awa induced sleep. Ka-Miki then hid unseen amongst the rafters of the *hālau*. *Luanu'u* called upon his *kūkini*, *Mū-kā* and *Mū-kī*, commanding that they capture the one who would attempt stealing his cherished 'awa.

Luanu'u sent his messengers to places where 'awa was grown or would be consumed.

Sites in Ka'ū, Kohala, Kona; And the god Kapu-ko-malo	<i>Mū-kā</i> was sent to the cliff of Mōlīlele by Palahemo, Ka'ū. <i>Mū-kī</i> was sent to start at the cliff of Ka'enamakaohue (at Neue, Kohala), where the wind entered along the cliff of Mānikāhiō. <i>Mū-kī</i> was then to encircle the island searching, Kapākai and Kahuā (Kohala), Kalina'ōpelu, on the plain of Kanikū; and image ascend the hills of Anahulu (Kona) to look for a sign from the of the god Kapu-ko-malo.
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Humu'ula; The hills of 'Ōma'oko'ili & 'Ōma'okanihae; Polī'ahu, Lilinoe & Waiau; an 'auwai from the spring	Then they were to circle around to the heights of Humu'ula and inquire of 'Ōma'oko'ili and 'Ōma'okanihae if either of them knew who this rascal thief was. "Encircle Ka-piko-o-Waiiau, the ward of the chiefesses Polī'ahu and Lilinoe. Pier down upon the multitudes, and watch <i>the sacred water of Kāne mā</i> ¹⁰ . Look too, to where <i>they dug the 'auwai (water channel)</i> ." Then Luanu'u commanded them to "go to Pu'u-o-Moe'awa in the forest of Mahiki and stand guard."
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Mahiki & Pōkāhi Pū'awali'i	<i>Mū-kā</i> and <i>Mū-kī</i> departed and the multitudes of other ghosts wandered ('auana) through the depths of forests of Mahiki and Pōkāhi in search of this rebel. Ka-Miki heard the indistinct voices of these many ghosts ascend the cliff, and pass through the forests to the heights of Pū'awali'i in the thick mist which ensnares the fished birds (Pōkāhi). When all the ghosts were gone <i>Luanu'u</i> fell back to sleep with the 'awa container as his pillow. Ka-Miki then leapt from the ridge pole and took <i>Ka-pāpāiaoa</i> which was filled with 'awa that had been made ready to use and bundled into balls [wrapped] with <i>limu pā'ihī'ihī</i> (a native <i>limu pōhaku</i> (rock moss) weed [<i>Nasturtium sarementosum</i>]).
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The 'awa container of Luanu'u; 'awa preparation

Luanu'u arose greatly angered thinking that he would ensnare this rascal upstart in the net of *Nananana-nui-ho'omakua* (*Nana-nui* was also one of Luanu'u's ghost marshals). But unseen, Ka-Miki hid on the ridge pole of the *hālau hale ali'i* where he held the 'awa container. [February 19, 1914]

¹⁰ *mā* is a Hawaiian word that means "and companions, friends," or "and others."

<p>Luanu'u, also called Pahulu-nui; Pahu Hāwea Pāka'alana</p> <p>Koholālele, Maulua, Kalei'eha Mahiki</p>	<p><i>Luanu'u</i>, who was also called <i>Pahulu nui</i> then leapt to the place where the sacred <i>pahu</i> (drum) <i>Lono Hāwea</i> was kept at the <i>heiau</i> of Pāka'alana. Striking the <i>pahu</i>, he called all the wandering ghosts to return to the lowlands of Waipi'o. The voice of this drum was a great sign that all of the pathways were to be sealed. The command was heard by all; along the <i>hula'ana</i> cliffs from Waipi'o to the ledge of Mankanāhiō; heard by those who were at Koholālele and Maulua; heard by those who were by the steep cliffs looking to the uplands of Kalei'eha (Humu'ula); and heard by those who were in the forest of Mahiki. And so all of the pathways and swimming trails were blocked, and the net trap was set.</p>
<p>Ka-Miki departs from Waipi'o</p>	<p>While all of this occurred Ka-Miki remained hidden in the rafters of the <i>hālau</i>. One of the ghosts looked inside and saw Ka-Miki upon the ridge pole and prepared to call out on the <i>hōkio</i> (gourd nose flute) which would alert the ghosts that the upstart had been found. With great speed, Ka-Miki then leapt from Heakeakua up to the ridge heights, and landed on a <i>kāwa'u</i> (<i>Ilex anomala</i>) tree branch. <i>Ka'ohu-kolo-mai-iluna-o-ka-lā'au</i> then covered the region in a thick mist, blocking everything from sight.</p>
<p>Ka-Miki thwarts the hordes of Luanu'u's ghosts; accounts of various place name origins</p>	<p>The cry of the ghost hordes could be heard from uplands to shore, as they hungrily looked for Ka-Miki, having been thwarted in their attempts to ensnare him in their supernatural net <i>Nananana-nui-ho'omakua</i>, just as birds were caught. Because the ghosts wandered along the cliffs and forests of Ka'auana (Kohala side of Waipi'o) and Mahiki (Hāmākua side of Waipi'o), and were unable to catch Ka-Miki, they went hungry. Under the cover of his ancestresses' mist body form, Ka-Miki leapt from the <i>kawa'u</i> tree to Pu'u-o-Moe'awa in the forest of Mahiki. The ghosts wandered hungrily about and two place names commemorate their wandering and having gone hungry: Ka'auana (The wandering), and in Mahiki, <i>Pōloli-ke-akua</i> (The gods [ghosts] are hungry) which is also called <i>Pōloli-(i)-ka-manu</i> (Hungry for the bird). At Pu'uomoe'awa, Ka-Miki met with the ghost runner <i>Mū-kī</i> who had been stationed there by <i>Luanu'u</i>. [February 26, 1914]</p> <p>Ka-Miki thwarted his efforts at catching him by throwing foul smelling dirt (dabs of excrement) at him. Though many other ghosts arrived for the fight, they were all driven off, as Ka-Miki began destroying them.</p>
<p>The conch Kihapū</p>	<p>Hio and Nana nui Luanu'u's ghost marshals told their chief about the events at Pu'uomoe'awa, and Luanu'u blew the conch <i>Hā-nō</i>, also called <i>Kiha-pū</i>, which was the conch that the supernatural dog <i>Puapualenalena</i> stole from the ghosts of Waipi'o. Hearing the call of the conch, the remaining ghosts fled from Pu'uomoe'awa, leaving Ka-Miki who returned to <i>Lanimaomao</i>. Ka-Miki presented the sacred 'awa container <i>Kapāpāiaoa</i> and 'awa to his ancestress, and she bathed him in her rains, and caused lightning and thunder to praise his accomplishments.</p>
<p>Hōkū'ula Lono-Makahiki water of Kāne (Mauna Kea)</p>	<p>Lanimamao then gave Ka-Miki the <i>kānoa 'awa</i> ('awa bowl), Hōkū'ula—with the <i>kapu</i> of Lono-Makahiki—so that he could go get the <i>wai kapu</i> (sacred water) of Kāne and Kanaloa (at Mauna Kea). [March 5, 1914]</p> <p>Ka-Miki then leapt and disappeared in the mists that seem to crawl upon the forest growth. Arriving at the spring, Ka-Miki began dipping the ladle into the sacred water of Kāne, to fill the 'awa bowl Hōkū'ula...</p>
<p>Naming of Ka-wai-hū-a-Kāne</p>	<p>...a ia wā i 'ike mai ai ua wahi akua kia'i i ka 'ale o ka wai a hū a'e lā mawaho o ka punawai. A iā lāua i holo mai ai, o ka mā'alo o ke aka ka lāua i 'ike a nalo aku lā. A ua kapa 'ia ka inoa o ua punawai ala o "Ka Wai Hū a Kāne," a hiki i kēia lā. No ka hū ana i ke kī'o'e ana a Ka-Miki i ka wai iloko o ke kānoa 'awa o ke akua.</p>

(...at that time, the guardians [Pōhakuakāne and Pōhakuloa] saw the water rippling, and overflowing from the spring. As they went to investigate, they saw a shadow pass them by. Because of the overflowing of the water, the spring came to be called Ka-wai-hū-a-Kāne (The overflowing waters of *Kāne*), and so it remains named to this day. It overflowed because Ka-Miki scooped the water, filling the ‘awa bowl of the god.)

<p>Holoholokū; the wind goddess Waikōloa;</p> <p>Pōhaku-a-Kāne; naming Waiki‘i; Pu‘u Keke‘e</p> <p>Mauna Kea; Pōhakuloa; & the deity of Mauna Kea make other springs</p>	<p>Ka-Miki then joined Maka-‘iole at Holoholokū on the plain of Waikōloa. As they traveled along the hill tops, the wind goddess <i>Wai-kō-loa</i> (Water carried far) caused the water to splash over the brim of <i>Hōkū‘ula</i>. Some of the water was carried afar by the wind and fell, forming a new spring. When the spring appeared, Pōhaku-a-Kāne fetched some of the water. Because Pōhaku-a-Kāne fetched some of the water, that place is called Wai-ki‘i (water fetched) to this day. This happened near the hills of Pu‘u Keke‘e. Pōhaku-a-Kāne took the water he retrieved to the base of the cliffs of Mauna Kea and dug into the earthen plain of Pōhakuloa and placed the water there. From Pōhakuloa, the water flowed under ground and appeared as springs at several other places, including Ana-o-Hiku at Hanakaumalu, Honua‘ula, and Kīpahe‘e-wai on the slopes of Hualālai...</p> <p>...Having successfully completed their tasks, and collected the necessary items, the brothers returned to Kalama‘ula. Ka-uluhe performed the ‘awa and ‘ailolo ceremonies, marking the completion of their ‘ōlohe training, at Kaukahōkū. The ghost king and his hordes had followed after Ka-Miki, thinking they would trap him, but Ka-Miki ensnared the king and his ghost hordes in the supernatural net Ku‘uku‘u. Luanu‘u was bound so tightly that his eyes bulged out and they were use for the <i>pūpū</i> ‘awa (‘awa drink condiment) for the ceremony. After the ‘ailolo ceremony was completed, Ka-Miki took the net filled with the bodies of Luanu‘u <i>mā</i> and deposited them in the ocean of Makalawena... [March 12-19, 1914]</p>
<p>‘Ailolo and ‘awa ceremonies</p> <p>Luanu‘u killed by Ka-Miki</p>	

In a later section of the story of Ka-Miki, we find the Ka-Miki and his companions have arrived in Hilo, at Waiākea. During competitions on the *kahua* (arena) of Kalepolepo, Ka-Miki defeats all challengers. One last hope is held out for the ‘ōlohe of the region, and a message is sent into the uplands, on the slopes of Mauna Kea, at Kīpuka-‘āhina, to call Kālanakāma‘a, the ward of Kīpuka-‘āhina^(k), Halealoha^(w), and Hale-loulu^(k). The names of the latter three individuals are preserved as place names of sites on the forested slope of Mauna Kea, while Kālanakāma‘a, is a land section near the *makai* boundary of Waiākea and Kukuau. The narratives record:

<p>Waiākea Pi‘ihonua Pana‘ewa</p> <p>Kalepolepo</p>	<p>...The lands of Waiākea were named for the high chief Waiākea-nui-kumuhonua, the brother of Pi‘ihonua-a-ka-lani^[k] and Pana‘ewa-nui-moku-lehua^[w]. After departing from Pana‘ewa, Ka-Miki <i>mā</i> met Haili-kula-manu, who was a guardian of Waiākea. Haili led Ka-Miki and his companions to his chief’s compound at Kalepolepo [February 17, 1916]. Arrangements were made for Ka-Miki to compete with the ‘ōlohe – experts of Waiākea, with the events to be held at the <i>kahua</i> [contest site] at Kalepolepo...</p>
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<p>‘Upēloa</p>	<p>Ka-Miki—the image of the war club of Ka-uluhe-nui-hihi-kolo-i-uka—entered the <i>kahua</i> and the contest rules were set. It was agreed that the method of competition would be ‘ōka‘a lā‘au [war club fighting], and that the loser would be killed and baked in an <i>imu</i>... Ka-Miki and the champion ‘Upēloa competed, and to everyone’s amazement, ‘Upēloa was defeated...</p>
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<p>Kapunakō Kaūmana</p>	<p>Hearing that his foremost champion had been defeated by Ka-Miki, Waiākea called to his messenger, Kapunakō to go get Kaūmana the foremost teacher of <i>lua</i>,</p>
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ha'iha'i, kākā lā'au [bone breaking fighting, and spear fighting], and all manner of fighting and bring him to the *kahua*. Upon arriving before his chief, Kaūmana asked Waiākea to send his messenger Kapunakō, to bring Kalanakāma'a, Kaūmana's foremost student to join him at the *kahua* of Kalepolepo.

[The place called] Kalanakāma'a was named for Kalana-kāma'a-o-uli, the foremost 'ōlohe student of Kaūmana, and champion of Waiākea. Kalanakāma'a was the ward of Kīpuka 'āhina^[k], Hale-aloha^[w], and Hale-loulu^[k], who dwelt above Hilo at at places which now bear their names. When Kapunakō arrived before Kīpuka 'āhina, he spoke about the great rains and rivers of Hilo; a poetic reference to the many skilled 'ōlohe for which Hilo was famed. It was in this way that Kapunakō described the overwhelming skills of Ka-Miki and his victory over 'Ūpēloa. Kīpuka 'āhina then asked – *ōlelo no'eau*:

Māmā Hilo i ka wai? – Is Hilo [without] lightened of its water?

Describing Hilo rains and the mountain terrain
 Kapunakō responded – *'Ae māmā Hilo i ka wai 'ole, ua kau i ka lani ka holo [wa'a] ua o Hilo, na ka Mālua e ki'i ala i pulu ka liko o ka lehua a me ka māmāne!* – Indeed one can move swiftly through Hilo, for the streams are without water, the water trough [figuratively the clouds] of Hilo are set in the heavens, it is the *Mālua* which fetches moisture for the budding *lehua* and *māmāne*. Kīpuka 'āhina then asked in amazement – *Nawai e nele o Hilo i ka wai? He lau ka pu'u, mano ka ihona, he kini nā kahawai o Hilo, e 'au i ka wai o Hilo a pau ke aho!* (Who could possibly make Hilo destitute of water? There are 400 hills, 4,000 places to descend, and 40,000 streams to cross, indeed one is worn out swimming through the waters of Hilo!)

It was in this way that Kīpuka 'āhina learned that a master 'ōlohe had come to Hilo challenging it's many 'ōlohe. Using his *ipu hōkiokio* [gourd nose flute], Kīpuka 'āhina awakened Kalanakāma'a, for this was the only way in which Kalanakāma'a could be safely awakened, or he would kill whoever awakened him [February 24-March 2, 1916].

Kalanakāma'a and Ka-Miki compete
 Kalanakāma'a joined his teacher Kaūmana, and met with the assembly at Kalepolepo. Carrying his club *Pūpū-kani-oe-i-ka-ua-o-Hilo* [Land snails singing in the rain of Hilo], Kalanakāma'a entered the *kahua* with Kaūmana and a great cry arose praising the abilities of these Hilo champions. Ka-Miki and Kalanakāma'a exchanged taunts, Ka-Miki stated that Kalanakāma'a would become the *kāma'a lau-ī i hili kuanaka 'ia* [twined ti leaf sandals] which Ka-Miki wears upon his feet. Outraged, Kalanakāma'a leapt to attack Ka-Miki with his club *Pūpū-kani-oe-i-ka-ua-o-Hilo*, Ka-Miki leapt out of the way, and took 'Ūpēloa's club from Maka'iole. Seeing his student miss, Kaūmana called out to Kalanakāma'a telling him how to strike Ka-Miki — *ōlelo no'eau*:

Placed in the heavens is the water trough of Hilo, entwined in the cordage of the rains, 'lo [Hawk] is the war club strike to use, for there is no place that can't be hit. Strike at the head and reach to the feet, for once struck, there will be no movement. If there is any movement, he is indeed a skilled expert of the depths [deepest knowledge], then return and strike again in the manner of the wind swept koa tree [March 9, 1916].

Kāūmana and Ka-Miki compete
 Ka-Miki then attacked Kalanakāma'a and quickly over came him, Kaūmana then leapt to the *kahua* and was beaten as well. After Ka-Miki defeated Kaūmana, word spread throughout the region, and Pi'ihonua, Waiākea's brother called his council together wondering how they might help regain the honor of Hilo from this stranger... [March 16, 1916]

This section of the account ends with Ka-Miki meeting Hanakāhi in honorable competition at Kalepolepo. Because of the honest and humble nature of Hanakāhi, Ka-Miki befriended him and peace was restored in the region of Hilo-one and Hilo-Hanakāhi. Boundary Commission testimonies of 1873 (cited later in this study), and the writings of E.D. Baldwin (1889; IN Thrum 1890) give us the locations of three of the upland residential sites referenced in the narratives above (*Figure 6 – Register Map 1718*, at end of study):

Kīpuka-‘āhina is situated on *pāhoehoe* flats, crossed by the boundary of Pi‘ihonua and Waiākea (Kainoa Boundary Commission, 1873:57). In drawing near to Kīpuka ‘āhina, Baldwin reports “We are now nearing the main base of Mauna Kea,” and once at Kīpuka ‘āhina, he states “We are now on the slopes of Mauna Kea” (Baldwin 1890:55).

Hale-aloa is situated at approximately the 4,050 foot elevation. Baldwin noted: “the trail leaves the woods about two miles from Halealoha,” and he states that Halealoha is about five miles from Kīpuka ‘āhina (Baldwin 1890:55).

Hale-loulu was identified as being near the boundary of Humu‘ula, where Ka‘ula gulch meets Ka‘ala (below Ahu-a-po‘o-pua‘a and near the mountain road) (Waiki Boundary Commission, 1873:41).

Additional Traditional Narratives of the Late Historic Period

While researching various ethnographic records, the author reviewed both handwritten and typed Hawaiian language papers (handwritten and typed) collected by island historian, Theodore Kelsey. Kelsey was born in Hilo in 1891, and spent his entire life (through 1987) speaking with elderly Hawaiian people, collecting their stories, and translating their writings. Portions of the Kelsey collection are curated by June Gutmanis, the Lyman House Memorial Museum (LHMM), Bernice Pauahi Bishop Museum (BPBM), and the Archives of the State of Hawai‘i. Among his collections are the following references to the naming of mountains of the island of Hawai‘i.

While translating an article written by G.W. Kahiolo—published in the Hawaiian language newspaper *Kū ‘Okō‘a* (“*Ka Mo‘olelo o na Manu o Hawaii Nei*,” May 2-June 13, 1863)—Papa Kelsey made brief notes about the place names used in the older text¹¹. Kelsey reported:

Hualalai, a volcanic mountain in N. Kona, Hawaii. *Hu*, issue forth, *Alalai, alai*, obstruct. Hualalai was the wife of the Hawaiian discoverer Hawaiioloa, whose steersman was Makalii.

My special Hawaiian friend and instructor of Hilo, Mr. James A. Iokepa interpreted Hualalai as Hua alalai – Fruit (*hua*) that Hides others from view (*alalai*). The wife was a very beautiful woman that hid others from view.

Mauna Loa – Long Mountain. I [T. Kelsey] believe it commemorates Hawaii Loa, also Ha-loa, famed son of Wakea.

Mauna Kea – White Mountain – commemorates Wakea, I believe...

— (T. Kelsey, handwritten notes, page 39; June Gutmanis, Curator)

In 1931, Emma Ahu‘ena Taylor (Ahu‘ena), a Hawaiian historian of royal lineage, published an account of the gods Poli‘ahu and Kūkahu‘ula (Taylor IN Paradise of the Pacific, July 1931). Descended from the Hoapili-Beckley line (the chiefess Ahiakumaikalaniki‘eki‘e and Geo. Beckley), she had a direct genealogical relationship to the Waimea lands, that were nestled on the slopes of Mauna Kea. Indeed, while introducing her account, she tells readers of her youth and a beloved *kahu hānai* (guardian), who told her stories of ancient times (Ahu‘ena 1931:13). In this particular narrative,

¹¹ The references and translations are by T. Kelsey, not G.W. Kahiolo.

Ahu'ena speaks of the sacred nature of Poli'ahu, and describes the various attributes of Waiau, Lilinoe, and Kūkahau'ula. She also reports that a *mo'o* (a deity of ponds, capable of taking human and other forms), named Mo'o-i-nanea, was placed at the pool of Waiau, by Kāne, as a guardian of Poli'ahu and Waiau.

Poliahu, the snow goddess of Mauna-kea, was reared and lived like the daughter of an ancient chief of Hawaii.

She was restricted to the mountain Mauna-kea by her godfather Kane. She had a nurse Lihau (the chilling rain) who never left her for a moment.

Kāne created a silvery swimming pool for his daughter at the top of Mauna-kea. The pool was named Wai-au. The father placed a supernatural guard at that swimming pool so that Poliahu could play at leisure without danger of being seen by a man... (Ahu'ena July 1931:13)

Ahu'ena tells us that the god Kū-ka-hau-'ula ("the pink tinted snow god") had been selected as a husband for Poli'ahu, and that he appeared:

...every morning with the rising of the sun and again every afternoon with the setting of the sun. He saw the secluded water pool Wai-au and the lovely Poliahu... Each day he became more fascinated and made every effort to reach her abode and win her for his bride.

Poliahu's attendants drove him away. Lili-noe (fine mist rain), Lihau (chilling frost) and Kipu'upu'u (the hail) drove him from the mountain... (ibid.:13-14)

As the story continues, we learn that eventually, Mo'o-i-nanea determined that Kūkahau'ula's love was true, and she allowed the god-chief to embrace Poli'ahu. And to this day, "Ku-kahau-ula, the pink snow god, and Poliahu of the snow white bosom, may be seen embracing on Mauna-kea" (ibid.:14-15).

Also, as noted by McEldowney (1982), many of the later traditional references to Mauna Kea center on the figures and sites recorded in the earlier narratives, while at times, adding new details (McEldowney 1982:A-7).

1778-1873: SELECTED NARRATIVES AND SITE DESCRIPTIONS RECORDED BY FOREIGN VISITORS

The historic records of native writers share that in the Hawaiian mind, Mauna Kea—from shoreline to the dense forests and lofty peaks—was a source of awe and inspiration. The natural resources and mountain itself, were believed to be manifestations of various creative forces of nature, and were revered. Though on a different level, the natural beauty of Mauna Kea also inspired foreign visitors of the eighteenth and nineteenth centuries to wax poetically. In the journals of many eighteenth and nineteenth century visitors, readers can find descriptions of the natural environment and glimpses into the native history of the mountain. Selections from several early foreign journals (1778-1873) are cited below.

The Journal of Captain James Cook (1778-1779)

The earliest written descriptions of Mauna Kea, recorded by a foreigner are found in the Journals of Captain James Cook and his officers (Beaglehole 1967), who visited the Hawaiian Islands in 1778-1779. Though brief, the narratives are notable because they describe the mountain slopes and summit, and present what is probably the first map of the island as well.

[December 1, 1778] ...At 7 PM we were close up with the North side of [O'why'he] where we spent the night standing off and on.

Wednesday 2nd. The 2nd in the Morning we were surprised to see the summits of the highest [mountains] cover[ed] with snow; they did not appear to be of any extraordinary height and yet in some places the snow seemed to be of a considerable depth and to have laid there some time... (Cook IN Beaglehole 1967:476)

Mon. 7 . . . There are hills in this island of a considerable height whose summits were continually covered with snow [Mauna Kea and Mauna Loa], so that these people know all the climates from the Torrid to the Frigid Zones... (ibid.:478)

In the same time period, Captain King describes, what is believed to be the summit peaks of Mauna Kea from the northwestern side of the island of Hawai'i:

...the inland country rises gently at first but afterwards abruptly to a mountain, which is broken at the top [presumably Mauna Kea], which must be very high, since we think we can discern a good deal of Snow upon it, some say the appearance is only Clouds hanging on the top, & is also cut into deep Glens. (King IN Beaglehole 1967:501)

In March 1779, Cook's officers, Clerke and King, provided additional descriptions of the mountains of Hawai'i. King's narrative is of particular interest, because he makes specific use of the name Mauna Kea (Mouna Kāā) in his narrative. Clerke observed:

...This isle is one continued Mountain on which are Peaks of various heights, particularly two of vast elevation which were covered with snow all the time we were about the neighbourhood [Mauna Kea and Mauna Loa]; the great altitude of these snow Peaks was by no means striking to the eye, I suppose from the vast base they stood upon, for they must have been of great height as we have seen them very clearly at 26 leagues distance, and then they appeared very high and prominent. . . (Clerke IN Beaglehole 1967:591)

King noted:

On the NE side is Amacooa [Hāmākua] & A-heedoo or O'heeroo [Hilo], the

Snowy mountain which makes in 3 peaks & is called Mouna Kāā (or Mountain Kāā) separates them... (King *ibid.*:605).

The Journal of William Ellis (1823)

As cited earlier in this study, Ellis' writings provide us with the first known written account that records a native tradition of Mauna Kea (*page 16, above*). His writings also share the following observations:

On approaching the islands, I have more than once observed the mountains of the interior long before the coast was visible, or any of the usual indications of land had been seen. On these occasions, the elevated summit of Mouna Kea, or Mouna Roa, has appeared above the mass of clouds that usually skirt the horizon, like a stately pyramid, or the silvered dome of a magnificent temple, distinguished from the clouds beneath, only by its well-defined outline, unchanging position, and intensity of brilliancy occasioned by the reflection of the sun's rays from the surface of the snow... The base of these mountains, is, at the distance of a few miles from the seas shore, covered with trees; higher up, their sides are clothed with bushes, ferns, and alpine plants; but their summits are formed of lava, partly decomposed, yet destitute of every kind of verdure.

There are few inland settlements on the east and north-west parts of the island, but, in general the interior is an uninhabited wilderness. The heart of Hawaii, forming a vast central valley between Mouna Roa, Mouna Kea, and Mouna Huararai, is almost unknown, no road leads across it from the east to the western shore, but it is reported by the natives who have entered it, to be "Bristled with forests of *ohia*," or to exhibit vast tracts of sterile and indurated lava... (Ellis 1963:3-4)

Reverend Joseph Goodrich, who accompanied Ellis on his journey around Hawai'i ascended to the summit of Mauna Kea, and during his visit, he recorded the presence of a "stone heap." Ellis reports that Goodrich reached the snow line and:

...directed his steps towards a neighbouring peak, which appeared to be one of the highest; but when he had ascended it, he saw several others still higher. He proceeded towards one, which looked higher than the rest, and bore N. E. from the place where he was. On reaching the summit of this second peak, he discovered a heap of stones, probably erected by some former visitor... (*ibid.*:290)

Describing the "Hilo slope of Mauna Kea," Goodrich later wrote:

There appear to be three or four different regions in passing from the sea-shore to the summit. The first occupies five or six miles, where cultivation is carried on in a degree, and might be to almost any extent; but, as yet, not one-twentieth part is cultivated.

The next is a sandy region, that is impassable, except in a few foot-paths. Brakes, a species of tall fern, here grow to the size of trees; the bodies of some of them are eighteen inches in diameter. The woody region extends between ten and twenty miles in width. The region higher up produces grass, principally of the bent kind. Strawberries, raspberries, and whortleberries flourish in this region, and herds of wild cattle are seen... (*ibid.*:291-292)

The Journal of C. S. Stewart (1823-1825)

In April 1823, New England missionary, C. S. Stewart (1970) sailed into Hilo Bay. His description of Hilo with the backdrop of Mauna Kea (Mouna-Kea), is reminiscent of the scene described in the accounts of Kūkahau'ūla cited earlier in this study:

Friday, April 25. The appearance of Hawaii, this morning was exceedingly beautiful. We were within a few miles of the shore; and the whole of the eastern and northern parts of the island were distinctly in view, with an atmosphere perfectly clear, and a sky glowing with the freshness and splendor of sunrise. When I first went on deck, the gray of the morning still lingered in the lowlands, imparting to them a grave and somber shade; while the region behind, rising into broader light, presented its precipices and forests in all their boldness and verdure. Over the still loftier heights, one broad mantle of purple was thrown; above which, the icy cliffs of MOUNA-KEA...blazed like fire, from the strong reflection of the sun-beams striking them long before they reached us on the waters below. As the morning advanced, plantations, villages, and scattered huts were distinctly seen along the shore... (Stewart 1970:87)

In the evening Hawaii and Mouna-kea again, at a distance, afforded another of the sublimest of prospects;—while the setting sun and rising moon combined in producing the finest effects on sea and land. The mountains were once more unclouded, and with a glass we could clearly discern immense bodies of ice and snow on their summits... [ibid.:89-90]

In June 1825, Stewart returned to Hilo with Lord Byron, who had returned the bodies of Liholiho (King Kamehameha II) and his wife Kamāmalu to Hawai'i from England where they had died. In viewing the district of Hilo, with the back drop of Mauna Kea, from the deck of the *H.B.M. Ship Blonde*, Stewart recorded:

The land rose gradually from the cliff, to the distance of ten or fifteen miles, to a heavy wood encircling the base of Mounakea. Though in a state of nature, this large district had the appearance of cultivation, being an open country covered with grass, and beautifully studded and sprinkled with clumps, and groves, and single trees, in the manner of park scenery, with a cottage here and there peeping from beneath the rich foliage. The mountains were entirely covered with clouds, or the prospect would have been rendered more delightful from their sublimity... (ibid.:361)

The Journal of Hiram Bingham (1830)

The New England missionary, Hiram Bingham (1969) resided in Hawai'i from 1820 to 1841, and in his journal, he makes several references to Mauna Kea. One of them, describes an excursion with Kauikeaouli (King Kamehameha III), from Waimea, made in 1830. The following excerpts are taken from Bingham's record of the ascent:

...the king set out with a party of more than a hundred, for an excursion further into the heart of the island, and an ascent to the summit of Mauna Kea. To watch over and instruct my young pupil [the King], and to benefit my health, I accompanied him. The excursion occupied nearly five days, though it might have been accomplished sooner. Crossing in a southerly direction the plain of Waimea, someone horseback and some on foot, the party ascended a small part of the elevation of the mountain, and being in the afternoon enveloped in dense fog, they halted and encamped for the night. The next day they passed over the western slope of the mountain to the southern side, thence eastward along a nearly level plain, some seven thousand feet above the level of the sea, to a point south of the summit, and encamped out again, in the mild open air. In the course of this day's journey, the youthful king on horse back, pursued, ran down, and caught a yearling bullock, for amusement and for a luncheon for his attendants. A foreigner lassoed and killed a wild cow.

The next day was occupied chiefly in ascending in a northerly direction, very moderately. Our horses climbed slowly, and by taking a winding and zigzag course, were able, much of the way, to carry a rider. Having gained an elevation of about ten

thousand feet, we halted and encamped for the night, in the dreary solitude of rocks and clouds. When the night spread her dark damp mantle over us, we found ourselves in the chilly autumnal atmosphere of the temperate zone of this most stupendous Polynesian mountain. Below us towards Mauna Loa was spread out a sea of dense fog, above which the tops of the two mountains appeared like islands. We found it a pretty cold lodging place. Ice was formed in a small stream of water near us, during the night. As the company were laying themselves down, here and there, upon the mountain side, for sleep, I observed that the king and Keoniani [Keoni Ana], subsequently premier, and a few others, having found a cave about four feet high, ten wide, and eight deep, made by a projecting rock, which would afford shelter from a shower, and partially from wind and cold, had stretched themselves out to sleep upon the ground in front of it. I was amused to see that their heads protruded somewhat more than six feet from the mouth of the cave, and asked, "Why do you not sleep under the rock which is so good a sleeping house for you?" Keoniani, always ready, replied, "We don't know at what time the rock will fall." Whether the apprehension that the firm rock might possibly fall upon the head of the king that night or their unwillingness that any ignoble foot should walk above it, or some other fancy, were the cause of his declining the shelter, did not appear.

In the morning we proceeded slowly upwards till about noon, when we came to banks of snow, and a pond of water apparently covered with ice. In his first contact with a snow bank, the juvenile king seemed highly delighted. He bounded and tumbled on it, grasped and handled and hastily examined pieces of it, then ran and offered a fragment of it in vain to his horse. He assisted in cutting out blocks of it, which were wrapped up and sent down as curiosities to the regent and other chiefs, at Waimea, some twenty-eight miles distant...

After refreshing and amusing ourselves at this cold mountain lake, we proceeded a little west of north, and some reached the lofty area which is surmounted by the "seven pillars" which wisdom had hewed out and based upon it, or the several terminal peaks near each other, resting on what would otherwise be a somewhat irregular table land, or plain of some twelve miles circumference. Ere we had reached the base of the highest peak, the sun was fast declining and the atmosphere growing cold.

The king and nearly all the company declined to attempt to scale the summit, and passing on to the north-west crossed over, not at the highest point, and hastily descended towards Waimea. John Phelps Kalaaulana, who had been in New England, the only native in the company who seemed inclined to brave the cold and undertake the labor of reaching the top, accompanied me, and we climbed to the summit of the loftiest peak....Our progress was slow and difficult, by a zigzag and winding course...On gaining the loft apex, our position was an awful solitude, about 14,500 feet above the level of the sea, where no animal or vegetable life was found. No rustling leaf, or chirping bird, or living tenant of the place attracted the eye or ear... (Bingham 1969:377-378).

Ascent of Mauna Kea in 1840

In 1840, Charles Wilkes, Commander of the United State Exploring Expedition, traveled around Hawai'i documenting various aspects of the natural and cultural landscape of the islands. The editor of the *Polynesian*, a newspaper of the Hawaiian Islands, accompanied members of the Wilkes party on a visit to Hawai'i Island and the ascent of Mauna Kea. Excerpts from that account, as published in the *Polynesian* are included here. Guided by "Honoa," who was reported as knowing all of the trails of the island, the party departed from Waimea:

It was with great difficulty that men could be procured for our route, which was to ascend Mauna Kea, Mauna Loa, thence to the volcano... The trip to occupy fourteen

days... By twelve o'clock the thirtieth day of June, we were mounted and on our way, for we had taken horses to ascend the mountain as far as it was practicable to go with them. The plain remained quite level for twelve miles, broken occasionally into crater-like hills; our course at first was E.S.E., then diverged to S.E. by E. until we reached the mountain. The first portion of the ascent was gradual; through scanty forest. At sunset, we stopped at a cave, about seven thousand feet up, where we were to pass the night... Scarcely had we set foot within its precincts, before we were literally *fleaded* alive...

July 1. — Started early, our course being directly for the summit, the shortest but steepest way. After a few hours of slow progress, we passed the line of vegetation, excepting a species of fern, and a few stunted grasses, and came upon a bed of scoria, and rough lava. This led to a large crater, apparently the great terminal one of Mauna Kea. The side towards the N.W., through which we entered was torn away... [There] were herds of bullocks which scampered off at our approach, and plunged down their rugged sides with a rapidity that defied pursuit. Their only object in frequenting this region, where there is no trace of vegetation, is to avoid the pursuit if the hardy hunters, or lick the snow. After pushing our way until within two thousand feet of the summit, our horses gave out and were sent back... [The Polynesian, July 25, 1840]

The narrative describes a sleepless night spent in the shelter of a small rock shelter, and then describes the parties ascent up the highest cone on the mountain. The summit cones and view from them is described in the narrative, and readers also learn that the party erected a cairn on the summit:

These hills are composed of loose sand, into which one slips knee deep at every step. The second one was frozen hard. This they found to be the highest point; it was composed of slag, lava, and gravel. The snow or rather ice lay in the chasms, in spots in masses ten feet deep, fourteen wide, and three hundred long. About five hundred-feet down, in a southerly direction, lay the pond of water, the existence of which has been often doubted.. It lies in the basin of a small crater, and at a distance appeared green and slimy. Having piled a cairn as a monument to their success, they returned in all haste to the camp... [ibid.]

Letters of Charles De Varigny (1855-1868)

Charles De Varigny, Secretary of the French Consulate, resided in Hawai'i for fourteen years (1855-1868). In that time he made at least two trips to Mauna Kea. On November 18, 1857, De Varigny passed via the Laumai'a side of Mauna Kea, and upon reaching the 7,000 foot elevation, he reported:

Here the atmosphere of these uplands plateaus has an exceptional power to carry the sound of the human voice, making ordinary tones audible a mile away; But there are no traces of inhabitants. Only some great wild cattle, recognizable by their curly hair, trouble the silence of these solitudes when during their wanderings a dead branch is broken... Halemakule [the native guide] was struck by the unfortunate idea of testing the effects of his Hawaiian chanting as it reverberated among the mountain echoes.

Still one more point on which we failed to agree. We preferred the song of the native birds to his slow, monotonous *melopoeia*... [De Varigny in Korn, 1981:86]

De Varigny later wrote about arrangements made between himself and Jack Purdy—known to be very knowledgeable about the trails and mountain region of Mauna Kea—for a trip to the summit. The following excerpts from De Varigny's narratives describe the journey, and offer an explanation of the depletion of *nēnē* population and high numbers of introduced feral animals that roamed the mountain:

...As dawn was breaking, we left for Kalaieha, situated between Mauna Kea and Mauna Loa. From that approach the ascent of the mountain presented less difficulty.

Our horses were fresh, the plain was level... The cloudless sky and the clear, transparent atmosphere made objects appear so close that our undertaking seemed an excursion for a party of children... At five o'clock in the evening we reached Kalaieha, where we were planning to camp. Kalaieha is neither a town, nor a village, nor even a huddled corral of grass huts. It is an immense plain which sprawls between two mountains. At certain periods of the year, especially in July and August the plain abounds in wild geese attracted by the *ohelo*, small red berries with a rather insipid flavor. The shrub bearing this fruit is more plentiful at Kalaieha than anywhere else. More over, during the period of our excursion, sportsmen and amateur hunters looking for game pay frequent visits to Kalaieha for the pleasure of shooting. Unfortunately, the wild geese begin to spoil very quickly and cannot stand being shipped to Honolulu... The plain was entirely deserted and the bushes were stripped of their fruits. In compensation, though the geese were missing, the wild bullocks, boars, and stray dogs who had reverted to a state of nature were present in hoards. The place swarmed with wild boars... [ibid.:90-91]

De Varigny also provides readers with a significant account of the vegetation and environment at higher elevations:

...As we continued to climb, the trees became more scarce, more thin and stunted, until finally they ceased altogether. Bushes took their place, at first vigorous and close-growing, later puny and sparse. The ground was carpeted with strawberry plants covered with their fruit, which our horses crushed at every step, sending up a perfume that reminded us of Europe. Grass became rare and short; After it appeared the *Ranunculi* [*Ranunculus hawaiiensis*, the native buttercup, *makou*]. Our horses sank down in to the cindery soil or stumbled upon small stones that rolled under and behind them... We climbed and continued to climb. At 10,000 feet we began to note the first tufts of *Ensis argentea* [*Āhinahina*, the silversword (*Argyroxiphium sandwicensis*)], a last but marvelously hardy vestige of plant life. This spectacular creature which I have never observed elsewhere except on the high mountain tops of Hawaii, is a veritable miracle. Clinging to the ground by its very deep roots, in form it resembles the aloes. Its sword-shape leaves are whitish gray, covered with light down. They glitter brilliantly as they catch the rays of the sun. From the center rises a stalk reaching as much as ten feet high, which bears a silky plume similar to that of sugar cane during its blossoming period.

At last we sight snow. The summit seems to retreat before us, to escape all our efforts. But we are climbing, always climbing, and snowfield follows upon snowfield. At last we reach the final plateau. The glare of the sun reflected on that great white expanse dazzles us. The solitude and silence—how deathlike everything is! No sound is heard, no living creature stirs... [ibid.:91-93]

The party departed from Kalai'eha at 5:00 a.m., and arrived at the summit plateau at 2:00 p.m. After eating lunch and resting a couple of hours, De Varigny, Purdy, and party returned to Kalai'eha (ibid.).

The Journal of Isabella Bird (1873)

In 1873, a daring woman adventurer, Isabella Bird, visited the Hawaiian Islands. The letters she sent to her sister Henrietta were compiled into a book (Bird 1966) and record many rich descriptions of the islands – environment, people, social conditions, and evolving businesses. Sailing into Hilo Bay and

subsequently traveling across the land, Bird provides us with the following observations of lands in and around the study area sites. Sailing into Hilo Bay from North Hilo she observed:

...There was a magnificent coast-line of gray cliffs many hundred feet in height,, usually draped with green, but often black, caverned, and fantastic at their bases. Into cracks and caverns the heavy waves surged with a sound like artillery, sending their broad white sheets of foam high up among the ferns and trailers, and drowning for a time the endless baritone of the surf, which is never silent through the summer years. Cascades in numbers took one impulsive leap from the cliffs into the sea, or came thundering down clefts or "gulches," which, widening at their extremities, opened on smooth green lawns, each one of which had its grass house or houses, *kalo* patch, bananas, and coco palms, so close to the broad Pacific that its spray often frittered itself away over their fan-like leaves. Above the cliffs there were grassy uplands with park-like clumps of the screw-pine, and candle nut, and glades and dells of dazzling green, bright with cataracts, opened up among the dark dense forests which for some thousands of feet girdle Mauna Kea and Mauna Loa, two vast volcanic mountains, whose snow-capped summits gleamed here and there above the clouds, at an altitude of nearly 14,000 feet... (Bird 1966:37-38)

After approaching Hilo, from along the Hāmākua-Hilo Pali-kū coast line, Bird recorded that:

...we steamed into Byron's, or as it is now called, Hilo Bay... Native houses, half hidden by greenery, line the bay, and stud the heights above the Wailuku, and near the landing some white from a houses and three church spires above the wood denote the foreign element. Hilo is unique... So dense is the wood that Hilo is rather suggested than seen. It is only on the shore that one becomes aware of its bewildering variety of native and exotic trees and shrubs. From the sea it looks one dense mass of greenery, in which the bright foliage of the candle-nut relieves the glossy dark green of the breadfruit—a maze of preposterous bananas, out of which rise slender annulated trunks of palms giving their infinite grace to the grove... Above Hilo, broad lands sweeping up cloudwards, with their sugar cane, *kalo*, melons, pine-apples, and banana groves suggest the boundless liberality of Nature. Woods and waters, hills and valley are all there, and from the region of an endless summer the eye takes in the domain of an endless winter, where almost perpetual snow crowns the summits of Mauna Kea and Mauna Loa. Mauna Kea from Hilo has a shapely aspect, for its top is broken into peaks, said to be the craters of extinct volcanoes... (ibid.:38,41)

HISTORIC SURVEYS: THE RECORDATION OF SITES AND THE BOUNDARIES OF MAUNA KEA AND ENVIRONS

Historic Surveys (1862-1892)

With the advent of a western-styled land ownership system in the Hawaiian Kingdom in 1848 (a result of the *Māhele ʻĀina* or Land Division), and the subsequent ability of foreigners to purchase large tracts of land in fee-simple, a new system of land recordation needed to be implemented. The result was a large scale mapping effort, with a significant focus on lands of the King, Government, and large land holders (Hawaiian and foreign alike). In general, surveying was also done for the small native tenant *kuleana* holdings as well.

In the course of conducting this study, the author reviewed the original field survey note books, field maps, and register maps that are housed in the collections of the Hawaiʻi State Survey Division and State Archives. Between ca. 1862 to 1892 several surveys were conducted on, and maps prepared for, Mauna Kea. Records from the field work of S.C. Wiltse, C.J. Lyons, W.D. Alexander, D.H. Hitchcock, J.S. Emerson, and E.D. Baldwin were reviewed and a number of valuable historical observations, drawings, and maps were located. It appears that the first Government sponsored survey of the Mauna Kea-Humuʻula vicinity was conducted by S. C. Wiltse in April 1862 (*Figure 4*). L. Cabot retraced the map in 1878, and noted:

Tracing from original map. *Survey made for Waimea Grazing Co., under lease from the Crown.* Lower boundary set aside by the Commⁿ, from Waipahoehoe to "Wehahunou." *Upper boundary denied by all except Kamaaina* engaged on this survey [*Figure 4*] [emphasis added].

Also in the 1870s to 1880s, C. J. Lyons, who was born on Hawaiʻi, and was fluent in the Hawaiian language, conducted surveys of the summit of Mauna Kea and surrounding lands. Lyons working draft map of the summit (Reg. Map 1210), is in poor condition and can not be copied, though it is similar to Alexander's working map (Reg. Map 1860), included as *Figure 5* in this study. Lyon's Register Map 1641 (1891) of Ka'ōhe and Humu'ula, includes detailed documentation of the features and place names of the lands described, including the documentation provided in native testimonies given before the Boundary Commission in 1873 and 1881 (*Figure 2*). Subsequently in the late 1880s to the early 1890s, E.D. Baldwin, W.D. Alexander and parties of surveyors conducted thorough surveys of the Mauna Kea slopes and summit region.

Native Testimonies to the Boundary Commission of the Kingdom of Hawaiʻi

In 1862, a Commission of Boundaries (the Boundary Commission) was established in the Kingdom of Hawaiʻi to legally set the boundaries of all the *ahupuaʻa* that had been awarded as a part of the *Māhele*. In 1874, the Interior Department authorized the Commissioners of Boundaries to certify the boundaries for lands brought before them (W.D. Alexander in Thrum 1891:117-118). The primary informants for the boundary descriptions were old native residents of the areas being discussed. With work underway, W.D. Alexander, Superintendent of Government Survey, wrote to F.W. Hutchinson, Minister of the Interior, notifying him of progress on the Mauna Kea survey done as a part of the Boundary Commission proceedings. In his communication, he also reported on the construction of a large cairn at the summit, used for the triangulation tripod:

Nov. 21st, 1872. — ...we went to Laieha, and from thence ascended Mauna Kea on the 24th. We carried up and erected on the summit a signal pole and tripod 25 feet high, and built a large cairn around it. I had a barometer carried up and took 11 observations during three hours on the summit. From the barometer observations and our triangulation since, the height of this mountain above the sea is proved to be

13800 feet very nearly. Douglas in 1834 made it 13851 feet... [Alexander to Hutchinson Jan. 2, 1873; State Archives, Int. Dept. Survey Subject File, 1872-1875. Emphasis added]

Testimonies collected as a part of the Boundary Commission proceedings were primarily given by native informants, born between c. 1790 to 1834 (as cited in text). The testimonies were generally given in Hawaiian and transcribed in English as they were collected. The narratives cited in this section of the study are excerpted from the volumes of the testimonies to the Boundary Commission. The testimonies provide readers with an early record of place names and site occurrences on Mauna Kea; they document land divisions—Humu'ula and Ka'ohe—and land use patterns; and include the varied environmental zones of Mauna Kea (and also include portions of Mauna Loa). They also discuss native practices, including, but not limited to: *access rights; traditional gathering rights—collection of birds, adze stone, and other resources—the presence of cultural resources, and religious and ceremonial practices; and that the resources were being impacted by introduced herbivores.*

One observation made by the author of this study, while reviewing the testimonies was that the scribes sometimes used double vowels to lengthen pronunciation of single vowels in certain place names. It appears that this practice was done in place of macrons that are often used today. Also, a number of the place names are simply misspelled, or spelled inconsistently. Place names (particularly first occurrences), sites, and descriptions of resource collection practices are underlined below, and Hawaiian terms are translated in square brackets. *Tables 1-A and 1-B* provide readers with a summary of selected references cited—either in the testimonies below, or in other associated testimonies.

Table 1-A. Overview of Selected Sites, Features, and Resource References Found in Boundary Commission Testimonies (Lower to Upper Forest Zones)

Lower to Upper Forest Zones

- Birds — *ahupua'a* tenant rights to collect birds were enforced (Hanioa:45; Kamohaiulu:48; Naaikauna:50-51 Waikililii:53; Kamalo:22).
- Koa trees were harvested for canoe making, and trails for hauling canoes *makai* existed (Waiki:40; Kamohaiulu:48).
- Trails also existed for other *mauka* accesses and practices such as bird catching and collection of resources (Waiki:40; Hanioa:45; Kipi:49; Naaikauna:52; Kainoa:56).
- *Māmaki (Mamake)* was gathered from patches in woods (Kahue:36; Peleioholani:56; Nainoa:447).
- Area from tall forest down belonged to specific *ahupua'a* that were cut off by the larger land units of Humu'ula and Ka'ohe (stated at several points in the testimonies of Kahue and Waiki).
- Lapalapa an upland cultivating ground (Kamohaiulu:48).
- Oina was an upland banana grove (Waiki:40; Naaikauna:52).
- Paiopu was an upland banana grove (Kahue:36; Naaikauna:52).
- At Pu'ukole (c. 8,000 ft. elev.), below Pu'u'ula'ula, was an altar and dwelling for bird catchers (Kahue:33).

- Cattle killing forest, woods do not extend as far *mauka* as they did in the 1850s (J.A. Simmons:30; Kahue:444).

Table 1-B. Overview of Selected Sites, Features, and Resource References Found in Boundary Commission Testimonies (Upper Forest to Summit Zones)

Upper Forest to Summit Zones

- Ahu-a-po'opua'a, was a *heiau*, a high pile of stones (Kahue:36; Waiki:40; Naaikauna:51).
- *Māmane (mamanī)* and *pili* grass were for Humuula (Kahue:36; Waiki:39,42; Naaikauna:51).
- Kaiwaiwa (on the south) and 'Iolehaehae (on the north) are identified as being situated near the base of Mauna Kea (Kahue:35 and Waiki:40, respectively).
- At stream gulch of Koikapu'e (on the southern flank of Mauna Kea, above Kaiwaiwa, below Waiau), *mele* (chants) were offered (Kahue:35).
- Burial sites situated at Pu'uokuka'iau, Pu'uokihe, Keahuonaiwi, 'Iolehaehae, and other unspecified areas (Kaho'oka'amoku:441,442,446; Kauahipaula:443; Notley:443-444; Kahue:444; Kauahi:447; Nainoa:447).

Additionally, C. Lyons, who surveyed the areas being described before the Commission, recorded that a burial place existed at Keonenui (c. 9,500 foot elevation).

- Makanaka was the site of an *ahu* (cairn - altar) (Kahue:36).
- Kaluakakoi – Stone collected for adze making (Waiki:40, 43).
- Cave of Poliahu where Lilinoe (Lilinoi) used to live (Waiki 40).
- Waiau – a pond atop Mauna Kea (cf. Kahue:37; Waiki 43).
- Poliahu – (Kahue 37; Waiki 40).
- Puu o Kukahauula is the highest peak of Mauna Kea (Kahue: 35).

Boundary Commission Testimony–Volume B

Reference	Narrative
<p>[page 33] Humu'ula</p>	<p>Kahue^K. Sworn I was born at <u>Humuula</u>, am seventy three years of age, and a <i>kamaaina</i> of the land and know its boundaries. Kalaimaka, Mohaiku, Eekamoku (all dead) were <i>kamaaina</i> of Humuula and pointed out the boundaries to me. Kahoahuna bounds Humuula on the East side, the boundary begins at the seashore in Kawalii gulch, thence <i>mauka</i>, along the center of the gulch to Mauiana gulch. At the <i>mauka</i> corner of Kahoahuna (said gulch is a branch of the Kawalii and enters it at this place.) Thence along the lands of Aulilii 2nd and Aulilii 1st across to Waiopae gulch (another branch of the Kawalii), the boundary running towards Hilo.</p>
<p>Ōō present</p>	<p>Kahoahuna runs into the woods, but where the oo [native honey creepers] are, is Humuula. From Waipahoehoe gulch, where Waipunalei joins Humuula. Waiopae is a large pool of water in the gulch. Waipahoehoe gulch runs clear through the woods and Waipunalei bounds Humuula to <u>Piha-helei</u> about three miles below the <i>mauka</i> edge of the woods. Thence towards Hilo, to the land of Laupahoehoe at <u>Puukole</u>, a <i>kuahu manu</i> [altar or ceremonial site for bird catchers] and <i>kauhale</i> [house or shelter], this place is away in woods as far <i>makai</i> as Pihahalei, it is on Laupahoehoe.</p>
<p>Bird catcher's altar (<i>kūahu</i>)</p>	<p>Thence to, a hill covered with <i>koa</i>, on <i>Kaiwilaihilaihi</i> and <u>Kapehu</u> and at the junction</p>

of Kaiwilaihilaihi and Humuula. The boundary here runs *mauka*, and I think this point is a mile or more below the *mauka* edge of the woods. Thence along Kapehu to Puulehu a *kauhale* on Maulua, a mile or more from the edge of the woods. Thence along Maulua towards Hilo, to Kawelu, said place is near Hee, and there is a *mamani* grove a short distance off. This place Kawelu is about a mile *makai* of the *mauka* edge of the forest. (Kaiaiki is *mauka* of Puulehu)

Hāpu'u collected Thence along the land of Piha, directly *makai*, and about a mile below the edge of the forest. Thence along the land of Piha to Kaumuhapu, this place is directly *makai* of Kaohe. [page 34] This place is a kualapa [ridge], and is where the people of Kaohe used to go after *hapu* [*hāpu'u*]. Thence Hakalau joins Humuula at Kaohe gulch at the *mauka* end of Umauma gulch. Kaumuhapu is above this gulch. Thence along Hakalau to Kupuna, a water place directly *makai* of Hopuwai, outside of the woods. Kupuna is about a mile *makai* of the *mauka* edge of the woods. Thence to Makewai, a place where there is no water.

Kōloa ponds Mawaiahiu is a *kauhale*, outside of the woods near Hakalau gulch. From Makewai, the boundary runs through the woods to Kapahee, *he mau wai koloa* [where there are several duck ponds]. Kaloaloa is a *kualapa* above the woods. Kapahee is about a mile below the edge of the woods. Thence along Hakalau to a large water place called Kapohopaele, *makai* of Palauolelo, which is above the woods; thence along Makahanaloa to Waikoloa, a large pond of water on Papaikou. The point above this place is Kaaimana, a *kauhale* on Humuula.

Upland dwelling sites Waikoloa is about a mile *makai* of the *mauka* edge of the forest. Thence to Kukukahawai, a *kauhale* on Papaikou, it is *makai* of Kapuakala, a *kauhale* on Humuula; and near the edge of the boundary of Paukaa. Thence to Kalapapainiu, a *kauhale* on Kualapa on Paukaa land and where Piihonua joins Humuula. There is no gulch here. The Kapuakala is on the Hamakua side of this place, and the point of *koa* and *ohia* woods running out onto the plains; just *mauka* of this place is Lai (I went there a short time since with you {E. S Hitchcock} and Hitchcock and me placed a marked rock at this point called Lai).

Thence along the land of Piihonua to Paakainui, a *kauhale* on Piihonua by the woods and *makai* of Waipahoehoe, a cave in Wailuku gulch, above the woods (it is a mile *makai* of the edge of the forest). Thence to Kumunaio, *makai* of Laumaia, the cave called Kanuha is at Laumaia. The boundary runs past it with the *mauka* edge of the woods. Kumunaio is where the road runs out of the gulch that runs from the *mauka* edge of the forest. Thence to Ohiakanio, this place is directly *makai* of the *kahawai* [stream - gulch] and cave of Aama, thence to Nahuina, the junction of the branches of the Wailuku. The boundary is a mile *makai* of this place. I think this place is a mile or more from the *mauka* edge of the forest, above the same distance [page 35] as the other places I have mentioned.

Puuoo is a hill *mauka* of Nahuina above the woods, thence to Elekalua, a *kauhale* in the woods, *makai* of Kahiliku, a *lae laau* [a section of forest that extends out from the surrounding forest on to an open area], outside of the woods. Thence to Mawae, a crack in the woods runs from *makai*. I have heard that Waiakea joins Humuula here, but I do not know which side of the lava flow of 1854 or 1855 the lands joins. Thence the boundary of Humuula runs to Kawauwauwai a *kauhale*; the boundary running to this point in scattering bush. The forest ends at Elekalua.

Pōhakuloa, an
ahu now called
Keahuokuakini

I have never seen the boundaries beyond Kawauwauwai. From thence (I have heard), it runs to Puuoo, a hill covered with trees *mauka* of Hoaa; thence to Keanaokauakii, a cave above the woods. Thence to Puumanu, a hill on the *aa* way above the woods (I have been there). Thence to Pohakuloa, an *ahu* [cairn] of stones, now called Keahu o Kuakini, as Kuakini built a new *ahu* there. Kapapala is said to cut Humuula off to Pohakuhanalei.

Boundary runs near Puuonioni on Humuula; the boundary is a little beyond. Wekahuna is hill on Humuula. Waiakea ends at Pohakuloa, and from there Humuula is bounded by Kapapala to Pohakuhanalei (I do not know whether Kapapala extends to Pohakuhanalei). From Pohakuhanalei to Koahe it is bounded by Kaalaala of Kau. I have been to Koahe after sandalwood, it is a point on the road running over Mauna Loa. Pohakuhanalei is a large rock high up on the side of Maunaloa towards Kalaieha.

Kaiwaiwa near
base of Mauna
Kea. *Mele* sung
at Koikapue.

Koahe is on Mauna Loa, a *koa* there, Koahe joins to Puualala a cave. Thence to Puuulaula a red hill on the side of Mauna Loa near its base. Thence along the land of Kaohe to Omaokoili, two hills. The boundary running between them. Thence to Kaiwaiwa a hill on Humuula near boundary, near the base of Mauna Kea. Thence to Kahawai Koikapue, a gulch where *mele* were sung. Thence up the mountain to Waiau (half of the water in the gulch belonging to Kaohe and half to Humuula).

Thence to Puuokukahauula, the highest peak of Mauna Kea. Said hill is on Humuula and the boundary runs to the foot of said hill on the side towards Waimea. *Ahu* of Mekanaka Thence to a large *ahu* called Mekanaka, said *ahu* is [page 36] on Humuula and is higher than a man.

Altar of *Ahu*-a-
poo-puaa
Stone mound
of Kaiwiholiholi

The boundary runs very near it. Thence to Kamakahalau, a hill on Humuula, from the top of which you can see Waiakea. Thence to Puukaliali, a hill on Humuula, the boundary at the base. Thence *makai* to Iolehaehae, a hill on Humuula, boundary at the base. Thence down to Ahuapoopuaa, a kuahu [altar] and hill on Humuula, the boundary at the base. Thence to Kaiwiholiholi [Ka-iwi-holehole], an *ahua pohaku* [stone mound] there. Thence to Ahuamoa, along the land of Kaohe. Kaala was surveyed by Lyons and cuts into Humuula, and takes in Iolehaehae, Ahuapuaa and Ahuamoa.

Humuula is bounded by Kaala to where Kaula gulch enters the woods. In olden times, Kaohe used to bound Humuula to Papaalepo.

A note inserted on the side of the page records that the session adjourned, and Kahue was too ill to appear at the next session. Kimo Waiki was deposed, and then Kahue returned to finish his testimony following Waiki's testimony.

[Kahue continued]

Commencing at Ahuamoa, the boundary runs *makai* to Keanalepo a *puu mamake* [hill of *pipturus* growth] in the woods, in Kaula gulch, along the land of Kaohe. Thence along the land of Manawaileinui, along the gulch to Kalauonaki, the *mauka* corner of Ookala. There the boundary leaves the gulch and turns towards Hilo, along the head of the land of Ookala to Paiopu which is the junction of Kaohaoha with Humuula. Thence the boundary runs to Nihoamoa where Ulukanu joins Humuula. Ookala bounds Humuula first and then comes Kaohaoha, other lands do not reach the boundary of Humuula.

Paiopu an inland banana grove Ookala bounds Humuula from Kalauonaki to Paiopu, a banana grove, and Kaohaoha bounds Humuula from here to the shore. From Paiopu the boundary runs to Pukoleamahuna *kauhale*, thence to Kanekiki, an *awaawa* [gulch] where the *kahawai* commences. Thence to Kailama *kahawai* and *mahina aina* [cultivated fields]. The same *kahawai* [stream] as at the sea bounds Humuula on the *makai* side. The mouth of the gulch is called Kukuieua. Kapuna is an *ili aina* [land parcel] of Humuula. Panalii is below Kanekiki.

I went with Wiltse one time when he surveyed the land of Humuula [Register Map 668]. Kimo Waiki and Naaikauna Oopa and others went also. We went from Humuula to Hapuuai [Hopuwai]. Slept, went outside of the woods and then to Kaelewa above the woods and slept there, then to Kaleieha. The chain was not used. Wiltse asked us where the places were and we pointed them out but he did not go to the boundaries or have flags set on them. He sighted with compass and asked where lands joined Humuula, and we told him. Flags were not set up at any of the places I have mentioned on the boundary of Humuula in the woods. We could not see the points of the boundary from above the woods so as to distinguish them as being in the right places. We told him that the boundary was in the woods and not at the *pili*

Learned boundaries from *kūpuna* [place where *pili* grasses grew]. At that time, I was not working for Waimea people. I afterwards went as witness on Waikoloa. The boundaries I have testified to are the ones my *Kupuna* told me. The Waimea Grazing Co. rents Humuula.

Kaluakakoi, Waiau & Poliahu Know the hill called Kole, it is on Humuula. Puuulaula is higher on the mountain, on the boundary of Kaohe and Humuula. Puuokalau is way in Humuula. Lanikapue is a *kahawai* on Humuula near the boundary. Kaluakakoi is on Humuula. The boundary of Kaohe is on Waiau. Poliahu is this side of the mountain on Humuula, near the boundary. I have never heard that Nanue bounds Humuula. Have heard that Kapuakala gulch runs into the Honoli, and not into Kapua, it is on the Hamakua side of the place pointed out to Hitchcock Brothers as Lai. Not the first, but the second *awaawa*, on the Hamakua side. I do not know the places called Punaluu (on Mauna Loa), Kaamaumauloa, Puuulaula and Puukulua, Puuonioni and Wekahuna. I have not seen, but have heard that they are on the boundaries. Humuula does not reach Kulani. Puuiki is by the boundary of Humuula and Waiakea. I have not seen Waipahoehoe at junction of Waiakea and Piihonua. I have heard that Mawai Kapahee is the junction of Makahanaloa and Hakalau. Thence in between Pohopaele and Palauolelo *mauka* there Papaikou commences and bounds it to Waikoloa, and Kaaimana, outside then to Kumukawau and Puakala outside. [page 37]

Thence to Paukaa to Kalapapainiu, Lai outside. Hakalau bounds Humuula from Kapahee; Kaloloa *mauka* of the woods and Nawaiahehu outside on Humuula. Nukupahu is on Kapuakala gulch, it is a cave and *kahawai*. Papaaloa joins Humuula, also Kapehu and Kaiwilaihilaihi.

Waiki^K. Sworn
Learned boundaries from elders who were bird catchers & canoe makers I live at Humuula, was born there after the battle of Kekuakalani [1819], and know the boundaries of the land. My parents told them to me. Eekamoku was my father and Koapunini my grandfather, they were bird catchers and canoe makers. Kalaimaka, father of my wife pointed out the boundaries and told them to me.

The *ahupuuaa* [pig altar cairn] is the boundary at seashore, bounded by Kahoahuna; a pile of stones on the Hamakua side of the stream in Kawalii gulch, is the boundary. Thence *mauka* along the stream, passing Kahanapehau grove and Piinau, breadfruit on Kahoahuna. Thence up the *kahawai* to Waiolomea, a pool of water in the gulch. Thence to Lapalapa where a gulch of Humuula comes in from that land. Lapalapa is on Humuula by the boundary of Kahoahuna. Thence to Kaleina a large waterfall (Pailihi) [?]. Thence up the gulch to Alanaio, thence to Kahualei, in the gulch in the woods. Thence to Mauiana, the *mauka* corner of Kahoahuna. Thence along Aulii 2nd and Aulii 1st, and leaving *kahawai* at Mauiana and going up on the Hilo side of the gulch. At Alanaio, the boundary leaves Kawalii and runs up a branch gulch to Mauiana, from Mauiana the boundary leaves the gulch and runs along Aulii 1st and Aulii 2nd to *Kahuahookolo* land at *Lainakaonohi kauhale*. Thence to Waiopae, a water hole in Kahawai of Waikalea, a branch of Kawalii. Kahuahookolo bounds Humuula from Lainakaonohi to Waiopae, the corner of Nakapa'a. Thence along the land of Kapaa, following the gulch to Olohe *kahawai*, where the land of Waipunalei cuts Kapaa off and bounds Humuula. [page 38]

Bird catcher's houses

Thence along Waipunalei running up the gulch to Waipahoehoe *kauhale manu* [a bird catcher's house]. Thence up the *kahawai* and *awaawa* to Pihahalei, a *kauhale manu* on Waipunalei. Here Waipunalei ends and the land of Laupahoehoe bounds Humuula. 2Thence along Laupahoehoe to *Puukole a kauhale manu makai of Palipali*.

Puukole is on Laupahoehoe 2nd near the *mauka* edge of the woods. Thence along Laupahoehoe 1st to Puukole a place where there used to be a *kauhale manu* of Laupahoehoe 1st, about one half mile below the *mauka* edge of the woods. Pihahalei is about the same distance. Maulua land joins Laupahoehoe and Humuula at Puukole. (I should have said Papaaloo land joins here at this place.) Thence along Papaaloo to Puulehu, a *kauhale* at the junction of Maulua with Humuula. No other lands join Humuula between Papaaloo and Maulua, to my knowledge. Puulehu is about the same distance from the edge of the woods as Puukole. From Puulehu, the boundary between Humuula and Maulua runs to *Uhakunou, makai of Heenui* on Humuula about the same distance in the woods as Puulehu.

Thence along the land of Piha to *Kawau, kauhale manu* on Piha *makai* of Kalapaohelo.

Thence along Piha to Kaluaalu, *makai* of Nahuaapaakai on Humuula. *Kaluaalu* is a cave in the *kahawai*. The boundary runs close to the cave and near to the edge of the woods, about as far from the edge of the woods as from here to the sea shore. Piha ends here and Nanue joins Humuula here. Thence along the land of Nanue to Hopuwai gulch. The gulch *makai* of the woods is called Kaohe.

Pili belongs to Humuula

The tall trees are on Nanue, and the trees growing in the *pili* are on Humuula. Thence along Nanue to Kapunawai, a swampy place where there is always water. Kapuna is the name of the place *mauka* of the woods. *Mauka* of this place, at Kapunawai, the land of Hakalau joins Humuula. Thence along Hakalau to Puwai, a pond of water. A point of woods [page 39] extends *mauka* into Humuula. Place on Humuula *mauka* of the woods is called *Nawaiiaheu*. Thence along Hakalau to *Kanepu*, and *Palauolelo mauka* of woods. *Kanepu* is a *kauhale* by Palauolelo gulch.

The boundary runs along here, leaving the *pili* with points of woods extending *mauka* on Humuula, and the dense forest on lands *makai*. Makahanaloo joins Humuula at Palauolelo gulch. Was told that Palauolelo is the *mauka* end of Waiaama gulch, or Kanepu in the woods. Thence along the land Makahanaloo to Puakala a *kauhale* by gulch of same name. Have heard it is the *mauka* end of Kapue gulch.

Pohopaele in the woods is on Makahanaloa. The forest is on *makai* land and the *pili* on Humuula. Kanepu is on Makahanaloa. Tall forest on *makai* lands. The boundary runs on the edge of the woods. Thence along Papaikou to Nukupahu. Lai point of *Koa* on Humuula. Papaalepo *kauhale* is on *makai* lands. There is a *Lae pili* [point of *pili* grass] running way into the woods and *Lae koa* [point of *koa*] running to Kilohana. Papaikou extends to Nukupahu gulch, there the land of Paukaa joins, and bounds Humuula to Waipahoehoe gulch. Kilohana is an *ahua* [mound, hillock] on Humuula, where Paukaa ends and Piihonua bounds Humuula. Thence along Piihonua to Laumaia *kahawai*, the boundary runs along the *mauka* edge of the forest. Thence along Piihonua to Laumaia and a cave on the gulch.

- Thence to Aama gulch near Hanamauloa where Kuakini built a bullock pen. The forest is on Piihonua and the *pili* on Humuula. Thence to Waikee, a branch of the Wailuku. Thence to where the *aa* commences. Thence to Kahiliku, *makai* of Puuoo, near the woods, Kahiliku *kauhale manu*. Thence to Kaelewa, where there is now water. Thence to Kawauwai by the edge of the forest. Thence to Kaieie, Waiakea and Piihonua join Humuula between these two places. Thence along the edge of the forest to Kalapaohelo. I have been there with my parents, on old lava ground. Thence to Pohakuloa, a large rock where Kaehu Paki laid down on the side of the mountain towards Kau of Palauolelo. There I ^[page 40] staid with my *kupuna* and they said the boundary runs from here up the mountain to Pohakuhanalei, a rock on the slope of the mountain towards Kaleieha. Waiakea bounded it to Pohakuloa, but they did not tell me what lands bounded Humuula from there to Pohakuhanalei. We went to Kaleieha and to Omaokoili, they there pointed out a red hill called Kole, below Pohakuhanalei, and they said Kaohe bounded Humuula from Pohakuhanalei to the hill. Can see this hill from Omaokoili, hill near Kaleieha. They said the boundary runs from Kole to Omaokoili, the hill *makai* of the cart road to Waimea from Kaleieha.
- Bird catcher's dwelling at Kahiliku
- Pohakuloa
- Base of Mauna Kea
- Kaluakakoi
- Poliahu & Lilinoe
- Base of Mauna Kea at Iolehaehae.
- Ahuapoopuaa
- Thence to base of Mauna Kea, to Puuokalau a hill bounded by Kaohe.
- Thence to Lanikapue, a *pali* [cliff]. Thence to Kaluakaakoi, a cave where we used to get stone adzes out. Thence to Poliahu, a cave where Lilinoe used to live. Thence to Kamakahalau, a hill on the Hamakua side of the mountain. Thence down Iolehaehae, hill near the base of Mauna Kea.
- Puupapa and Pukaliali are on Kaohe. Thence to Ahua Poopuaa a hill with *koa* trees growing on it, the boundary runs to a pile of rocks on said hill, on the Hamakua side of the hill. Thence to Puuloa where the boundary enters the woods. Puuloa is a hill in the woods which can be seen a short distance below the *mauka* edge of the woods. Thence to Keanalepo. Kaula gulch and Kaala bounds Humuula from Puuloa to Kahaleloulou, where natives used to live; in Palm trees. There, Kaiwiki bounds Humuula to Keanalepo, there the boundary runs *makai* in Kaula gulch, along Kaiwiki to Okolehi. There Manawaileinui joins Humuula, and bounds it to Puupilau on Kaula gulch *Kauhale kalaiwaa* [canoe maker's house]. Thence *makai* along Kaula gulch to Kaleiike, *kauhale manu*. Thence along the gulch to Oina, where Humuula boundary leaves the gulch and runs onto Hilo side of the gulch at a large banana grove. There, the land of Ookala bounds Humuula. Thence along Ookala *makai*, along the land towards the sea, to Kalauonaki, a pool of water in a gulch which is a branch of the ^[page 41] Kaula gulch. Thence across the gulch and along the land of Kaohaoha nui to Palapu, passing Kaailama banana grove. Thence the boundary runs straight *makai* along Kaohaoha to Kainakiki, an *awaawa*, that as you go *makai* to Pauahi, becomes a gulch. Thence the boundary between Kaohaohanui and Humuula runs *makai* in the gulch to the sea shore.

Kapuna is the name of the mouth of the gulch. The sea bounds it on the *makai* side...

I went with Wiltse and Blodgett [1863]. We commenced to survey from the seashore. I marked KIV. on a rock at the *Ahu Puaa*. The compass was set on the top of the *pali*. They surveyed up the Hamakua side of the land to Kamakahalau. Blodgett surveyed this line. I went through the woods. Naaikauna then went. I went on the Hilo boundary of the land and Naaikauna went there also. Aipala and Kahunanui (now dead) also went with Blodgett. Wiltse did not go this time.

Kaleieha
Poliahu

Pohakuloa

At Kaleieha, went with them, sighted to Poliahu; Pohakuhanalei, and surveyed across the land. Thence went to Hopuwai. There chained to between Kumukauwai and Kalualu. Thence to Uhakanou, marked in both places K. IV., thence to Puulehu. Thence along the edge of the woods to Pihalei, passing *mauka* of Puukole etc. At Pihalei, *mauka* corner of Waipunalei, we stopped surveying. From Kaleieha we did not chain it, only pointed out places without going to them, and did not set up flags there. A flag was not set up at Pohakuloa. At Kaleieha hill we set up flags and the Haole surveyed these. The flags were set up a short distance ahead of the compass and sighted to. Flags not set up on top of hills [page 42] in woods.

An old trail

Birds and *pili*
belong to
Humuula

We pointed out boundaries at the edge of the forest on that day, to Piha. The road in olden days, ran from Lahohina to Laumaia, above the wood. No road from Humuula to Lai, along through the woods. My *Kupuna* told me the birds on the *mamani* and *pili* belonged to Humuula, and the birds in the forest to *makai* lands. I went with Henry and F.S. Lyman when Henry surveyed the land of Hakalau. I told him Makahanaloa was surveyed too far *mauka* and that the *pili* belonged to Humuula. They chained along the road above the woods. I and a *kamaaina* of Hakalau, pointing out the boundaries to them. A flag was set up at the boundary between Makahanaloa and Hakalau, and on the boundary between Hakalau and Nanue. My *kupuna* told me Kapuakala was at the *mauka* end of Kapue gulch and Nukupahu at *mauka* end of Honolii gulch. I have never followed them down to know.

I went with Wiltse, Naaikauna and Kahue to survey Humuula, we went around, above the woods and sighted to different places. The flags were set up close to the different points on the boundary... I have testified today as the boundaries were told me by my *Kupuna* and as he pointed them out to me...

Waiau
Adze making at
Kaluakakoi.
Poliahu

They told me Kaohe bounded Humuula from Pohakuhanalei down Mauna Loa, on the Kona side. I never heard my parents say that Kaalaala joined Humuula. The pond of water called Waiau is on Kaohe and not on Humuula. My parents told me Humuula went to Kaluakaakoi and Poliahu. We used to go there after adzes for Humuula people. [page 43] (Boundary Commission Vol. B; November 1873)

While the testimonies of Kahue and Waiki¹² were selected as samples of the native testimonies provided to the Boundary Commission, many other testimonies were also collected. For lands in the district of Hāmākua, which are situated on the slopes of Mauna Kea, we find culturally significant references to funerary practices. These references, cited below, along with narratives cited earlier in

¹² As seen in the sampling of testimonies cited above, and reported by McEldowney (1983), at times, the testimonies of various informants did not concur with one another, and the “boundaries” specified by Kahue, were not accepted. Such inconsistencies in oral tradition are to be expected, and should not be considered as diminishing the quality of the overall accounts of sites or resource occurrences.

this study, identify the occurrence of burial sites on Mauna Kea, extending from near the 7,800 foot elevation (Pu'uokihe) to the burial cave of Lilinoe and Kūkahau'ula at approximately the 13,000 foot elevation.

March 1881

Ahuapoopuaa [page 441] Kahookaamoku ^(k) Sworn . . . [from] Ahopuapua [Ahuapo'opua'a], where Hitchcock surveyed; then up to "Kanukulua", sharp turns in the stream, thence Iolehaehae & on up to Iolehaehae, under which is "Kaluamakani", and mauka of Iolehaehae Puuokiha graves are graves; then across, the mauka boundary runs to graves mauka of Puuokiha [Pu'uokihe]... [page 442] My father Napaelua, shewed me the boundaries makai, and my "makuahine hana" [foster mother] told me the mauka boundaries, and that the two graves [sites] are the two mauka corners.

[page 446] I was born at Kukaiau, know its boundaries well. The mauka corner of Kukaiau is at a grave at the mauka base of Iolehaehae; mauka of that is Kaohe and Kukaiau is makai. Thence straight to a grave mauka of Puuokiha. . .

[page 443] Kauahipaula Sworn. . . Laumaia, here the stream ends, and boundary follows up Puuokihe a as marked, piles of stones and ridges up to Puuokihe, boundary runs over the burial place top, and on to a pile of stones on sand and aa, a burying place of Hamakua people in olden times...

[pages 443-444] Chas. Notley Jr. Sworn. . . Haleole, outside and above the woods, and on to Burial sites Laumaia road and on to Iolehaehae, and on to Puukukaiau where people were formerly buried. Thence to Keahuonaiwi [literally translated as "The altar of bones"], on the back side of Puuokihe. . .

[page 444] Kahue Sworn. . . Kukaiau goes up to Ahoipopuaa [Ahuapo'opua'a], where Kaohe Puuokihe joins Humuula, above the mauka road, where I have lived a long time. Iolehaehae formerly belonged to Humuula, and now to Kaala. I know Puuokihe, it belongs to burials Kaohe, and above that is where people were buried in old times, when people used to make fish hooks from the bones. . . Formerly when any one died on all those lands, Ka'ao, Kaawikiwiki etc., would not wail—at night wrap up, and take into the mountain and bury secretly, lest the bones be used to make fish hooks.

[page 447] Kauahi ^(k) Sworn. . . The boundary of Kukaiau runs in a direct line from Iolehaehae Burial sites and Puuokiha. The people of Kukaiau were interred there.

[page 447] Nainoa Sworn. . . There are graves on Puuokiha and also at Iolehaehae, and Burial sites many other places. In old times, if any one died, could not wail, lest people come and steal shin bones for fish hooks, so used to carry body secretly and bury in mountain.

J.S. Emerson: Survey Notes of 1882

Joseph Swift Emerson was the son of a missionary, born and raised in Hawai'i. He was conversant in Hawaiian, and like his brother, Nathaniel Emerson (author of detailed ethnographic works), J.S. Emerson also had a keen interest in native history. Thus, while in the field conducting surveys, J.S. Emerson also collected detailed ethnographic information from his guides and natives residing on the lands he surveyed. While it does not appear that Emerson actually worked on the Mauna Kea Surveys, his work in the districts of Kona, Kohala, and Puna brought him within viewing distance of the mountain, and lower *pu'u* (hills) on the slopes were used as triangulation points. Thus, among Emerson's field books are some detailed sketches of Mauna Kea and neighboring lands, prepared by Emerson's field partner, J. Perryman. *Figure 7* from Field Book No. 251 depicts the Mauna Kea summit region as seen from Ahumoa on the northwestern flank of the mountain. *Figure 8* depicts the Ahumoa slope of Mauna Kea as seen from Nāpu'ukulua

E.D. Baldwin: Survey Notes of 1889

Another of the early surveyors was E.D. Baldwin who ascended and mapped the summit of Mauna Kea in 1889, with return trips through 1891 (*Figure 6*). In 1890, Baldwin wrote of his 1889 expedition. Describing the summit region he wrote:

Mauna Kea, so seldom visited by any one, yet claiming universal admiration, as it looms up grandly and beautifully decked in its shroud of snow is truly named the "White Mountain." What wonders there were to be seen thereon, amongst its numerous cones, which looked like so many mole hills from the distance, could only be ascertained by actual ascent. Thus with expectations rife to aid the arduous duties of an advance surveying party—consisting of six—we left Hilo at eight o'clock A.M. of August 6th, 1889...

On reaching the top plateau, the ascent became more gradual. About three miles from the top one of our mules gave out; so left him behind, securely tied to a large rock, with a feed of oats near by. We headed for a group of cones, which seemed to be near the center of the plateau. The last part of the climb, up between two of these cones was very steep and rough... Passing the cones we pressed on some two miles further west, in hope of finding lake Waiau. Camp was pitched in a sand hollow while two of the party further looked for the lake, which was found quite a distance above us, among the central cones. Our camp was fully 13,000 feet in elevation, and distant from Puakala about ten miles... Shortly after daylight we struck camp and started back, visiting the lake on the way, which we found to be about 200 feet long by 150 wide. It occupies a small crater between two sand cones, about half a mile directly west from the central cone. The shores of the lake are composed of sand and rock, the sand being very compact. The water was muddy and very stagnant... [Baldwin 1890:56-57]

In June 1891, Baldwin returned to Mauna Kea to conduct further surveying, in preparation for plotting Register Map 1718 (*Figure 6*). Among field notes, in Register Book 323, is a sketch of Mauna Kea from Pu'u Huluhulu showing the summit at Pu'u Kūkahau'ula, Pu'u Waiau, Pu'u Lilinoe, the "trail to top", and other features (*Figure 9*). An entry in the book for June 17th, 1891 documents the presence of a "Pile of stones on highest point of Maunakea as sighted from Puu Huluhulu, where E.D.B. set flag." (Baldwin Book 323:58).

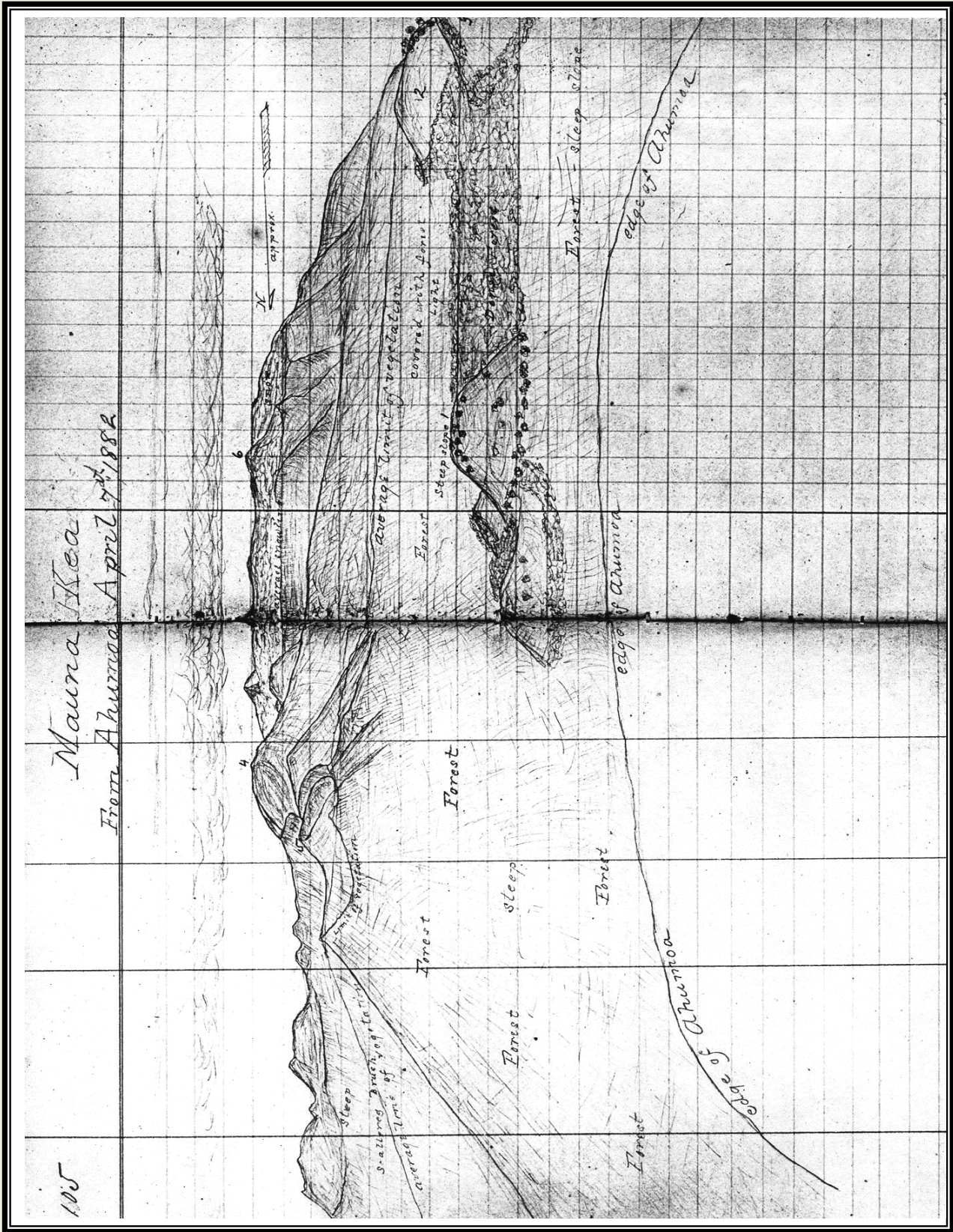


Figure 7. Mauna Kea from Ahumoa, Apr. 7, 1882; J.S. Emerson, Field Book 251:105 (State Survey Division)

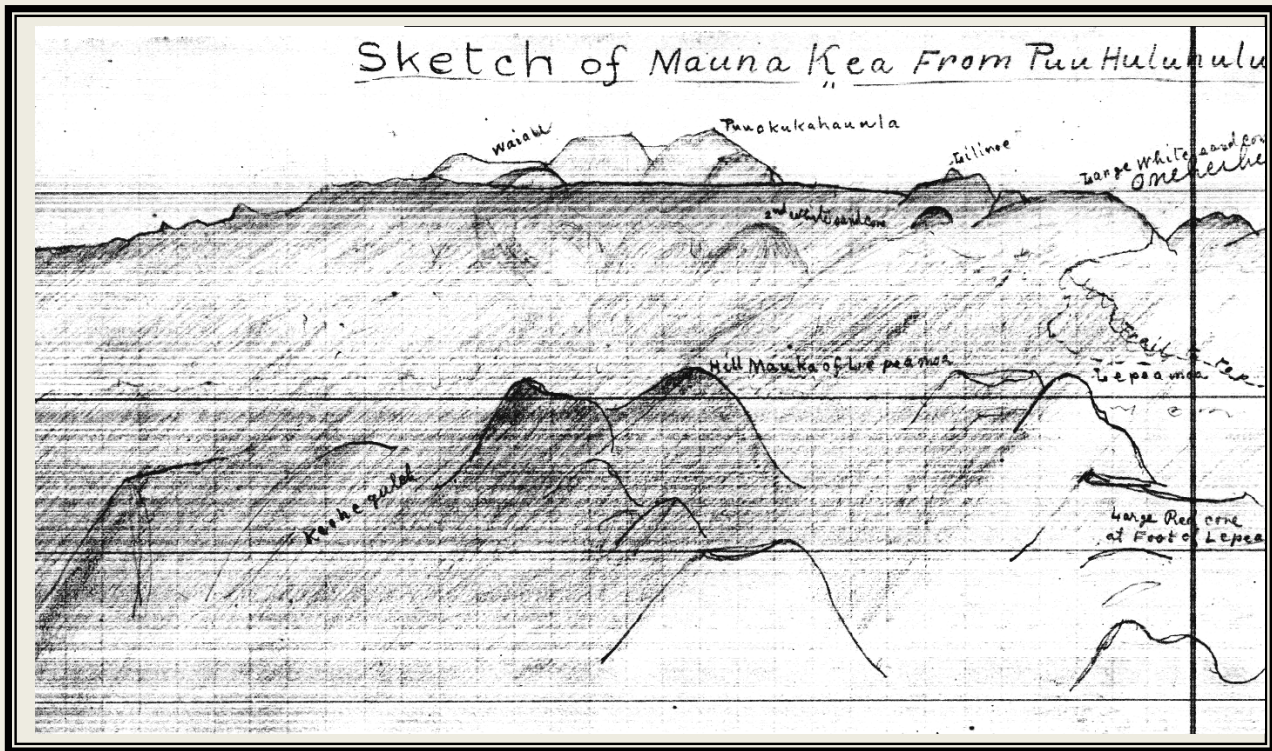


Figure 9. Mauna Kea from Pu'u Huluhulu (Sketch by E.D. Baldwin, June 16th, 1891; Field Book 323:55) State Survey Division.

W.D. Alexander: Surveys of 1892

In July 1892, W. D. Alexander, Surveyor General of the Kingdom of Hawai'i; J. M. Muir; and a party of surveyors and scientists ascended Mauna Kea (Figure 5). Alexander's field note book of the survey (Reg. No. 429), includes detailed sketches of features at the summit of Mauna Kea. As noted earlier in this study, one feature of particular significance is documented in the field book (but not on Register Map 1860). A "Heiau/Burial" site is indicated near Lilinoe, on the Lilinoe side of a trail and the "axe maker's caves" (Figure 3)

In the September 20, 1892 issue of the Hawaiian Gazette, Alexander penned an article titled "*The Ascent of Mauna Kea, Hawaii.*" Alexander's article provides detailed descriptions of various features on Mauna Kea, and adds further documentation on the field note book comment pertaining to the presence of burials on the summit plateau of Mauna Kea. Selected place names and historical references are underlined to help readers identify important passages in the narrative. The following excerpts are from Alexander's 1892 account of the journey from Waimea to Mauna Kea:

A wagon road made by the owners of the Humuula Sheep Ranch leads from Waimea around the western and southern sides of Mauna Kea. On the western side of the mountain it passes through a region which only needs more rainfall to make it a superb grazing country. The ancient forests here, as at Waimea have been nearly exterminated, but a fine grove of *mamane* trees still survives at the Auwaiakeakua Ranch. The *manienie* grass is gradually spreading and will in time add immensely to the value of the land. At the half-way station, called Waikii, water tanks and a rest house have been provided for teamsters. After turning the corner we skirted the desolate plain studded with volcanic cones that lies between the giant mountains of

Hawaii... At length the vegetation began to be more dense, the patches of piipii grass and the groves of the beautiful and useful mamane or sophora tree more frequent, as we approached the Hilo district...

[from the base camp at Kalaieha Sheep Station – July 20th] After riding nearly two miles due east from the ranch, we turned to the north, gradually ascending through a belt of country thickly covered with groves of mamane. We crossed a shallow crater just east of a conspicuous peak called “Ka lepe a moa,” or cock’s comb, and began to ascend the mountain proper. After climbing a steep ridge through loose scoria and sand, the party halted for lunch at an elevation of 10,500 feet. The upper limit of the mamane tree is not far from 10,000 feet. The Raillardia, apiipii, extends a thousand feet higher. The beautiful Silver Sword (Argyroxiphium), once so abundant is nearly extinct, except in the most rugged and inaccessible localities.

The trail next turned to the east, winding around an immense sand crater called “Keonehehee,” 11,500 feet in elevation, which stands on the edge of the summit plateau. Further to the southeast we were shown a pillar of stones which was raised to commemorate Queen Emma’s journey over the mountain to Waimea in 1883.

The summit plateau which is perhaps five miles in width, gradually slopes up from all sides toward the central group of hills... At last, about 3 P.M., we clambered over the rim of a low crater west of the central cones, and saw before us the famous lakelet of Waiau, near which we camped. [Figure 10] It is an oval sheet of the purist water, an acre and three quarters in extent, surrounded by an encircling ridge from 90 to 135 feet in height, except at the northwest corner, where there is an outlet, which was only two feet above the level of the lake at the time of our visit. The overflow has worn out a deep ravine, which runs first to west and then to the southwest. A spring on the southern side of the mountain, called “Wai Hu,” is believed by the natives to be connected with this lake. The elevation of Waiau is at least 13,050 feet, which is 600 feet higher than Fujiyama. There are few bodies of water in the world higher than this... No fish are found in its waters, nor do any water-fowl frequent its margins... Small tufts of grass and delicate ferns were found growing among the rocks around the lake.

[Monday, the 25th] ... Muir and Alexander ascended the second highest peak on the northwest, overlooking Waimea, 13,645 feet in height to continue their survey. In the cairn on the summit a tin can was found, which contains brief records of the visits of five different parties from 1870 to the present time, to which we added our own. A party of eight girls from Hilo, “personally conducted” by Dr. Wetmore and D. H. Hitchcock, esq., in 1876, must have been a merry one. Capt. Long of H.B.M.’s Ship Fantome had visited this spot in 1876, and Dr. Arning with several Kohala residents in 1885.

The same afternoon the surveyors occupied the summit of Lilinoe, a high rocky crater, a mile southeast of the central hills and a little over 13,000 feet in elevation. Here, as at other places on the plateau ancient graves are to be found. In the olden time, it was a common practice of the natives in the surrounding region to carry up the bones of their deceased relatives to the summit plateau for burial...



Figure 10. Lake Waiau Camp Site; July 1892
(E.D. Preston Collection. Courtesy of the Hawaiian Historical Society; Print No. 976)

[descending from the summit, returning to Kalaieha] ...stopped half an hour at "Keanakakoi," the Axe-makers' cave. This is situated about a mile south of Waiau and a hundred yards west of the trail, in a ledge of that hard, fine grained kind of rock, which ancient Hawaiians preferred for their stone implements [*Figure 11*]. Here we saw the small cave in which the axe-makers lodged, their fire place, and remains of the shell fish which they ate. In front of it is an immense heap of stone flakes and chips some 60 feet across and 20 or 30 feet high. Near by several hundred unfinished axes are piled up just as they were left by the manufacturers, when the arrival of foreign ships and the introduction of iron tools had ruined their trade. Around the entrance of the cave the native dandelion or pualele (*Sonchus oleraceus*) was growing at an elevation of 12,800 feet. It was here that the late Dr. Hillebrand found a curious idol, which is still in the possession of his family... [Alexander 1892]

Some researchers over the last c. 20 years, have questioned the antiquity of certain place names on Mauna Kea (e.g. Poli'ahu, Lilinoe, and Waiau etc.), and in some cases the names have been attributed to W.D. Alexander. But, early native accounts, historic surveys, and testimonies document that such names were used much earlier than the period of Alexander's work in the area. One name of interest, which seems to have slipped from usage on maps for some time, is *Pu'u Kūkahau'ula* (presumably named for the Kū-form god of the rising sun). Though recorded as the name of the summit peak of Mauna Kea, as early as the 1881, by the turn of the century, the summit peak has generally been referred to as Mauna Kea. Early place names are integral to the cultural traditions and values of the Hawaiian landscape.



Figure 11. Adze Quarry Site Near the Summit of Mauna Kea, ca. 1926
(Willie Kaniho, Hawaiian Guide, seated) (Gregory Collection; Courtesy of the Bernice Pauahi Bishop Museum. Negative No. CP 14968)

The author notes here, that nineteenth century survey records—as those cited above—provide readers with several important historical facts. Among them, is a record of the modification of existing stone mounds and features, and construction of cairns and transit stations on the summit and various prominent points and crater peaks. The survey field books—Register No.'s 251, 323, and 429—in the collection of the State Survey Division, and copies in the author's collection, *include further sketches and survey documentation than those cited in this study*. The drawings depict topographic features, trails, cairns, flags, and other features. Thus, the records may provide interested persons and archaeologists with documentation as to the source of a few of the set-stone features found on Mauna Kea.

MANA‘O PANI (CLOSING THOUGHTS)

Studies of the Twentieth Century (Including Limited Site Protection Recommendations)

Since 1900, several studies of historic sites have been conducted on lands that rest upon the slopes of Mauna Kea. Among the studies were those of Thos. G. Thrum (1908), and J.F.G. Stokes in 1906-1907 (Stokes and Dye 1991), who reported on *heiau* of the island of Hawai‘i. Unfortunately, the studies did not include documentation of sites in mountainous region of Mauna Kea. In between 1930 to 1932, Alfred E. Hudson conducted a survey of archaeological sites of east Hawai‘i (Hudson ms. 1932) for the Bishop Museum. While working in Puna, Hudson met with a Mr. Kaomea of Pohoiki. In their discussion of Mahinaakaaka Heiau in Keahialaka, Mr. Kaomea informed Hudson that there was another *heiau* of the name Mahinaakaaka, on Mauna Kea. Mr. Kaomea told Hudson that —

“The stones for this *heiau* were carried to Mauna Kea from Waikahekahe [Puna].”
(Hudson ms. 1932:370)

No further documentation was recorded.

Holly McEldowney’s 1982 report (prepared in conjunction with an Archaeological Reconnaissance Survey by P. McCoy) on ethnographic resources for Mauna Kea and environs (cited earlier in this study), provides readers with perhaps the first detailed study of historical accounts for Mauna Kea. Her study remains an important work, and the present study seeks to compliment and add to her work. As noted in this study, the present author has made a few corrections to historical citations reported by McEldowney, based on original source documentation and previously untranslated native documentation.

In his part of the 1982 study, Patrick McCoy observed:

The construction and operation of new telescopes and proposed improvements associated herewith, such as paved roads, constitute a potential adverse effect on the integrity of the archaeological resource base and the fragile alpine environment in which it exists... For immediate planning purposes, the following alternative mitigative measures should be adopted as minimal requirements:

- (1) An intensive archaeological survey should be undertaken prior to the construction of any new telescopes in a specified area.
- (2) Avoidance of construction and related activities on or in proximity to known archaeological sites; if this is not feasible in terms of telescope location requirements, then alternative measures should be discussed and agreed upon by the SHPO and the Hawai‘i Institute for Astronomy.

Finally, the proposed Mauna Kea Science Reserve Master Plan should include provisions for the development of a cultural resource management plan. [McCoy 1982:2.34]

Such proposed actions were not undertaken (the 1982 studies should be reviewed for further details).

One of the more recent studies which includes discussions on coastal to mountain resources of Hāmākua, including Mauna Kea, was conducted by Ross Cordy, Ph.D., of the Historic Preservation Division—State Department of Land and Natural Resources, in 1985, and published in 1994. Titled “A Regional Synthesis of Hāmākua District Island of Hawai‘i,” Cordy includes a comprehensive overview of previous archaeological work in the district (including the Summit of Mauna Kea), and a summary of “Historic Information on General Site Patterns” (cf. Cordy 1994:81-103). In his summary of the Mauna Kea summit sub-region, Cordy observed:

Clearly, the historical and archaeological information indicate that this subregion of Hāmākua was used repeatedly—for short periods of time—to extract special high elevation resources, bury the dead, and make offerings at the summit shrines to deities associated with the mountain... Quarrying, while focusing on adze basalt, also included extraction of volcanic glass and dunnite/gabbro for cutting tools and octopus fishing gear sinkers. Archaeology has shown the details of the quarrying work—workshops of different types and associated shelters, and importantly occupational shrines to obtain the aid of deities...

Burials have been found scattered about this subregion. Some ahupua'a used special cinder cones in the lower māmane forest for burying their dead. A few burials have been found on cinder cones at extremely high elevations — even up on the mountain's summit. Whether these high elevation burials were places where quarriers who died on the mountain were buried, or whether these were special burial places, is yet unknown.

Most striking, archaeologists have found small shrines encircling the summit of the mountain. Without adze material, these shrines seem not to be related to the slightly lower quarries. Rather, they seem connected to other deities associated with the mountain's highest reaches — where snow, storms and elevation sickness are most pronounced and where one can see over vast areas of the island...

This mountain is immense — and at its higher elevations, cold and harsh and awesome. The shrines — to now unknown deities — seem in an appropriate place. The quarriers [and others who visited the mountain heights] must have constantly felt the presence of the gods. [Cordy 1994:102-103; emphasis added]

In closing his study, Cordy (1994) sets forth several recommendations for ensuring long-term protection of the unique cultural resources of Mauna Kea. Summarized, these include:

- A. Expand the preservation area on Mauna Kea to include the best sinker quarry sites and shrines near Kalepuumoa [sic—Pu'u Kalepeamoā], to include the summit shrines, to include the quarry sites extending down below the Natural Area Reserve and the National Historic Landmark, and to include burials found on surrounding cinder cones...
- B. Include historic preservation concerns directly into the management operations of these lands — including the Natural Area Reserve...
- C. Enforcement to prevent accidental damage... The sites are fairly fragile and not easily visible, so they can be damaged by uncontrolled vehicle and pedestrian access... [Cordy 1994:131-132]

It is noted here, that Cordy's recommendations are founded on recommendations and policy guidelines that have been in place for at least two decades, though they remain unaddressed at the time of this writing. (The 1994 study should be reviewed for further details.)

Ka Mea Kākau (The Author)

The native traditions and historical accounts, the Boundary Commission testimonies and articles and journals cited above, document the depth of native Hawaiian knowledge of the natural and cultural landscapes of Mauna Kea. The *cultural attachment*—relationship to environment and practices were integral to the physical and spiritual well-being of the native residents of Hāmākua and Hilo, and all who viewed Mauna Kea.

It has been my experience—through limited oral historical interviews (both recorded and for which hand written notes have been taken)—that this attachment to landscape remains strong among many

Hawaiian people today. In 1980, Tūtū Kawena Pukui shared a *mele* (chant) she had composed for Mauna Kea with me. The *mele* is an expression of traditional knowledge and the spiritual significance of Mauna Kea and her goddess, that bridges time. It is a reminder that natural resources—the landscape—is awe inspiring and integral to the lives of the *kānaka Hawai'i*. The *mele* offers the following opening lines:

<i>O Poli'ahu i ke kualono o Mauna Kea,</i>	Poli'ahu is on the mountaintop of Mauna Kea,
<i>Noho ana i ka lau o ke kuahiwi.</i>	Dwelling on the expanse of the mountain.
<i>Wahine noho anu o uka o Līhu'e,</i>	Woman who dwells in the cold above Līhu'e
	[on the Waimea plain],
<i>E ku ana iluna o ke ki'eki'e.</i>	Standing atop the heights.
<i>Ho'ānoāno wale ana i Pali-uli e...</i>	Awe-inspiring [as seen from] Pali-uli...
(pers comm. M.K. Pukui, May 5, 1980)	

Indeed, Mauna Kea is awe-inspiring. There is a spiritual well-being in seeing, and being upon Mauna Kea. Uniformly, every interviewee¹³ that I have spoken about Mauna Kea with, feels disheartened about the highly visible presence and impact of the telescopes and development on the summit. As a result of such communications, when I have been asked (over the last five years) to join the late Monsignor Kekumano in dedication ceremonies for facilities upon Mauna Kea, my message has been the same to those who build upon and touch the mountain:

As you stand upon Mauna Kea, you must remember that you stand upon sacred ground. Mauna Kea is the *piko*, and the first-born child of the creative forces of nature that gave birth to all of the islands of Hawai'i and the progenitors of the Hawaiian race... Remember, while you stand on this mountain looking heavenward, you have a responsibility to care for your foundation, the mountain itself. In the Hawaiian context, to take the 'right-of-use' naturally meant that you also exercised 'responsibility' for that use. Your responsibility is to assume a role of stewardship for Mauna Kea.

Mai poina, 'o —

Poli'ahu, ka wahine kapa hau anu o Mauna Kea.
Poli'ahu, the woman who wears the snow mantle of Mauna Kea.
Pukui 1983:2687

'O wau no me ka ha'aha'a — Kepā Maly

¹³ Because the above referenced interviews were not conducted as a part of a formal study of Mauna Kea, names of interviewees are not included here.

A detailed oral historical study for Mauna Kea needs to be conducted (sooner than later). Such a study would logically be conducted with individuals descended from families with genealogical attachments to traditional residents of the lands formed by Mauna Kea, and others who have gained an intimate knowledge of the resources and landscape through decades of travel on the mountain. Such a study would document who interviewees were; how they were selected; describe the scope and methodology of interview process; present an overview and detailed documentation of the historical insights gained through the interviews; identify the presence of family and community sites, and significance of cultural and/or ceremonial sites; document areas of concerns to the interviewees; and elicit recommendations for long-term protection, preservation, interpretation and management of Mauna Kea.

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