SPLINTERS OF SANDALWOOD, ISLANDS OF 'ILIAHI:
RETHINKING DEFORESTATION IN HAWAI'I, 1811-1843

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
IN
HISTORY
DECEMBER 2002

By
Christopher A. Cottrell

Thesis Committee:
David Chappell, Chairperson
Jerry Bentley
Marcus Daniel
Mark Merlin
Table of Contents

Introduction ........................................................................................................... 7

Chapter 1: Hawai‘i and Early Sandalwood Networks in the South Seas, 1805-1819 ........ 20

Chapter 2: Bargaining, Debt and American Gunboats in Hawai‘i, 1819-1843 ............... 50

Chapter 3: Ecology, Exchange and Extraction, 1811-1843 ........................................ 67

Chapter 4: Splinters of Sandalwood, Depictions of Deforestation ................................ 133

Conclusion ............................................................................................................ 158

Bibliography .......................................................................................................... 165
List of Tables

Table 1., Gutzlaft’s Picul Count.............................. 80
Table 2., O‘ahu Piculs in Reynolds’ journal....................... 109
Table 3., Kaua‘i and Mixed Waimea Piculs in Reynolds’ journal........ 110
Table 4., Hawai‘i Piculs in Reynolds’ journal...................... 111
Table 5., Maui Piculs in Reynolds’ journal......................... 111
Table 6., Tax/Debt Piculs in Reynolds’ journal................... 111
List of Maps

Map 1., I'i's Trail Map................................................................. 91
Map 2., Stemmerman's Map......................................................... 125
Map 3., State Map 1900............................................................... 126
Map 4., St. John's Map............................................................... 127
Sandalwood, you say, and in your thought it rhymes
With Tyre and Solomon, to me it rhymes
With places bare upon Pacific mountains
With spaces empty in the minds of men!

Sandalwood!
The Kings of Hawaii call out their men;
The men go up the mountains in files;
Hands that knew only stone axe now wield the iron axe;
The Kings would change their canoes for ships:
Men come down from the mountains carrying sandalwood upon their
backs;
More men and more are levied;
They go up in the mountains in files; they leave their taro patches so that
famine comes down on the land.

But this sandalwood grows upon other trees, a parasite
It needs a growing thing to grow upon;
Its seed and its soil are not enough for it.

Too greedy are the Kings,
Too eager are the men who hunt the whale to sail to Canton with
   fragrant woods to make shrines for the Buddhas,
Too sharp is the iron axe.

Now nothing will ever bring together again
The spores and the alien sap that would nourish them,
The trees and the trees they would plant themselves upon:
Like the myths of peoples,
Like the faiths of peoples,
Like the speech of peoples,
Like the ancient creation chants,
The sandalwood is gone –
A fragrance in shrines –
But the trees will never grow again.

—“Sandalwood” by Padraic Colum, *Honolulu Star-Bulletin*, February 8, 1936

The [sandalwood] tree persisted... survived overgrazing and forest recession, and is now common and
widespread....
Introduction:

I. Sandalwood of the South Seas

During a five-day period between March 17th and 22nd 1817 an unknown officer aboard the American ship *Indus* filed an intelligence report about sandalwood in the Pacific. The report, inked in the ship’s journal at the end of the 1815-1817 voyage to the South Seas (Oceania), summarized conditions of sandalwood extraction in Fiji, the Marquesas, Hawai‘i, New Caledonia, New Hebrides, and four other Melanesian islands: New Georgia, New Britain, New Ireland, and Egmont, or Santa Cruz. This reflection on the wheeling and dealing of sandalwood reveals an enormous amount of information and deserves at least a partial citation. Of the Marquesas Islands he wrote:

Marquesas) The Islds. of Sta. Christina, St. Dominica, and Nooaheevah contain sandalwood: The latter, in greater quantities, of better quality and more easily & safer obtained at the Former; at both of which some considerable caution is necessary in intercourse with the natives either on shore or with boats in bays at a distance from the ship.---But where the ship is laying none or very little danger is to be apprehended particularly if any one of the chiefs is on board while the trade is conducting on shore. ---I have little doubt[ ] that Magdellena has considerable wood on it as I have heard of some having been obtained there---Roapooah and Rooahooga may, not improbably, produce sandalwood, but I could never obtain any satisfactory information of them---Firearms & ammunition the stable trade in these Islds. and red broad-cloth next in esteem---A variety of cutlery and beads, feathers & other articles of ornament should be provided; and a few whale’s teeth (the larger the size the better) may sometimes produce sandalwood and generally provide a good article for purchasing hogs & other provisions. Vessels from Cape Horn would do well to visit, first Magdellena, the windward (or southeast) Isld. of this group; the Southwestern part affords the best roads and should no wood be procured a better supply of Hogs, Bannanas,[sic] Breadfruit etc. may probably be obtained here than at any other of these Islds. Next---Christina and Dominica may be visited in succession—St. Pedro may possibly produce s-wood but it is not large & I have doubts respecting it. The next trial should be made at Nooaheevah. The south part affords the best bay for anchorage & the best situation for obtaining information of the other parts of the Isld.¹

¹ *Journal of a voyage of enterprise round Cape Horn to the Pacific Ocean & thence to Canton, kept by Charles Forbes, on board the ship Indus of Salem... owned by John Dodge, William P. Richardson and --*
There are three immediate points that merit commentary about this statement. Firstly, the writer’s advice about where, when, how and what to bargain in order to obtain sandalwood says a lot about how Euro-American traders had to bend to shifting cultural and ecological contexts in the islands. For example, he gave counsel that one should stop in at Magdallena after rounding South America because the best “road” or anchorage could be found there, and, should there be no sandalwood, pigs and fruits could be had at the very least. You can almost hear him cheer: “onwards to Nooaheevah (Nukuhiva) where the sandalwood is more abundant and easier to secure than at Santa Christina or St. Dominica….” His cautionary tale about how to trade suggests that some encounters turned violent onshore or in the bay while the crews were still in small landing crafts. Conversely, we can see that other exchanges were peaceful, provided one of their chiefs was onboard the vessel or if they sought information on the south shore of Nukuhiva. Firearms, red cloth, cutlery, beads, feathers, and large whales’ teeth served as prestige items that amplified or shifted local relations.

Secondly, to borrow from Nicholas Thomas’ writings about “entangled objects,” these items of material culture were embedded in webs of social and power relations. Transactions were not mere capital ventures. Transactions were symbolic acts that negotiated new political arrangements. By the time this passage was written down, European goods were becoming part of the power dynamics of the Marquesas. For example, firearms introduced by Americans in 1813 had been appropriated and ritualized in local land struggles and had transformed the political economy.


Thirdly, this passage portrays (like the descriptions about Hawai‘i and Fiji which follow it in the journal) a particular moment in the proto-colonial deforestation of Oceania. For many islands in Oceania, the beginning of colonialism went hand in hand with sandalwood deforestation. The passage captures the period from 1815-1817 when the sandalwood trade had recently collapsed in Fiji, was booming then busting in the Marquesas, was just starting in Hawai‘i, and had a yet to begin in Melanesia. The passage captures a particular development that had been long in the making in certain parts of Oceania.

For several hundred, perhaps thousands of years, a sustained sandalwood trade existed between Fiji and Tonga. Long before certain Europeans (British, French, American) began scouring the eastern and southern Pacific in the late 18th century for items such as pork, tortoise shells, pearls, etc., to sell in Canton, Tongans were taking sting-ray spines, gatu, or bark cloth, and whales' teeth to Fiji in exchange for sandalwood. Thus, when Americans and Australians encountered the Tongan-Fijian sandalwood network, they tapped into it and secured logs to trade in Canton. In Canton, the wood was resold and later carved into furniture, lacquer ware, decorative fans; the wood was chipped, or squeezed of its oil to make incense sticks to burn in temples. The earnest beginnings of the main pan-Pacific, Oceanian-European-Chinese trade started on Vanua Levu, Fiji in 1805. That year an Australian and an American ship sailed from Port Jackson to Tonga then on to Bua Bay on the southwestern coast of Vanua Levu, Fiji to harvest sandalwood. In 1806, more Australian, British, and American vessels followed suit, and the trade expanded, altering political, cultural, and ecological situations in each of the places sandalwood grew.
Several sandalwood network centers emerged in Oceania: in Fiji from 1805 to 1811, from 1811 to the 1830s in Hawai‘i, from 1811 to 1817 in the Marquesas, and from 1841 to 1865 in the Loyalty Islands, New Caledonia, New Hebrides, Erromanga, Tanna, Papua and elsewhere in Melanesia: sandalwood was also a dominant export item in Western Australia from 1844 to 1929.

This thesis is primarily concerned with the Hawaiian sandalwood network. Although Captain John Ingraham of the brig Hope learned of sandalwood at Kealakekua Bay in 1790 and Captain John Kendrick of the Lady Washington learned of Hawaiian sandalwood at Kaua‘i in 1792, I chose 1811 as point of departure for this history because that was when Kamehameha I and the Winship brothers attempted to hammer out the first agreement between Hawaiians and Americans about the exchange of sandalwood. The close of the Hawaiian trade is murkier, but it seems that large sales of sandalwood ended in 1829, although smaller sales persisted until 1840. Sandalwood debts incurred by the ali‘i, or Hawaiian chiefs, during the 1820s were not paid off until 1843. In order to emphasize the impact of the sandalwood trade even after large-scale trade ended in 1829, this work leaves off in 1843.

Between 1811 and 1843, the Hawaiian sandalwood trade had roughly three phases. During the first phase from 1811 to 1819, Kamehameha I controlled the rhythms of the trade and even placed a kapu on sandalwood that protected the younger trees and gave him the sole right to trade them with foreign merchants. Also, in response to a tragic island wide famine in 1812 that was partially caused by an initial round of logging, Kamehameha I made sure that the maka‘āinana, or Hawaiians commoners, were not
overworked by limiting the amount of time they spent extracting the trees so as not to jeopardize agricultural production.

Following the death of Kamehameha I in 1819, a second phase ensued whereby a sandalwood “free market” emerged. From 1819 to 1821 sandalwood logging was suspended. From 1821 to 1826, an era of conspicuous consumption was ushered in where the ali‘i bought foreign goods on credit. Because these debts were not immediately paid, American merchants called for naval gunships to help them secure profits. In response to negotiations with U.S. Navy captains in 1826, the Hawaiian Kingdom introduced a sandalwood tax, and a new era of logging began.

In this third period from roughly 1827 to 1843 the maka‘ainana were permitted to sell sandalwood independently after they had paid their taxes. During the first few years of this period, the last remaining large stands of marketable sandalwood, called ‘iliahi in Hawaiian, were chopped down. The maka‘ainana, although still pressured to cut wood for the ali‘i, also logged and traded for themselves until 1839. In 1839, King Kauikeaouli pushed a pre-Great Mahele forest privatization act that gave him a royal two-thirds monopoly over ‘ilisaih

This thesis discusses the sandalwood trade within a largely chronological framework, but is guided by four overlapping historiographical themes: nature and history, labor, deforestation, and Pacific Ocean ecumenes.

II. Nature and History, Labor, Deforestation, and Pacific Ocean Ecumenes

II.A. Nature and History

It is my perception that history encompasses both lives lived and the socially constructed mediums that represent those lives. In the latter sense, I see non-fictional
history as a careful deliberation about sources and theories. I view nature much the same way I perceive history. In this estimation, nature is at once systems of beings and things and a body of experience and knowledge crafted by human minds. Following the writings of historians Carolyn Merchant and Richard White, environmental history attempts to synthesize the social constructs of history and science by paying attention to the dialectic between humans and nonhuman nature, taking into account exchanges of energy, materials, and information. Environmental history argues that human history cannot be understood without natural history, nor natural history be understood without human history because both have been intertwined for millennia.

The dynamics of interaction between human and nonhuman nature over time hinge on several scientific links. For example, biogeochemical cycles, oxygen, nitrogen, carbon, phosphorus, sulfur and other elements circulate in nature through living and nonliving things. Furthermore, through solar energy chemicals are absorbed by plants (producers), transferred to animals (consumers) and broken down into simple elements again by bacteria and fungi (decomposers). Carolyn Merchant explains that:

> Nature is the whole in which humans are only part. We interact with plants, animals, and soils in ways that sustain or deplete local habitats... The relation between human beings and the nonhuman world is thus reciprocal. Humans adapt to nature's environmental conditions, nature responds with ecological changes.3

These seemingly obvious points cannot be emphasized enough because they highlight the fact that people's culturally ordered systems of production, exchange, reproduction, and consciousnesses have immediate ecological implications. Production is briefly defined here as the extraction, processing, and exchange of natural resources, and

---

reproduction is the “biological and social process through which humans are born, nurtured, socialized, and governed.” Moreover, “the need to produce subsistence to reproduce human energy on a daily basis connects human communities with their local environments.” Production and reproduction in subsistence-oriented economies are united in order to maintain local communities, whereas with capitalism they are separate spheres geared for the creation of individual wealth. Whether introduced by external or internal societal pressures, dialectical tensions or radical shifts in the interactions between a people’s system of production and reproduction, as with production and ecology, mark what Merchant calls an “ecological revolution.” Human labor, a key action and exchange of energy that mediates ecological revolutions, is what primarily concerns me in terms of our historical interrelationships with nature.

II.B. Labor

Physical labor, or work, whether hunting and gathering, agricultural or industrial, is one of the fundamental ways in which people interact or know nature, as Richard White argues in the Organic Machine. Said another way, non-human nature is more than an abstraction of human consciousness. It is a dynamic system of beings, things, and processes that people engage and manipulate through work; a system that both influences and responds to human actions. In Oceania, thousands of years before indigenous-Islanders encountered Europeans, they had primarily interacted with non-human nature by hunting and gathering, fishing, agricultural and aqua-cultural. By paddling, swimming, fishing, weaving, digging, planting, carving, chopping and hunting they emitted caloric energy in order to extract, process and exchange plants, animals

---

4 Merchant, page 10.
5 Ibid, page 19.
market forces impacted ali‘i decisions to send the maka‘āinana to locate, chop, haul, and load ‘iliahi onto ships. Lilikālā Kame‘elehiwa, Marshal Sahlins, and Jocelyn Linnekin have shown, albeit in sometimes conflicting ways, how early exchanges had much to do with internal expressions of power and cultural metaphors. Despite the nuances of their descriptions of cultural exchanges of material objects, all of these historians, crudely put, depict a local Hawaiian manifestation and growing semi-core of a burgeoning capitalist ecumene in the Pacific basin. Prior to the arrival of European ships in the sixteenth and seventeenth centuries, rich and extensive Pacific maritime ecumenical networks thrived for tens of thousands of years along the continental coasts and islands of Asia, among the archipelagos Oceania, as well as on the beaches of the Americas. The contexts of Pacific habitats and the networks of Asian, Oceanian, and Native American peoples defined the textures of interactions with Europeans and played a powerful part in recasting new cores, nodes, and peripheries. Each constituted their own ecumenical zones, but several often overlapped with one another. For example, Anthony Reid’s volumes on Southeast Asia attest to the centuries old connections between mainland Asia and the vast array of islands from Sumatra to New Guinea. Douglas Oliver’s book Oceania attests to the centuries old connections throughout the Pacific Islands. Some carried more global power than others. For example, Canton became a powerful Pacific and world core and dictated what Europeans could and could not trade from roughly the sixteenth century to 1842 at the end of the first Opium War.

The portion of the early modern Pacific Ocean ecumene I seek to spotlight here concerns the agency of the autonomous peoples of Oceania in the intensification and solidification of pan-Pacific sandalwood connections during the first rushes in Fiji, the
demands for ships and port cities intensified, and as land was cleared for cattle and sheep, cash mono-crops such as, sugar, tea, coffee, cotton, grain etc. In Hawai‘i, the creation of sugar and pineapple plantations in tandem with Paniolo cattle and sheep herding sparked by the California Gold Rush of 1848 led to wide-spread forest conversions. These forest conversions expanded upon the forest modifications that occurred from sandalwood harvesting and pre-encounter landscape clearings.

Pressures on Hawaiian forests were part and parcel of an internally mediated “ecological revolution” that resulted from tensions and shifts in how Hawaiians labored with nonhuman nature. Again, an ecological revolution occurs when people change their working relationships with nature in such a way that radical tensions and shifts take place—— their working relationship with nature is manifested through their culturally ordered systems of production, exchange, reproduction, and consciousness. The Hawaiian ecological revolution and deforestation discussed here began to take shape with the official onset of the sandalwood trade in 1811 and commenced in earnest with the privatization of land in the Great Mahele of 1848. Although locally negotiated, this ecological revolution was induced by the creation of the early modern Pacific Ocean ecumene during the first fifty years of the 19th century. This larger ecumene was knitted together by historic, locally based ecumenes across the Pacific basin.

II. D. Pacific Ocean Ecumenes

Several historians of Hawai‘i, such as Harold Bradley, Ralph Kuykendall, and Noel Kent, have highlighted how external pressures from American merchants and world

---

(including coral), and minerals to reproduce themselves biologically and socially. These subsistence-oriented labors were organized according to vibrant cultural norms and needs which were emphasized in consciousnesses with cosmologies, performance plays, rituals, chants, etc. The latter point is too complex to completely explain here, but it can still be suggested that an examination of Hawaiian labor over time reveals changes in local relationships with ecology. This case is an examination of the labor of logging, the labor of deforestation.

II. C. Deforestation

In terms of the sandalwood trade in Hawai‘i, the muscles and minds of the maka‘ainana and ali‘i mediated the shifting cultural uses of sandalwood and caused a subsequent strain of deforestation. It should be pointed out that understanding their agency in the transformation of Hawaiian forests is useful for comprehending how they construed and interacted with nature under the radical social changes and stress caused by colonial engagements.

In this history of deforestation, two general categories that describe canopy loss will be employed. When land is burnt, cleared for agriculture, or if its trees are clear-cut, this is called a “forest conversion,” a more extreme case of deforestation. It is my contention that the case of sandalwood extraction in Hawai‘i was one of “forest modification,” where the land was partially, but significantly, denuded of foliage. Removal of trees or vegetation leads to ecological successions by other local biota or by invasive alien species. The introduction of alien species can further threaten and endanger native flora and fauna. Severe canopy or shrub loss also causes erosion and disrupts the entire ecosystem. Environmental historian Richard Tucker and others have pointed out that during the 19th century, massive forest conversions took place globally as European wood
passive actors during the moments when certain ali‘i "oppressed" them, especially after
1827 when they cut and traded independently. Reconstructing choices a so-called
subaltern class made nearly 200 years ago without adequate written sources is not easy by
any means. However, apart from the above sources, certain passages in journals, diaries,
news articles aid in piecing together a fragmentary sense of what the maka‘āinana
decided to do with their labors during the sandalwood era. Using sandalwood as a
metaphor, reconstructing maka‘āinana actions during this deforestation from these
scant sources is like trying to know a tree or forest by the splinters leftover from logging.
To underscore how reliant historians have become on these sources, these splinters, I
shall omit almost all of them from my historical narrative. Once the historical narrative is
finished, I will then list each quotation and offer commentary on their, multiple, possible
meanings. Hopefully this will problematize the certitude with which this era has been
understood and inspire fresh inquiry.

To achieve this end, I have organized my work into four distinct chapters. The first
chapter is comparative and shows how the Hawaiian sandalwood trade was influenced by
early sandalwood networks in Fiji and the Marquesas. The second chapter highlights
issues of bargaining, debt and gunboats in Hawai‘i. The third chapter explores the
interrelationships between sandalwood, the Hawaiian environment, and shifting social
power. The fourth chapter cross-examines all but one of the above sources, the
splinters of sandalwood. William Ellis’s writings will be included (and examined) in the
third chapter because they collectively illustrate a concentrated picture of logging around
the Kohala mountain range on Hawai‘i. So far as I can ascertain, no one has put his
writings together for the larger picture of logging they represent.
Marquesas and especially Hawai‘i. This portrayal of a so-called “world-system” mediated at the so-called “periphery” is influenced by Richard White’s *The Middle Ground* and aspires to show a sort of Pacific *pays d’en haut*: the non-state world of island villages, which consisted of their own internal power cores and peripheries, that became peripheries of Europe, the U.S., and China. I do not mean to oversimplify or compare Native American experiences to those of Hawaiians (the Hawaiian Kingdom was a state) or other Oceanians, but these indigenous peoples did create new shared spaces and cultural worlds with Europeans and Americans and were powerful bargainers and hence forced the hands of empires to bend to their wills at certain times. The deliberations involved in these interactions were broad-based, influenced by all classes.

**III. Deliberations**

*Maka‘ainana* deliberations about sandalwood collection have not really been considered by historians. Most historians recite the narrative that the *maka‘ainana* suffered during the sandalwood period. To describe their experiences, many writers have drawn on a scant body of sources to emphasize this point. These sources dominate the discourse. Typically, they are the Hawaiian historians David Malo and Samuel Kamakau, the Christian missionaries William Ellis, Levi Chamberlain, Peter J. Gulick, Daniel Tyerman and George Bennet, and the traders/explorers Otto Von Kotzebue, Gilbert Farquhar Mathison, Charles Wilkes and Sir George Simpson. This does not mean that historians have not done their jobs and produced shoddy scholarship. Rather, they have repeated a narrative that neglects *maka‘ainana* agency in the their own history. Pacific historian David Chappell has pointed out that the islanders of Oceania could be both victims and agents simultaneously. Following this lead, the *maka‘ainana* were not mere
With these four chapters and study I hope to honor and supplement Dorothy Shineberg's famous book "They Came For Sandalwood," which discusses the trade in Melanesia. This thesis was inspired, in part, by her synthesis of sources and how she addressed native agency in the sandalwood trade across diverse islands throughout Melanesia. The tenor of her narrative and hard-hitting facts often portrayed horrific violence that ensued when European’s learned that sandalwood grew in a particular location. Her stirring account piqued my curiosity to understand the beginnings of the Oceanian sandalwood market, and hence the origins of the social and environmental damage wrought by colonialism in this region.
About 50 tons of Sandalwood [were] already cut for us, by the King's order. We paid the natives well, and they agreed to cut as much as we wanted. This agreement they performed.

----William Lockerby, Fiji, 1808

Chapter One:
Hawai‘i and Early Sandalwood Networks in the South Seas, 1805-1819

1. Sandalwood Uses in Oceania Prior To Islander-European Contacts

The Hawaiian word for sandalwood, ‘iliahi, has multiple definitions. According to the Hawaiian-English dictionary by Mary Kawena Pukui and Samuel Elbert, ‘iliahi refers to all varieties of sandalwood, one whose clothes wear out fast due to carelessness, and a fiery surface. Given that scarlet flowers grow on four of the seven varieties of Hawaiian sandalwood trees, ‘iliahi might be best matched with the image of a fiery surface. Of course, sandalwood perfumed the tapa bark cloth garments that Hawaiians wore, so the reference to clothes carries a lot of significance too. For the coastal variety of sandalwood, Hawaiians also use the word ‘iliahi a-lo’e. Sandalwood is also referred to as la’au‘ala, the fragrant wood. The exact etymology of ‘iliahi is not known but the “ahi” portion of the word is phonetically similar to other words for the genus Santalum in Polynesia. The Hawaiian name probably stemmed from words used by the two major waves of Polynesian migrants from the Marquesas and Tahiti. In the Marquesas, sandalwood is called “puahi” while the Tahitians refer to it as “eai.”

---

In Hawai‘i, it was one of many plants with pharmacological uses. As a powder, it could cure dandruff, eliminate head lice, and, in a drink mixture with other plants, alleviate certain genital diseases and long lasting sores. Blended with other plants in a drink, it also served as a laxative. The heartwood part of the tree was ground up, pounded into a fine powder or small chips and hammered into tapa bark cloth as a perfume. It was also mixed with coconut oil to waterproof the tapa. Sometimes it was used as firewood. Other times people would carve sandalwood branches into a musical bow for the ukeke, a type of Hawaiian stringed instrument. Early Hawaiian migrants brought and expanded upon knowledge of sandalwood uses from the Marquesas and Tahiti, both of which, ostensibly, inherited and developed this knowledge from the interconnected island webs of Oceania and Southeast Asia.

Elsewhere in Oceania, sandalwood also served a variety of purposes prior to contact with Europeans. It was widely used to scent coconut oil in New Caledonia, Tonga, Samoa, the Lau Islands, Tubuai, Tahiti, the Marquesas, and Fiji. As with Hawaiʻi, people on Mangaia in the Cook Islands used the oil to perfume and waterproof their tapa garments. In New Caledonia sandalwood powder was used to perfume thatch cabins to repel termites (*S. album* is also used as an insect repellent in India). Medically, sandalwood was used to treat ear-aches in Tubuai, Tahiti, and the Marquesas. In Samoa, sandalwood was used to alleviate elephantiasis, inflammation of the rib lining, and bone aches. It was used for dermatitis in New Caledonia. Moreover, sandalwood sap was ingested in New Caledonia for bladder trouble. The internal bark or sandalwood leaves were also wrung for juices and mixed with water in New Caledonia to relieve respiratory problems associated with pulmonary bronchitis. Medical uses notwithstanding,
sandalwood was burnt in the Marquesas to drive away evil spirits and the oil was used to embalm the dead. At feasts in the Marquesas people took chips of sandalwood and bundled them into leis that were worn around the head. Aborigines in central and western Australia ate the fruits of two species of sandalwood (*S. lanceolatum* and *S. acuminatum*), and the root bark of another (*S. murrayanum*).

Sandalwood was widely and wisely used on the islands were it grew thousands of years before Europeans began looking for it in Oceania in the late 1790s in order to trade it in the markets of Manila, Batavia, Macao and Canton. Actually, certain Islander’s traditional uses of sandalwood factored into the formation of the larger Oceanian-European-Chinese trade in the 19th century.

Known as *yasi dina* and *yasi boi* in Fiji and *ahi* in Tonga, sandalwood had several traditional uses and was traded between Fijians and Tongans for hundreds or perhaps thousands of years before they began exchanging it with Europeans in the early 1800s. Sandalwood also grew in Tonga, but for some reason they instead imported it from Fiji for practical and political uses. Grated against mushroom coral in Tonga (as well as in Fiji and Samoa) sandalwood produced a fine dust that was mixed with coconut oil to serve as a skin lotion, body perfume, and hair oil. Alongside red feathers and fine mats, sandalwood from Fiji was an instrumental “prestige item” used to cement Tongan marriage alliances and for maintaining bonds at ceremonial occasions, from weddings to funerals to state and religious celebrations. Ultimately, “the trade, monopolization, and use of the prestige exchange goods helped the paramount chiefs of Tonga to solidify... the maritime chiefdom political system of the archipelago.”

---

In return for *yasi dina* or *yasi boi*, Tongans gave Fijians sting-ray spines for spear tips, *gatu*, or bark cloth, sail mats, and whales' teeth, the latter used as *tabua* sacred offerings for marriages, alliances, requests, apologies, appeals to the gods, the launching of war canoes, or other key rituals. Whales' teeth were especially rare and sacred items in Fiji, in part, because the mammoth marine mammals seldom washed ashore on their reefs. In Tonga, however, whales beached occasionally, and therefore their teeth were in greater supply. Mythological metaphors were assigned to the gargantuan teeth that created a sense of enhanced *mana* for those who owned them.\(^{10}\) In ways similar to Tonga, the procurement of these whales' teeth prestige items allowed vying Fijian *turagas* or head chiefs to legitimate their rule. More specifically, possession of whale dentals aided the *turaga* in gaining or maintaining the allegiances of the *qali*, common people, and the *bati*. *Bati* refers both to the warriors and the borders of the largest political units, the *yavusas*, or the smaller land divisions within them, the *mataqalis*. The influence and power of the various ranks of leaders in these land divisions depended on their personalities, abilities and success in warfare. Each rank of leadership, from the *turaga* to the *sauturaga* (second in command) to the *mata-ni-vanna* (head diplomat chiefs) to the *bete* (priests) to the *bati* (warrior chiefs) needed prestige items such as the tooth of a whale to accent these personal attributes and outcomes and maintain the allegiances of the *qali*, who lived in village kin level social units called *i tokatoka*. These leaders needed these accoutrements and had to be successful and charismatic because the *qali* only “gave service only so long as their chief was strong enough to enforce his demands,” otherwise they would shift allegiances.\(^{11}\) The leaders therefore needed to possess whales' teeth to

---

\(^{10}\) Brennan and Merlin, pages 69-75.

help convince their people that they had the *mana* to rule. Smaller *i tokatokas, mataqalis*, or *yavusas* often took advantage of this power dynamic to play one powerful village or province off of one another. Border peoples, especially the *bati* warriors, maximized this situation to such an extreme end that they paid no tribute, frequently held the balance of power, and hence commanded respect at councils and were pampered by other chiefs. Balances of powers and alliances were dynamic and elastic, and were not primarily geared towards the types of large scale political centralization that took place when they began trading sandalwood and other resources with Europeans.

**II. Fijian Sandalwood Foundations.**

When Tongans came into contact with European whalers, pork traders, and other seafaring merchants in the late eighteenth century, they bargained with them for new items, especially metal tools. Tongans then loaded their canoes with these goods, mainly nails, axes, chisels, and, of course, whales' teeth, and paddled to Fiji to bargain with them for sandalwood. Such was the feverish intensification of exchange between Fijians and Tongans that one observer worried over whether or not these foreign goods would become scarce in Tonga. Hence, Fijians were accustomed to acquiring these metal tools when they first encountered Europeans who offered to swap their wares for sandalwood.

In early 1800, the ship *Argo* smashed into the MbuKatatana Reef in the Lau island group. An American survivor of the wreck named Oliver Slater managed to make his way north to the Fijian isle of Vanua Levu. In August 1801, the *El Plumier*, a former Spanish ship commandeered by Australian hands, entered Tongan waters. It is not clear if the crew learned of sandalwood on Fiji from Tongans, but they soon set course
for Vanua Levu via the Lau chain across the open waters of the Koro Sea. At Bua Bay, on the western edge of Vanua Levu, Oliver Slater greeted and joined the *El Plumier*. During his time in Fiji, Slater learned the local language and customs and served as an interpreter. Evidence is spotty as to whether or not he secured sandalwood logs for the ship, but Slater came aboard the *El Plumier* for the next leg of its trip following Fiji: a trip that involved severe damage to the ship, short rations and a successful mutiny which propelled the vessel on a journey to China that never made it past Guam. From Guam Slater went to Manila. He then caught a ride to Port Jackson on the U.S. ship *Fair American*.

It was Slater who alerted Port Jackson’s commerce hungry leaders to sandalwood in Fiji. He was later hired as an interpreter aboard the Australian ship *Marcia* in 1804. Both the *Fair American* and *Marcia* in 1805 peacefully procured yasi specimens from Bua Bay, which was thereafter dubbed all manner of sandalwood names. The river at Bua was named the “Sandalwood river,” the bay was called “Sandalwood Bay,” and the surrounding coast was referred to as the “Sandalwood Coast.” The entire island was labeled as “Sandalwood Island.” News of the *Marcia*’s wood score in Port Jackson and the *American*’s bounty in New England sparked the first sandalwood rush. In 1806, ships from Port Jackson, Salem, Nantucket, New Bedford and even Calcutta came for yasi on Vanua Levu. Tongans too continued to trade with Fijians for sandalwood. With profits averaging 600%, ships vehemently vied for the wood. These traders tried to outbid one another on the beaches. They also tried to play village groups against rival vessels. Axes, knives, chisels, and cheap razors were popular goods the Fijians desired, but whale teeth continued to command the highest respect: they would give foreign merchants as
much wood for one large tooth as for five or six axes. Calcutta crews were particularly keen and successful at trading teeth, but had a peculiar way of providing them. They would take Asian elephants' tusks and carve and chisel them into the shape of whales' teeth. "The largest of these manufactured teeth procured vast quantities of sandalwood, and were so highly prized that chiefs would come from distant islands to see them."¹² Some of the teeth were two feet long, were believed to have magical powers and remained sacred well into the 20th century.

Much of the early trade was peaceful but violence did flare up during the boom years from late 1808 to 1810 and in the bust years that followed. Additionally, as turaga obtained more individual wealth in Bua and at other sandal rich bays such as Wailea, Galoa, and Tacilevu, political troubles brewed. Traditional fissures of control and allegiance were exacerbated, stirring jealousies and dissent as political centralization took hold around harbor settlements. Some villages went head to head. In October of 1808, Tui Bua, a turaga of Bua, or the "King of Myemboo," approached the beachcomber and former chief mate of the American ship Jenny, William Lockerby. He offered to give Lockerby and the Australian and American ship captains he represented as an interpreter sandalwood in exchange for military assistance. Lockerby agreed. On the second of November, 1808, Tui Bua invaded and conquered the fortress stronghold of Tacilevu with a force of eighteen hundred club wielding warriors, Lockerby and 16 of his musket toting sailors.¹³ The assault was rife with anguish. Lockerby wrote of the warriors:

Their courage was furious. When either spears or arrows penetrated their bodies, they would tear them out and throw them back at their enemies. One fell by a musket ball, and as he lay on the ground, he-

¹³ Derrick, page. 42.
-wounded several of his adversaries by the arrows from his body, before
he was dispatched with a club. 14

Tui Bua’s forces carried the day and the siege ended, “in a massacre whose horrors
were long talked of on the coast.”15 More than 200 people were killed by musket fire.

Following the fight, Lockerby gave graphic depictions of the Fijian practice of ritualized
cannibalism which was associated with warfare. Of the victor’s fortress he wrote:

we found both men and women employed in cutting up the bodies
of their prisoners. Some were cooked whole, and laid upon platforms
round the house of their Callow(God); upon others children and men
were feasting…. We were then passing a hut where an old woman was
eating the foot of a child.16

The smell of death permeated the land days after the battle ended. Lockerby
continued:

A few days afterwards I went on shore. In going up the river I found
the intestines of the dead bodies had been thrown into it; they had been
thrown in at high water, and floated down at ebb tide. They had caught
the mangrove roots, and on the water leaving them, they were exposed to
a burning sun, which caused such a horrid stench to rise from them that
almost suffocated me. A number of dead bodies was also laid on the river
side upon platforms that created a smell that was felt at a considerable distance.17

For their assistance in this carnage, Lockerby and the ship captains he represented
received fragrant rewards. At Lagota Bay they arrived to find “about 50 tons of
Sandlewood [sic]… already cut for us, by the King’s order. We paid the natives well, and
they agreed to cut as much as we wanted. This agreement they performed.” 18

Adding the Tacilevu mataqali political unit to the much larger political yavusa unit of
Bua set a standard on Vanua Levu for using Europeans and muskets in local armed

14 Im Thurn, Sir Everard and Leonard C. Wharton. The Journal of William Lockerby: Sandalwood Trader
in The Fijian Islands During the Years 1808-1809. Hakluyt Society, 1925. Page 54.
15 Ibid, page 42.
16 Ibid, page 56.
17 Ibid, page 57.
18 Ibid, page 57.
struggles in exchange for sandalwood, and later beche de mer, or sea-slugs. Guns were of
great importance to Vanua Levu’s leaders as they vied with one another for political
boundaries, especially for areas with plentiful groves of yasi. Although turaga clearly
ordered their people to cut sandalwood for these traders and fought wars for the trees, it
seems that lesser chiefs and qali also chopped yasi for payment. Lockerby, who spoke the
local language, dressed in a grass loin-thong, and painted himself red and black like the
tribes of Vanua Levu, was aware of rank and the names of numerous chiefs. His
references to “natives” when discussing sandalwood exchanges gives brief hints that the
common people bargained individually as well. For example, Lockerby noted that a Mr.
Brown procured sandalwood from the “natives” on an island in Lagota Bay. In another
case, Lockerby said that he entered into a bargaining agreement with some “natives.” He
said, “I bought the wood and they agreed to carry it to the boat.”19 Admittedly, the loose
generalization about “natives” does not mean that the qali were cutting or trading freely.
But there was a degree of self-motivation for them to log. One observer noted of the qali:

This sawing off the body with the cross-cut saw, bringing the
tree down from the stump, was a highly favourite part of the work,
and was frequently severely disputed for between the natives, owing
to the exquisite and delightful music to them, in the ringing of the saw.
In fact, at times, they would dispute so earnestly about whose turn it was,
as to come to a raging grapple with each other. It frequently required
the authority and interference of their chief to quiet them, and restore
harmony.20

Violence and the music of logging were not the only way in which trading operated.
Sexuality was also part of the Fijian foundations of the Pacific sandalwood exchange. In
late 1808 or early 1809, a “gentlemen belonging to [the ship] General Wellesley” took a

19 Lockerby, page 67.
20 Fanning, Edmund. Voyages to the South Seas, Indian and Pacific Oceans. New York, Collins and
Hannay, 1833. Pages 61-63.
“particular fancy” to a chief’s daughter. During the brief courtship, he “gave her some beads, a whale’s tooth and other articles.”21 He then tried to get her to come back to the ship for sexual liaisons. She then “pointed to a few logs of Sandlewood [sic] which belonged to her father, and asked her lover if he would not buy them before she went” to the ship.22 She asked for a whale’s tooth “which would have purchased ten times the quantity (of yasi) at any other time.”23 He coughed up the whale’s tooth and plied her again. Furthermore:

She then conducted him to another house, and shewed [sic] him several logs belonging to her brother that she also demanded a whale’s tooth for: this he first refused, but at last consented, thinking she would ask no more; however, he was much mistaken, for she took him to her sister’s, her uncle’s and her aunt’s houses; and when he objected to buy the wood they had, she reproached him, and if reproaches did not succeed in making him alter his mind, she pretended to be sick and cried; and told him if he would not, she would not that night accompany him.24

All in all, the whales’ teeth he gave should have bought him fifty tons of wood. He got less than five tons of sandal, but was comforted by the idea that she was coming with him to the boat. However, “when he thought she was going to step into the boat, the jilt ran from him with the swiftness of a hare, and disappeared in the woods.”25 Lockerby said this practice was commonplace, thus higher status women enhanced their power within their kin structures, arguably, by using the allure of sexuality as a device to obtain whales’ teeth in exchange for a miniscule amount of yasi logs.

During the sandalwood boom years on Vanua Levu, both Europeans and Islanders became increasingly interdependent on each other: the Europeans relied on Fijians to

21 Lockerby, page 70.
22 Ibid.
23 Ibid.
24 Ibid.
the military aid he had given. Angered, he quarreled with his former Fijian allies and then attacked them. Several of his sailors died in the fracas. European and American ships purchasing sandalwood from Fiji to sell in China between 1808 and 1814 overwhelmingly adjusted to natives’ needs in order to secure the fragrant logs. While the selling of sandalwood to Europeans was not exactly a peaceful affair up until late 1808, relations really soured by 1814 as the tree supply diminished and foreign ships became increasingly hostile and vengeful to the coastal peoples who were the primary contact agents. For example, the violence Robson left was meted out on the next ship to enter Bua Bay, and a spiraling cycle of revenge killings ensued. Both the ecological depletion of sandalwood and the following frayed intra-cultural fabric of the exchange forced the European sandalwood merchants to move along to more hospitable beach fronts that had nearby tree rich slopes: Hawai‘i and the Marquesas. Like *yasi* on Vanua Levu where the main trade first formed, the shifting cultures and ecologies in these archipelagos defined and at times dominated the economic transactions of European merchants and empires. In terms of Hawai‘i, the moment of the bust in Fiji, like the earlier intensification, occurred just as Kamehameha I solidified his rule over the archipelago. For Kamehameha I, the timing was fortuitous.

**III. Kamehameha I and the Origins of the Sandalwood Trade in Hawai‘i, 1811-1812.**

In early 1790 at Kealakekua Bay on Hawai‘i, Captain Metcalfe of the ship *Eleanora* allegedly began gathering sandalwood. In August of 1790 Captain William Douglas of the schooner *Grace* supposedly sent two men ashore on Kaua‘i to collect sandalwood. The following year, in October 1791, Captain Kendrick of the *Lady Washington* left three...
provide them with sandalwood so they could trade it in China for tea, which was later sold at European or American ports for other goods or specie; Fijian leaders relied on Europeans and Americans (and Tongans) to provide them with whales' teeth, metal goods, and even military assistance and guns so that they could maintain and expand their power and keep the allegiance of the lesser chiefs and qali. All became dependent upon a finite supply of sandalwood to fuel and fulfill these culturally driven needs.

The success of the yasi trade on Vanua Levu from late 1808 to 1810 ironically caused its own demise: sandalwood was not entirely exterminated, but groves were over-logged to such an extent that large cargoes could no longer be gathered. Still, ships continued to trickle into Fiji to search for the wood after 1810. Some inquired as late as 1825. They too were pulled into local politics. For example, in April 1813, Vunisa, a turaga from Wailea, another coastal settlement with access to sandalwood in southwestern Vanua Levu, convinced Captain Robson of the Calcutta ship Hunter to aid in the attack of some "rebellious" qali subjects within his territorial mataqali at the village of Nabekavu. After receiving a partial payment of sandalwood, Robson brought boats loaded with twenty musket armed troops. They allied with Vunisa's forces: one thousand men in the canoe flotilla, and three thousand men in the land force. The assault was punishing. Eleven men of Nabekavu were killed and eaten, huts were set ablaze and gardens destroyed.26

Another observer, Peter Dillon, wrote that he helped in several of the Wailea peoples’ wars and witnessed their enemies being cut up, baked, and eaten.27

In July of 1813, another notable conflict ended in bloodshed. Robson had only received 150 tons of sandalwood, one-third of the cargo he perceived was promised for

26 Derrick, pages 43 and 49.
27 Ibid.
men on the shores of Ni‘ihau. He reportedly expected them to cross the Kaulakahi channel to collect sandalwood and pearls on Kaua‘i. He later picked them up in March 1792. The eminent historian Ralph Kuykendall had this to say about these sandalwood enterprises:

but Ingraham [who parlayed the Metcalfe report] received this information second hand and it may be considered of very doubtful authenticity. Metcalfe probably took in firewood at Kealakekua.29

Kuykendall furthermore remarked:

it does not appear that either the men left by Douglas or those left by Kendrick actually collected any sandalwood.30

He concluded that “these early projects were not followed up and the sandalwood trade did not become important in Hawai‘i until some time after 1800.”31 That “some time” was most clearly 1811, a year after the yasi trade in Fiji had reached its zenith and then collapsed. Minor sandalwood transactions might have taken place in Hawai‘i prior to 1811, during the heyday years of yasi on Vanua Levu. The historian Theodore Morgan speculated that fur traders coming from the Pacific Northwest for supplies may have mixed it in with their cargoes in 1809. Perhaps the maka‘ăinana exchanged sandalwood with ships for small goods. News that they and/or ali‘i were profiting from small sandalwood sales seems to have inspired one of Kamehameha’s top ali‘i, Kalanimoku, to conduct sandalwood logging in late 1809. One of Kamehameha’s foreign advisors, Francisco de Paula Marin, wrote in his journal on December 20, 1809 that, “Craimocu [Kalanimoku] goes to cut sandalwood.”32

---

30 Ibid.
31 Ibid.
Word of the profitability of sandalwood seems to have influenced Kamehameha I to conduct pilot sandalwood logging in late 1811. Marin wrote that he went on an expedition to cut sandalwood for the king on O'ahu on September 27, 1811. In November and December of 1811, three Bostonians, Nathan and Jonathan Winship and William Heath Davis each stopped in at Honolulu en route from the Pacific Northwest Coast to China. These Pacific coast fur traders were accustomed to trading in Canton and knew that sandalwood was a profitable item there. During their stay they somehow learned that Kamehameha I was beginning to conduct sandalwood logging. They approached Kamehameha I and asked to take some 'iliahi for trade. He allowed them to take a small amount of 'iliahi, including some explicitly earmarked for his own profit. Six months later, the Winship brothers and Davis returned to O'ahu and delivered consignments and Kamehameha's profits. On August 4, 1812, Kamehameha I, pleased by the sandal exchange, considered signing a 10-year contract with the Winship brothers and Davis that gave them an "exclusive monopoly of the privilege of exporting sandalwood and cotton" from his lands. He met with his chiefs for two months and then agreed to sign the contract on October 10, 1812. For the export monopoly rights he granted them, he was to receive in return one-quarter of all net profits which were "to be paid in specie or in such 'productions and manufactures of China as the said Tamaahmaah (Kamehameha), his successors or assigns, may think proper to order."

With the compact sealed, Kamehameha I made the famous return to Kailua, Hawai‘i, which Kamakau says was "known as the Ka-ni‘au-kani after the musical instrument that

34 Ibid, page 8; Kuykendall, page 86.
35 Ibid.
became popular at the time.\textsuperscript{36} He then sent men into “the mountains of Kona and Ka-‘u to cut sandalwood, paying them in cloth and in tapa material, food and fish. Other men carried the wood to the landings of Kona and Ka-‘u as well as Kohala and Hamakua.”\textsuperscript{37} He then ordered his chiefs “to send out their men to cut sandalwood” across the archipelago. Massive labor projects of this kind were not new in Hawai‘i. For example, during Kamehameha’s wars to rule all of the islands, loggers called kua-lehoa, or calloused backs, went into the mountains and ritually chopped and hauled thousands of koa trees to make war canoes. Sandalwood loggers bore the name kua-lehoa too.

The labors of the maka‘āinana had historically been summoned to build the large heiau temples. They had historically built fish-ponds for their rulers by cutting and transporting heavy basalt boulders. The maka‘āinana’s periodic donation of their labor and agricultural offerings represented a ritual agreement of their renewed access to their land or ‘aina. Land was allocated and reallocated by each new mō‘ī or paramount chief of the island but the maka‘āinana were not entirely bound to it in order to serve their leaders, unlike the feudal system in Europe. The maka‘āinana stayed on the land as long as they liked and had the freedom to leave should the ali‘i become too abusive. They even had the right to rebel and execute exploitative chiefs. Historian Lilikalā Kame‘elihiwa described pre-contact relationships of power and land:

In the traditional system, a hierarchy of Ali‘i, konohiki, and maka‘āinana (Chiefs, Land stewards, and commoners) administered and cultivated any given piece of ‘Āina. The Ali‘i and his konohiki in this hierarchy were appointed by the Mō‘ī (paramount Chief) upon his coming to power. This arrangement ensured coordinated cultivation by the maka‘āinana, with each-

\textsuperscript{37} Kamakau, page 104.
-level of people having overlapping rights to, and interests in, the products of that ‘Åina.  

Moreover, relationships between chiefs and commoners were defined by kapu which maintained a “social and personal order” through a combination of discipline and coercion. They were further bound by the cultural power of mana. Political scientist Elizabeth Buck notes:

*mana* was what the ali‘i offered in return for the obedience and tribute of the maka‘ainana. The wealth and military success of a mō‘i and the fertility of his land were evidence of his strength and mana; defeat or conditions of drought were manifestations of its weakness. Therefore, while mana, like kapu, was inherited by ali‘i through their kinship with the gods, ali‘i at the highest levels of power (or those aiming at that level) were constantly engaged in securing, demonstrating and increasing their mana—their power.  

Kamehameha I used ‘iliahi as a means to obtain more mana, but he also shared his mana by distributing goods to those participating in the logging. His orders were rather uniform so it is quite probable that these payments of cloth, tapa, food or fish were also given to the men on other islands during their sandalwood trips, but it is not clear who got what. Because new mana associated with foreign goods was at stake, both the orders and payments caused a “rush of labor to the mountains [which] brought about scarcity of cultivated food throughout the whole group (of islands).” Agricultural production was still recovering from his wars of island consolidation and foreign diseases were decimating the producing population, so this massive labor project compounded the consequences for the supply of “cultivated” food, mainly *taro*. However, famines were hardly new occurrences in Hawai‘i. Hawaiians reserved certain herbs and ferns to sustain

---

40 Ibid.
themselves when “cultivated” food was in low supply. During this one cultivated food famine in 1812, they turned to herbs and tree ferns that included “Hi-laulele, Haha-pilau, Laulele, Pualele, ‘Ama’u or Hapu’u.”

In response to this crisis, Kamehameha I “immediately declared all sandalwood to be the property of the government and ordered the people to devote only part of their time to its cutting and to return to the cultivation of the land.” He thus removed the possibility for ali‘i and maka‘ainana to openly trade the trees themselves. By negotiating a compact with American merchants for ‘iliahi, by paying and ordering lesser chiefs and common men to cut it, and then by placing a kapu on it, Kamehameha I transformed the meanings and symbolism of this tree or large shrub. Although ‘iliahi was used to perfume tapa textiles and was a mild medicine, it previously had no real mana, and was thus not divine or forbidden. It was noa, or free from kapu. Once associated with power, political legitimacy and trade for other foreign goods that were assigned mana and kapu, ‘iliahi became a potent plant to hold. It became so powerful that he had to order his people to only “devote part of their time to cutting” it and save the rest for agricultural subsistence.

A year later in the summer of 1813, Kamehameha I learned that the British and Americans were at war with each other. To maintain a balanced power relationship with both the British and Americans, he annulled the contract with the Winship brothers and Davis, much to their ire. The War of 1812 had other un-foreseen impacts on the Hawaiian sandalwood trade. One such critical turn took place over two thousand miles to the south in the Marquesas.

---

41 Ibid.
42 Kamakau, page 204; Buck, page 33.
IV. Guns, Teeth and Trees in the Marquesas, 1811-1817

In June of 1811, Captain William M. Rogers and his Boston based crew sailed into the waters off Tahuata island, in the chain of Te Henua, which means “the land.” Europeans renamed Te Henua the Marquesas. At Tahuata, Rogers asked a European beachcomber if there was any sandalwood to be found. The answer was no. Rogers proceeded to other islands of Te Henua and queried other beachcombers about sandalwood. He found the positive reply he was looking for at the harbor of Taiohae on the southern coast of Nukuiva. Two beachcombers, James Wilson and Peter Cox, took him into the hills and showed him “a boatload of sandalwood sticks,” which caused him to feel “very gellous.”43 Roger’s jealousy probably stemmed from the competitive nature of sandalwood procurement which was akin to “Gold Fever.” For some reason, he decided to chill his “sandalwood fever” in Fiji, perhaps because the wood was a sure sell in China. Rogers pulled anchor and sailed to Huahine and Borabora in the Society Islands and began a run through Tonga and Fiji to obtain sandalwood. During this five-month trip, he only managed to collect forty tons of wood. In Fiji, he also helped Captain W.P. Richardson of the British ship Brutus in an unsuccessful punitive mission for five sailors killed by Fijians. Rogers may have discovered that in Fiji the finite supply of yasi was running out and that internecine violence was erupting. In an event, he headed back to Te Henua.

On November 5, 1811, Rogers returned to Taiohae harbor at Nukuiva. He called on the aid of Wilson and Cox to help him bargain for sandalwood. Wilson and Cox had earlier tried to convince other visiting ship captains to purchase puahi, the local

word for sandalwood. An anonymous captain was rumored to have taken the advice of Wilson and Cox about sandalwood prior to November 1805 and had sold a cargo in Canton. Rogers, however, was the first to turn a profit. In a period of 65 days he gathered 200 tons of wood and sold each picul, or 133.3 pounds of wood, at Canton at $18 apiece. His total return was $27,500. This news excited other sandalwood merchants in China and they began making plans to go to the Marquesas. Six months later, Rogers came back to Taiohae on Nukuhiva. He found the seven men he left to stockpile sandalwood fearing for their lives. Instead of collecting sandalwood, they were lashing together a makeshift boat to escape the enraged people at Taiohae. Their anger arose from Rogers’ initial bargaining.

In order to even receive the sandalwood he sought, Rogers had to bargain according to the highly selective needs of the native peoples of Te Henua, who collectively referred to themselves as Te Enata, the people. Rogers, his sailors, and Europeans in general, whom Enata referred to as Te Aoe, the outsiders or strangers, had little that they wanted. Rogers was familiar with the popularity of whales’ teeth in Fiji, saw them, ostensibly, on display across the Marquesas and may have been advised about them by Wilson and Cox or other rival beachcombers or traders. So he gave local chiefs at Taiohae whales’ teeth to convince them to collect sandalwood from the surrounding slopes. But they were fraudulent teeth. In Fiji, ivory was often carved into the shape of whales’ teeth and traded without arousing anger. On Nukuhiva, however, shortly after Rogers had left his seven men behind, Enata’s leaders learned that the whale teeth they were given for pauhi were in fact carved from ivory. News of the deceit infuriated Enata and threatened the lives of the beachcombers. Whale teeth were esteemed items of the tabu upper class.
One observer described how senior chiefs displayed these teeth to mark their rank:

Some of the men were highly ornamented with plumes of black feathers, large gorgets... and a kind of cloak formed of white cloth, in appearance somewhat of paper. Each held in his hand a handsome white fan, and had large tufts of human hair bound round the wrist, their ankles [sic] and loins, with two large oval ornaments, apparently intended as false ears, and large shells and whales' teeth hung round their necks. 44

Additionally, these teeth were:

worn suspended around the neck, and some times cut to form ornaments to the ears. No jewel, however valuable, is half so much esteemed in Europe or America, as is a whale's tooth here. I have seen them by fits laugh and cry for joy, at the possession of one of these darling treasures. Ivory, however finely wrought and beautiful in its kind, bears no comparison in their estimation. Ivory is worn by the lower and poorer classes, made into the form of whales' teeth, and as ear ornaments, while the whales' teeth is worn only by persons or rank and wealth. 45

Therefore Roger's gift of false teeth seriously upset status barriers and ended his ability to collect sandalwood at Taiohae. The Tei'i tribe at Taiohae "were still sullen with Rogers and would not collect wood, but the Taioa [tribe] at Hakaui... were more cooperative." 46 Hakaui Bay, which is just west of Taiohae on Nukuiva, was not the only harbor that was "more cooperative" with European traders during the beginning of the first Marquesan sandalwood rush.

This first rush began six weeks after Rogers landed again at Taiohae in July 1812: he was joined by numerous European vessels that made their way to the Marquesas from China. Not much puahi was to be found at Ua Huka and Ua Pou in the northern Marquesas, nor at Tahuata island in the southern chain. Puahi grew on Fatuiva island, but there was no safe place to anchor. Merchants instead dropped anchor at Vaitahu Bay on

Tahuata and sent small boats to the northern and southern coasts of Hiva Oa, where puahi was plentiful. At these harbors, deals were struck to fill European ships as large as “three-hundred tons burthen” in exchange for ten whales’ teeth. For this deal the “natives will cut it, bring it from the distant mountains, and take it on board the ship.” Rogers himself netted 3,683 piculs from this rush and sold it in Canton at $13.25 a picul. But his celebrations in China were short lived. Upon his second return to Canton on January 29, 1813, Rogers and two other American vessels with puahi piculs from Te Henua were blockaded by the Royal British Navy due to the War of 1812. The same war that hemmed them in and prevented news of the sandalwood finds from reaching New England also brought the American naval officer David Porter to the Marquesas.

Prior to arriving in the Marquesas, Captain Porter had captured several British vessels on the Pacific front of the War of 1812. Acting on his own impulse, Porter chose to annex the Marquesas on behalf of the United States in order to prevent the British from using it as a base. He landed at Taiohae Bay on Nukuhiva in late 1813, built a fort, and met with the chief of the Tei’i tribe, Keatonui. According to Marquesan custom, they went through a ritual of exchanging names, and Porter was called Opoti. As Nicholas Thomas put it:

In Marquesan terms, exchanging names notionally created a close identification, the property and interests of one becoming those of the other.  

After the naming ceremony, Keatonui immediately harnessed Opoti’s military might into a local war with the neighboring Hapa’a and later against a more powerful tribe in the Taipi Valley. The Tei’i and the Hapa’a had been habitually fighting when Porter arrived and he was reluctant to take sides in their war, but Keatonui, referring to the close

---

47 Porter, page 22.  
48 Thomas, Entangled Objects, page 98.
bond they had made during the naming ceremony, lobbied him to fight. He said to him:

they [the Hapa'a] had cursed the bones of his mother, who had died but a short time since; that as we had exchanged names, she was now my mother, and I was bound to espouse her cause.49

Aggression and insults expressed by the Hapa’a towards Porter also weighed on his decision. He reported that the Hapa’a had shown him “the utmost contempt and derision” and had “scoffed at our men, and exposed their posteriors to them.”50 This was enough reason in Porter’s mind to aid in the battle that later broiled above the hills of Taiohae. With his assistance an untold number of Hapa’a were killed by musket fire. The Tei‘i “then descended upon and ravaged Hapa’a settlements.”51

At another battle on December 1, 1813, this time against the people of the Taipi Valley, several of Porter’s men were wounded and defeated. The following evening, they ascended into the mountains. They descended and rested the day after. They then entered the Taipi Valley and fought their way to the upper end. There Porter and his troops encountered the principal settlement. Its “beauty and regularity” made him feel “astonished.”52 Its beauty and regularity, however, did not prevent him from ordering his troops to torch the entire village, indeed every house in the valley. They also burned sacred cult items such “large and elegant war canoes” and drums. This victory lead to a pacification of the entire island of Nukuhiva, and Porter, Opoti, consequently became its king. Word of his victory also created a structural change in the entire political economy of the Marquesas.

49 Porter, page 27
51 Thomas, Marquesan Societies..., page 134.
In the eyes of Enata, muskets made Opoti successful in combat. Muskets had *mana*. Muskets, ammunition and gun-powder following Opoti's victory became important prestige items across the archipelago. Such was Enata's desire to possess guns that they even exchanged their sacred pigs for them. Prior to the popularization of guns, pigs were given special names and treated with the respect of fictive kin. Villages herded and hid their pigs at the base of valleys to protect them whenever foreign ships approached. Pigs represented wealth and were instrumental to the *tabu* social system. Once pigs were placed on the market to obtain muskets, numerous goods did too, especially the uncultivated *puahi* growing on the slopes of river valleys. Unlike pigs, *puahi* trees were not associated with *mana* prior to the introduction of firearms and there were no special rules surrounding them. They had four categories of classification for *puahi* according to "differences they perceived in the colour of the flowers and wood and in the scent of the oil."\(^{53}\) *Puahi* flowers and bits of the heartwood were strung into leis and worn around their necks. Steam from *puahi* leaves had mild medicinal functions. They used the oil "to perfume the coconut oil which they anointed themselves... and their *tapa* cloth."\(^{54}\)

Following the end of the war in 1814, American ships from New England descended on the Marquesas for sandalwood as part of their efforts to reclaim trade with China. The American ships *Indus*, *Panther* and *Lydia* came for sandalwood in 1815; the *Mary*, *Resource*, *Sultan* and *Trial* came in 1817; the *Lion*, *Indus* and *Borneo* came in 1818; the *Arab* arrived in 1819; and the *Tamahourelane*, *Inore* and *Roscoe* came in 1821.\(^{55}\) During the War of 1812, while American sandalwood ships were bottled up in Canton, Australian ships traded guns and goods for *puahi*. From roughly 1811 to 1821,

\(^{53}\) Dening, page 115.
\(^{54}\) Ibid.
\(^{55}\) Dening, page 121.
Australians carted away about one quarter of the total sum of the Marquesan sandalwood trade. They would have taken more were it not for the colonial monopoly of the East India Company and later competition from Americans.

The peak of the trade took place between 1815 and 1817, but might have occurred sooner were it not for the British blockading American ships at Canton. This British blockade impacted the second post-Fiji sandalwood network in Hawai‘i by prolonging the boom and bust period in the Marquesas by a few years. Had either the intensification or bust in the Marquesas taken place sooner, it is conceivable, but difficult to prove, that this might have impacted the timing of the exchange in Hawai‘i. More Americans might have bargained with Kamehameha I and the extractions might have taken place according to the labor and ecological measures he introduced to protect the people and the land. Instead, the boom and bust bargains and extractions in Hawai‘i occurred amidst cultural conflict in a political power vacuum.

V. *"Ilihi Intensifies in Hawai‘i, 1813-1819*

Kamehameha I kept his own monopoly over the control of *"Ilihi logging and annulled the sandalwood monopoly contract with Davis and the Winship brothers in the summer of 1813, but this did not stifle the trade. Nor did it discourage the Winship brothers and Davis from trying to regain a monopoly contract. In early 1814 they sailed to Kaua‘i and negotiated a similar monopoly contract with its *mō‘ō* or island regent, Kaumuali‘i. Due to storms and diseases, Kaua‘i and Ni‘ihau had escaped a direct war with and occupation by Kamehameha’s army during his island consolidation campaigns. Kaumuali‘i instead signed a peaceful alliance treaty with Kamehameha I.
This alliance gave Kaumualiʻi more domestic autonomy than Kamehameha’s other regents on the “windward” islands of Oʻahu, Molokaʻi, Lanaʻi, Kahoʻolawe and Hawaiʻi.

In the spring of 1814 the New Englanders began collecting some wood but by September Kaumualiʻi and the local chiefs of Kauaʻi refused to cut any more wood for them in order maintain a balanced power relationship with the British. They may have also been following an order from Kamehameha I. This second cancellation made the Americans livid. According to Gavan Daws, the “Winship brothers considered a bombardment of the village of Waimea as a means of coercing the chiefs,” but decided against it and left Hawaiʻi altogether. This event ended their participation in the sandalwood trade, but it also created a culture of Hawaiian skepticism surrounding sandalwood bargaining.

When the Winship brothers left Hawaiʻi, they owed Kamehameha I a sizable debt for secondary sandalwood shipments to Canton in 1813. They also never returned his vessel the Lelia Byrd that they had taken to China with his wood. This left a bitter memory in Kamehameha’s mind and he continued to curse them until his final years. After all, this secondary shipment came at the expense of the famine of 1812.

There were other acts of deceit that further contributed to Kamehameha’s skepticism about ‘iliahi bargaining with foreigners. In 1815 George Anton Schäffer, a German doctor working for the Russian American Company, attempted to create a sandalwood monopoly on Kauaʻi and aid Kaumualiʻi in the overthrow of Kamehameha I. Initially, Kamehahema I had granted Schäffer use of one of his royal storehouses in Honolulu to amass ‘iliahi. Moreover, “Kamehameha’s favorite wife and her brother the high chief went further, granting the [Russian American] Company large estates on windward and

American merchants in Honolulu hated Schäffer. Paranoid of their ill will, he thought they were plotting to assassinate him. He fled to Kaua‘i. Kaumuali‘i approached him and raised the proposal to provide the Russian American Company (which was mainly into fur trading) with land and an exclusive sandalwood monopoly. Previously, in 1814, he had purchased weapons from Russians, but was unwilling to pay for them in sandalwood. Kaumuali‘i was only willing to trade sandalwood for ships.

By 1816 he had changed his mind:

Kaumuali‘i told Schäffer further that Maui, Oahu, Lanai, and Molokai belonged to him. If Russia would help him get them back, ‘he would give her half the island of Oahu, and all of the sandalwood forever, and also whatever provinces I might want to select on the other islands.’

Neither Schäffer’s dreams of a pan-island sandalwood monopoly nor Kaumuali‘i’s quest to oust Kamehameha I materialized. Kamehameha I learned from the Russian explorer Otto Von Kotzebue that Schäffer’s plans of aggression were not sanctioned by the Czar. Kaumuali‘i later learned this news and their deal ended immediately. Schäffer was “bundled into a boat” and booted from the islands.

Memory of Schäffer’s deceit and the power Kaumuali‘i attempted to wield with sandalwood was so strong during Kamehameha’s reign that it outlived him by influencing how his son and successor Liholiho and favorite wife Ka‘ahumanu related to Kaumuali‘i in the early 1820s. Liholiho even complained about the deceit in a letter to the “Emperor of All the Russians.”

---

58 Ibid, page 51.
Another key deceit was to linger on beyond the death of Kamehameha I. It was inscribed in memory as much as it was into the land itself. Sometime between 1815 and 1819, a New England trader arrived and Kamehameha I took a liking to his ship. This trader offered the ship up for its cargo size in sandalwood. G.D. Gilman described the bargaining:

The bargain was said to have [been] for as much sandal wood as the vessel would hold, which was agreed to. Whereupon the seller suggested to the king that it would only be a laborious task to fill the vessel and then take out all the wood, so, to 'save trouble', he proposed to dig an oblong hole with square sides of length, breadth and depth of the vessel into which the precious wood should be filled and packed, and when full should be the equivalent of the vessel. No account was made for the sloping sides and the sharp ended bow. This contract duly signed was said to have been executed. The king soon perceived the sharp bargain which had been sprung on him and it was said to have been one of the instances by which dear bought experience taught him how to trade with Yankee shippers in the future.  

Hulls of ships were hence carved into the land with their real dimensions so that foreigner traders would not steal extra sandalwood when they sold boats or specific boat loads full of goods. These pits were called *lua moku 'iliahi*. Today, the most famous sandalwood "boat-moat" is found in the mountains of Moloka'i, where details about the trade are virtually non-existent. On Moloka'i, this inscription on the land is a text that illustrates the caution Hawaiians took so as not to be taken advantage of by greedy foreign merchants. There is also a record of a *lua moku 'iliahi* ditch above Honolulu on the property of Kamehameha Schools. Others assuredly were carved on O'ahu, Kaua'i, Maui and the Big Island where the majority of *'iliahi* was harvested.

There is one last example of a fouled sandalwood exchange that had a major influence on how the trade was negotiated under Kamehameha I. In 1816, Kamehameha I sought to

---

trade directly with China to cut out the New England middlemen. He had a vessel outfitted and sent to China. He was unaware of the harbor taxes imposed at Canton and the mission suffered financial losses. The historian Harold Whitman Bradley remarked that:

Kamehameha, however, was able to turn this experience to advantage; for...[he]determined to adopt the same practice.61

A missionary, Charles Seaforth Stewart, commented that when Kamehameha I was “told that maritime trade in other countries derived large revenues in this manner, he immediately said ‘Well then, I will have fees for my harbour too.’” 62 He began charging foreign ships a port tax of $8 and a pilotage fee of $12 at Honolulu. He furthermore protected his sandalwood maritime interests by constructing a fort at Honolulu harbor in 1816. This political stabilization of the trade at Honolulu allowed for the intensification of sandalwood logging across the islands, especially between 1817 and 1818 when 16,000 piculs were shipped by Americans to Canton. In exchange for 'iliahi, he sought to purchase practical items that enhanced his political power. Ships were the dominant European items that interested Kamehameha I, but weapons and tools were also desired. Purchasing Western schooners allowed him to maintain his balance of power over the newly conquered archipelago and stimulate inter-island commerce and communication. Guns and swords aided his armies, fort sentinels, and personal guards. Knives and axes, although concentrated in the hands of the ali`i and lesser konohiki chiefs, were circulated among all Hawaiians and would have reduced the amount of labor involved in slicing food or plants. Metal axes were more efficient at chopping than stone adzes and would

61 Bradley, page 57.
have aided in the felling of sandalwood trees. Metal axes would have reduced the amount of muscle by reducing the amount of time used to chop them down. Hawaiian historian David Malo remarked that all manner of iron tools, “including the kitchen ax, the hatchet, the adz, broad-ax, chisel, etc... are the new tools which have been imported. The stone-ax (ko-pohaku) is laid aside.”

Despite the stings and skepticism involved in bargaining for foreign goods, from 1813 to 1819 Kamehameha I sought to keep a tight control on the rhythms of sandalwood fellings. His lesser chiefs oversaw and conducted the expeditions and were rewarded with both practical and luxury items to illustrate their mana, which was a potent symbolic offering of stability to the maka'ainana. Ali'i belonging to Kamehameha’s court might have imbibed fine rum and wine and received red broad cloth textiles as rewards for their labors. The distribution of these functional and fanciful goods from Asia and Europe began to change the political economy from a hierarchical kinship based subsistence and tributary mode of production and exchange to an early capitalist mode of production and exchange.

Logging and transportation of 'iliahi was carried out by the maka'ainana, but the traditional kapu system of status kept the bulk of the luxury items in the hands of the Kamehameha I and the lesser ali'i. Also, Kamehameha I enacted a kapu that forbade anyone from trading sandalwood directly with the ships and thus limited the commoner’s possibility of acquiring large amounts of weapons, casks of rum, fine silks, etc. As they had since the time of Cook’s arrival, the maka'ainana did possess and distribute to their 'ohana, or extended kin, small samples of foreign goods, and thus mediated the exchange

---

on a lower circuit. Knives, axes, beads, and cotton textiles reached them in four

generalized ways during the time of sandalwood cutting under Kamehama I from 1812 to 1819. There was a network of items either traded off ships in exchange for food or water. Items might have been "lifted" off ships too. Some Hawaiian women exchanged sex as a form of work in return for these goods. Finally, the makaʻainana might have received small amounts of goods, probably axes, from their aliʻi for sandalwood logging. This system of reciprocity and exchange, however, would change rapidly following the death of Kamehameha I in 1819. The grain of the sandalwood trade became rougher.
Chapter Two:

Bargaining, Debt and American Gunboats in Hawai‘i 1819-1843

I. Bargaining and Debt, 1819-1826

Following the death of Kamehameha I on May 8, 1819, numerous international and internal events altered the balance of the sandalwood trade. In 1819, New Englanders discovered whaling grounds near Japan and droves of ships sped to the Pacific to harpoon them. Because Japanese ports were closed to all but the Dutch at Nagasaki, American whalers were dependent on Hawai‘i for supplies, which increased demand for local agricultural products.

Moreover, in 1819 massive commercial corruption and problems linked with the formation of the First Bank of the United States sparked a depression in America. This depression from 1819 to 1821 created a shortage of domestic specie and sandalwood traders became desperate for trees in the early 1820s. To obtain ‘iliahi many gave vast volumes of goods to Hawaiian chiefs on credit. According to Samuel Kamakau and Charles H. Hammatt, some merchants even plied chiefs with alcohol and had them sign promissory notes for products while they were drunk.

Internally, Kamehameha’s death created a power vacuum and one of his sons, Liholiho, came to the throne. He shared his rule with Kamehameha’s favorite wife Ka‘ahumanu who persuaded him to abolish the kapu system that had historically governed Hawaiian social relations. Marshall Sahlins said that kapu system had been deteriorating since Cook’s arrival in 1778:

The tabus began to disintegrate in Cook’s time, and continued to do so in succeeding years.... So when the chiefs did finally abrogate the tabus in 1819, and consigned the temple images to the flames, they found many-
-ordinary people ready to join them. Many had already been doing like that for decades.\textsuperscript{64}

A year later Christian missionaries from New England arrived and began proselytizing and taking sides in Hawaiian politics. For some reason, Kamehameha’s death also seems to have suspended large scale sandalwood harvesting for nearly two years.

According to Charles Bullard, the supercargo for the Boston based company of Bryant and Sturgis, sandalwood logging ceased from May 8, 1819 until the “season” of 1821. Bullard noted that “little if any wood has been cut since the King’s death, until the present season [1821] when, as I have observed, a great effort has made—respecting the amount likely to be cut hereafter, it impossible to form any correct opinion.”\textsuperscript{65}

Bullard also described the social arrangements that made this “great effort” possible. He wrote:

I understand Reeo Reeo [Liholiho] orders each of his head chiefs to cut a certain quantity for him and then gave them permission to cut for themselves, and some are now engaged in the latter—If anything is cut on Woahoo [O‘ahu] next year worth mentioning it will be done in this way and the chiefs will be obliged to encourage their men by presents or a promise of part of the wood, for they are fairly tired out and the Island in a State of Starvation and more attention must be paid to agriculture.\textsuperscript{66}

Opening up the sandalwood trade to the ali‘i stimulated more local consumption of global goods and seems to have lessened agricultural production on O‘ahu in 1821. But the production of agriculture during the sandalwood boom on O‘ahu in 1821 (and 1822) also became complicated by culture and ecology. In 1821 Bullard observed:


\textsuperscript{66} Ibid, October 25, 1821. Pages 18-19.
Before they commenced cutting this year, several months were devoted to festivity, and when they quit [logging this year] they will probably bring forward their dances and games to please their subjects as well as themselves.67

Although the *kapu* system was shattered, elements of the religious Makahiki festival lingered on and people feasted and celebrated for several months beginning in either November or December of 1820 and ending in either February or March. This feasting helped diminish staple food provisions. The replenishment of agricultural goods such as “dry irrigated” *taro* on the leeward side may have also been hindered by a reduction of rainfall in 1821. According to a Missionary weather chart, from August to December 1821 it only rained for ten days in and around Honolulu, and probably most of the leeward side of O‘ahu.68 In August, October and November of 1821 it only rained one day per month. It rained only twice in December and peaked at five days in September.

However, this chart was limited to the Honolulu region, and does not reflect the north shore, *Ko‘olau* range and the windward coast of O‘ahu, nor the other islands. Nor does it illustrate how much rain fell. Combined, these elements incidentally raised the price of food in Honolulu and frustrated merchants in 1821 and 1822. Moreover, in 1822, no less than 60 whaling ships arrived in Honolulu and absorbed food supplies, which raised costs for foreigners, or *haoles*. A rise in the price of food in Honolulu could have also been emblematic of Hawaiians’ strong bargaining skills and a competitive market: food perhaps was sold to the highest bidder. This pressure was mainly manifested in sandalwood exchanges. For example, the pressure placed on merchants in 1821 was so

---

67 Ibid.
intense that one sandalwood trader, Captain John Suter, became “exasperated” and “declared he would sell [foreign items] at any rate” for ‘iliahi.69

Liholiho and the ali‘i extended Kamehameha’s sense of skepticism of trading sandalwood with foreigners by demanding goods before payment when possible. Hawaiian chiefs also understood the importance Americans placed on money. Of the royal family and ali‘i Bullard remarked that “they have bought many goods for specie and understand the cash prices that they also do not like to advance on them [foreign traders] if they can avoid it.”70 Ali‘i acumen aside, several bad sandalwood deals in the early 1820s exacerbated the sense of skepticism Hawaiians harbored towards American sandalwood merchants: the Americans bargained according to the sentiment of caveat emptor, buyer beware. Sales of the ships Cleopatra’s Barge, Thaddeus, Tartar and Hamilton between 1820 and 1822 may have persuaded Hawaiian bargainers that it was better to receive goods first and pay for them later. Foreigners knew these vessels had planks of rotten wood or other problems when they sold them and choose to conceal that information. Bullard admitted that on the sale of the ships Tartar and Hamilton:

[I] Never have had a copy of the bond [that described the condition of the ships] — I was once called on to produce it, but managed to evade — Had I been obliged to bring it forward, the white men [who worked for Liholiho] would at once have told the king... [of the ships’] faults.71

Bullard said that the sale of the Thaddeus, “being a bad bargain, has not operated at all in my favor.” 72 He also noted that, “The Thaddeus will receive the hearty curses of every one that has anything to do with her.”73

---

69 Bullard, November 1, 1821, page 24.
70 Bullard, October 25, 1821, page 18
71 Bullard, December 10, 1822, page 67
72 Ibid, August 10, 1822, page 59.
73 Ibid, July 7
Concerning the ship *Cleopatra’s Barge*, Bullard commented:

The King told me [Bullard] this morning that if he paid ‘sandal wood’, he should consider fulfilled the contract—That if the vessel had proved as represented, he would have given me my choice of wood, but that he ought now to have the choice.  

When Liholiho learned of the poor quality of the ships, he withheld the better grades of ‘iliahi. Sandalwood payments for the ships became points of contention as Liholiho only offered to pay with “inferior” quality sandalwood, and the traders insisted on better specimens. He ultimately kept his side of the bargain and paid 7,801 piculs, minus 480, for the *Cleopatra’s Barge*, which later sank near Kaua‘i three days prior to a commemoration of Kamehameha’s death. The cases of the *Cleopatra Barge* and other ships are significant because they were debacles that may have stiffened the resolve of Hawaiians to drive harder bargains from the specie strapped merchants. American merchants’ practice of *caveat emptor* also influenced how the chiefs acted towards specific company houses. For example, the misconduct of Captain John Suter, “was such that he got entirely out of favor with the King and Chiefs, any [of] you [at Bryant & Sturgis] may depend they will never trade with him again if there is any other person in the market.”

Bullard worried what this climate of American deceit and Hawaiians’ hard bargaining would mean for foreign merchants in the following year. He said:

> With a fair assortment, wood will be bought next year, so as to make money (if there are not too many competitors) but they [Hawaiians] will not buy again at the very high prices they have formerly done — Competition is the ruin of that market, and there is no such thing as forcing sales — They will have their own time and own way about buying. They will never cut anything near so much wood or trade so largely again in the [next] two-

---

74 Bullard, October 13, 1822, page 67.
75 Bullard, January 10, 1822, page 45.
-years, as they have [done] in the last two [1821/1822] There will probably be more of every thing in the market next year than they will buy and pay for in two years.\textsuperscript{76}

A year later in 1823 Charles H. Hammatt described the general mood of merchants to this increased Hawaiian pressure:

Every body here agrees in the increased difficulty of doing business with the King, chiefs & people. They have all realised the value of specie, and they require it for every thing they have to sell, even hogs, vegetables & labour. The King has lately been \textit{screwing} [pressuring] every body for dollars, and they say he has collected as many as 15,000 within a month or six weeks.\textsuperscript{77}

But this Hawaiian pressure did not keep merchants from trying to get better bargains. Some foreigners, including those working on behalf of the king as advisory \textit{ali‘i} and \textit{konohiki}, used alcohol as a means to get chiefs to buy products for large sums. Not all of the \textit{haole} advisors or merchants harbored ill intentions. Samuel Kamakau wrote that “some [\textit{haoles}] were good men, but others led the king to drink and to get the country into debt.”\textsuperscript{78} A few \textit{haoles} induced him to drink and charged goods to his account. These \textit{haole} merchants and advisors were worried that Christian missionaries, their adversaries, were making inroads on Liholiho’s consciousness about the value of trade goods. These \textit{haoles} “therefore strove to lead Liholiho to drink more heavily, and when he was drunk they would run him into debt and sell him, not small lengths, but many bolts of cloth, and charge goods to his name.”\textsuperscript{79}

This practice of using alcohol to get Liholiho to sign promissory notes extended to larger purchase like ships. During one deal on May 29, 1823, Liholiho got:

\textsuperscript{76} Ibid, December 11, 1822, pages 79-82
\textsuperscript{78} Kamakau, page 251.
\textsuperscript{79} Ibid.
pretty well soaked with wine & gin [and] made a bargain with [Captain] Rutter for the Brig & Cargo, for which he gave 4000 piculs, and signed a contract accordingly.\textsuperscript{80}

However, Liholiho was not so easily suckered into these deals. His use of alcohol went against the grain of the haole manipulations and became a force in its own right. Hammatt observed:

I don’t believe Rutters’ bargain will hold, for Krymakoo [Kalanimoku] has always said if any body trades with the King when he is drunk the bargain shall not stand and his say is potential. The King bought the Quill & cargo in the same manner, and after his people had kept possession of her [for] two months, and raised the devil onboard with the cargo & vessel, the King became sober and immediately gave her up again, saying he was not bound by any thing he did when he was drunk.\textsuperscript{81}

Observers at the time did note that Liholiho often drank excessively, but the fact that traders took advantage of this to sell him their products for sandalwood or promises of sandalwood underscores two matters. Firstly, it accentuates how traders in the 1820s might have used this tactic with other chiefs who were known to drink and carouse with merchants and buy large sums of goods, like Boki, the governor of O‘ahu. This practice ostensibly extended beyond Liholiho’s death in 1823. For example, even in 1822 there were “no less than 17 grog shops at Honolulu owned by foreigners” that were frequented by whalers, other foreigners and Hawaiians.\textsuperscript{82} This active public alcohol culture might have furthermore lubricated sandalwood deals (and increased prostitution) for years to come.

\textsuperscript{80} Hammatt, May 30, 1823, page 15
\textsuperscript{81} Ibid.
\textsuperscript{82} Bradley, The American Frontier in Hawaii, page 88; citing a letter from “Jones to Marshall and Wildes, Oahu, November 16, 1822,” in Massachusetts Historical Society, Proceedings, LIX, 44.
Secondly, it also illustrates how Hawaiian leaders dismissed paper documents as representing concrete deals. In their eyes, deals were elastic and open ended. Bargains had contextual warranties.

The historical literature is full of remarks about the aliʻi’s “excessive” consumption of luxury items and their “reckless” signing of debit notes. It has been well documented that in exchange for signed promises of ʻiliahia they received silks, broad clothes, nankeen cloths, crepes, cotton, pantaloons, pearl buttons, jewelry, crystal, chinaware, table silver, large dressing mirrors, billiard tables, tobacco, Dutch pipes, rum, wine, champagne, perfume, smoked beef, coffee, tea sugar, olive oil, castor oil, medicine, scissors, stationary, crockery, coats, shoes, muskets, brass and steel pocket pistols, ammunition, hammers, fishhooks, hatchets, axes, knives, nails, sails, Calcutta twine, hemp, ships, specie and dollars. It should be stressed, however, that the debts incurred in the early to mid 1820s occurred for a variety of reasons. Two broad generalizations offer insight into the reasons for the debts. Firstly, although the kapu had been abolished, the drive to procure mana did not. The political vacuum that emerged following Kamehameha’s death opened up the opportunity for purchasing an unlimited supply of mana in exchange for sandalwood. Secondly, the bargaining was influenced by the dialectic of American deceit (caveat emptor) and the economic depression that informed the deals Hawaiians brokered. Competition among merchants to trade also played into Hawaiian hands who easily manipulated them. Few deadlines were set for payments and those that were set were not enforced. Aliʻi took advantage of this situation and played merchants against one another. This climate of consumption, debt and competition agitated American merchants. Because debts were not being repaid these merchants called upon Congress
and American tax dollars to enforce the payment of their profits. That call was seemingly answered in 1826 when American naval forces arrived in Hawai‘i.

II. American Gunboats and Debt 1826-1843

The sandalwood debts the ali‘i amassed in the 1820s were not settled until 1843, nearly 17 years after the first of five American gunboats arrived and looked into the matter. The reasons why debt payments were postponed for so long are multifaceted and interwoven. Delays were influenced by subtle and subversive appeasement tactics Hawaiians exercised in the face of warships. Debts festered because most of the marketable sandalwood trees were over-logged by 1829. Deferred payments were also influenced by the fact that it was not the primary mission of the warships to settle sandalwood disputes.

In December of 1824, 137 Americans concerned with the Pacific whaling fleet sent a worried message to the lame-duck President James Monroe. They urged him to establish a naval station in the Pacific to quell any sign of on-ship worker revolts, mutinies. Four months later, the newly sworn in President Adams received another plea from merchants in Nantucket that Hawai‘i was beginning to swarm with a nest of “over one hundred and fifty seaman…. prowling about the country naked and destitute, associating themselves with the natives, assuming their habits and acquiring their vices.” American merchants felt that the intercultural and class commingling of “rabble” sailor deserters and “savage” natives would “naturally” spawn a “nest of pirates and murderers.”

84 Ibid, page 11.
It was this sentiment that compelled President Adams and the Secretary of the Navy, Samuel Southard, to give orders for an American ship to go to Hawai‘i. The mission was to offer proper representation of the United States, investigate and arrest ship deserters and look into the “safety of commerce.” This task was assigned to Captain Thomas ap Catseyb Jones, Commander of the U.S.S. Peacock, who arrived in Honolulu on October 17, 1826. His arrival was welcome news to American merchants, especially in light of the troubled debt negotiations that had occurred earlier that year.

Earlier that year, in January, Captain John Percival of the U.S.S. Dolphin had arrived and was pulled into the sandalwood debt debate. However, instead of reigning in on Hawaiian debts, Percival coped with merchant on merchant squabbles by collecting information from all parties. He also intervened in a riot his crew started against the missionary Hiram Bingham for the anti-prostitution laws he helped initiate. On January 24, 1826, Captain Percival sent a letter to several agents inquiring about the debts owed to them by Hawaiians. On February 22, Percival met with Ka‘ahumanu and took notes about “the laws of the land.” Before he could act further, merchants arranged a meeting with Boki on March 6. The purpose of the meeting was to sign a “charter” agreement at the “wooden house” between the parties about the repayment of certain debts. The meeting was supposed to be peaceful. It instead erupted into fistfights. Stephen Reynolds was witness and victim of the melee. Reynolds noted:

I was asked to go to by Capt. Alfred P. Edwards to the wooden house to witness the Charter for the Brig Becket by the Said Edwards and Boki, when he [Percival] arrived there – Capt Percival – began to object to the Charter party as being informal – and improper got in a great rage – refused to witness it & left the room, after all followed out on the Stoop – he [Edwards?] said Mr Schmerhorn or Mr Bates could witness it. Mr Schn replied I will not witness such an instrument, (because he did not think it legal or proper) or words to that effect – Capt. Percival-
-and Capt Edwards, had hard words. Percival collared [seized by the collar?] Edwards, & said he would throw him (E) off the Stoop – people interfered and they separated – in a few moments – Percival – collared Edwards a second time – in which their waistcoats got torn – without other injury. Much warm conversation ensued in which I was called on to make some statements – by which I was led to make some observations about Mr Bates – by which I implicated him – of underhanded conduct. He immediately called me a damned liar – and at the same time Struck me in the face. 85

The meeting deteriorated and disbanded, but the following day Boki made good by signing an agreement of repayment to appease Edwards and the Americans. Boki said, “I went out yesterday to sign — not to see fighting.” 86 Percival’s visit does not seem to have affected the business climate. American merchants did not gain the upper-hand over Hawaiians. Percival seems to have had a minor influence and some wood was cut in the summer of 1826, but by early October merchants like Dixey Wilde of Marshall and Wildes were eager for the U.S.S. Peacock to pull into port and deal with the debts. The arrival of Catseby Jones was therefore welcome news indeed to American traders.

Americans were eager for Jones to jump into the debt debate, but he had other priorities to deal with first. While he did not ignore the sandalwood merchants, his first action was to crack down on deserters from whaling ships. To do this, he asked for the aid of the Hawaiian government. The Hawaiian Kingdom already had minor rules about foreign desertion from 1825, but these were not enforced and Jones found them weak. He asked King Kauikeaouli to impose a fine of $30 on masters of vessels that failed to report sailors absent from their ships and reduce the number of saloons. Ultimately, Boki helped Jones arrest the deserters. Once this was settled, Jones raised the issue of the debts on November fourth. Aware that the chiefs wished to deliberate on the

86 Ibid, page 126.
matter, he gave them six weeks before pressing the issue again. The traders were less patient. After the first week of December passed, they again called on Jones to use his force to secure the sandalwood owed to them. On December 14, he approached the chiefs. According to Bradley, they evidently “failed to consider seriously his earlier communications, for he found them unprepared to discuss the issues he raised.” They met again on December 23, and signed the first official debt treaty, which the government made provisions to carry out four days later. The total debt agreed to was 15,000 piculs, which varied from $120,000 to $160,000 in value. In addition, the treaty granted American nationals protection under the status of most favored nation and obligated the Hawaiians to suppress desertion and help salvage American shipwrecks.

Although Americans in Honolulu and Hawaiians regarded this treaty as binding and valid, the Navy and the Adams administration ignored it and never submitted it to the Senate for ratification because Jones had overstepped his authority and was not granted permission to sign treaties. To keep their end of the agreement, the Hawaiian government announced on January 2, 1827 that every adult Hawaiian male and female was to pay a tax to help alleviate ali‘i debts. Men were to deliver immediately half a picul of sandalwood, or 66 pounds to the government. Women above the age of 13 were to pay one Spanish dollar or give a tapa mat each year. Reynolds recorded that on the morning of January 2, 1827:

At ten o’clock, the Chiefs assembled under the grove of Cocoa [sic] Nut trees - below the Fort where [sic, were] orders that every man should go to the mountains and get half a picul of Sandlewood for the government, and half they got over should be their own: the Women [were instructed] to produce tapas or mats or a dollar, they who choose can pay four dollars as an equivalent…. Some came to buy axes before night.

This order officially opened up sandalwood trading to the maka‘āinana who participated in the cutting either willingly, begrudgingly, or fearful of ali‘i reprisals. They cut tons of ‘iliahi from early January to late July of 1827. Over ten thousand piculs were cut. Observers commenting on the condition on O‘ahu during this seven-month period in 1827 reported that many natives were frequently away from their fields in the mountains logging. Virtually nobody, however, reported that this induced famines. By September of 1827, four thousand piculs were repaid. By January of 1828, another three thousand piculs had been returned for the debts, for a loose total of 7,000 piculs paid. But the merchants were unsatisfied. Only half of the 15,000 picul agreement had been paid. If there was a gaping loophole in the treaty negotiations, it was the deadline of payments. No firm deadline was set. The merchants also did not necessarily count on the fact that the King and ali‘i would continue to bargain as they previously had by charging items to accounts on credit. Although they were aware that most of the wood coming in was of poorer quality and would not fetch a high price in Canton, the merchants nonetheless kept selling goods on credit, and the debts continued to spiral. Moreover, in October of 1827, John C. Jones, the agent for Marshall and Wildes, reported that much of the cut wood was the property of the commoners. This played into the arrangements for paying back debts because their logging also denuded the land of trees that could be used to pay off the promissory notes. It was a major blow to sandalwood stands that had been declining since Kamehameha began cutting in 1812.

Because the finite supply of marketable trees were diminishing the ali‘i could no longer gather significant amounts to pay back their debts. Still, according to Stephen

---

88 Reynolds, January 2, 1827, page 169.
Reynolds, more than 5,000 piculs were cut and shipped in 1828, adding to the estimated 25,000 piculs extracted between 1827 and 1829; plenty enough to pay off the 1826 debt agreement. Merchant desire to stimulate new trade by continuing to give goods on credit, Hawaiians’ continued consumption, the meaning of *mana* Hawaiians’ placed on foreign goods, the widening of *maka 'āinana* “free” participation and the subsequent run on the finite supply of sandalwood were all factors that influenced the delay of *ali 'i* debt payments from 1827 to 1829.

The delay of paid accounts continued to irritate American traders, and they eagerly awaited the arrival of the U.S.S. *Vincennes*, which docked in Honolulu harbor on October 13, 1829. The captain of the *Vincennes*, William C.B. Finch, later met with King Kauikeaouli, Boki and four other top chiefs to address the liquidation of the debts. They signed an agreement acknowledging that they owed John C. Jones and Thomas Meek 4,700 piculs that had been earlier agreed upon with the *Peacock* in 1826. They also signed a second note for an amount of 2,165 piculs that was owed for the purchase of a ship in 1828. But these notes had no definite timetable of repayment, nor did Finch press the chiefs too harshly. The display of military force was evident, but Finch’s orders, like those of Captain Jones, involved cordial conduct that was geared to cultivating “the most friendly” of relations with the chiefs in order to stabilize American interests in whaling.

To the American Navy, the collection of sandalwood debts was not a priority compared with trying to stabilize the Pacific for whaling interests. America’s official posture of foreign relations with Hawai‘i in the late 1820s seems to have involved appeasing the chiefs so that they would help monitor runaway sailors and aid damaged American ships and thus protect their larger interests in the Pacific Ocean. Good foreign
relationships with Hawai‘i seem to have involved mollifying the sandalwood traders and ali‘i at the same time without upsetting either group. This mixed message of appeasing all parties does not appear to have gone unnoticed by Hawaiians. They greeted the gunboat captains respectfully, signed paper agreements, but waited for them to leave before conducting business on their own terms in the same cycle. Patience and delay were subtle and subversive tactics they employed throughout the sandalwood bargains to maintain the upper-hand over foreign traders and the American military. They continued these tactics well into the 1830s when two more warships visited Hawai‘i and the subject of sandalwood debts arose. They also had a new tactic to use. Many of the ali‘i who had run up debts were dead when American warships arrived in 1832 and 1836: Hawaiians claimed that they didn’t have to pay for the dead ali‘i’s debts, especially Boki’s.

In November of 1829, while the Vincennes was still in Honolulu, news of sandalwood on the island of Erromanga in the New Hebrides reached Honolulu and inspired Boki to go there. The ships Kamehameha and Becket were equipped and staffed with over 400 Hawaiian sailors and ten foreigners. They set sail on December 3, 1829, and Boki decried upon their departure, “I am about to undertake a voyage to extinguish the debt of the King.” On the island of Rotuma in the New Hebrides Boki hired 100 of the local inhabitants, and headed for Erromanga onboard the Kamehameha. However, they set out in stormy seas and never made it to Erromanga. Charred flotsam of the Kamehameha was later spotted in the ocean by members of the Becket. The Becket, which was commanded by the fort captain of Honolulu, Manuia, did make it to Erromanga, but the inhabitants were hostile. Both parties clashed in combat. Then disease struck the crew of

90 Thrums, Thomas. Thrum’s Almanac, 1904-1905, page 66
the Becket. The disease, probably malaria, killed 180 of the 200 crew members before they reached Honolulu. The twenty sailors who did survive told the news of Boki’s death. It caused many Hawaiians to weep in the streets of Honolulu. It arguably caused several merchants to drip with frustration because Boki’s debts were not to be paid by anyone. The captain of the U.S.S. Potomac upon his visit to Honolulu in 1832 couldn’t convince the Hawaiian government to pick up Boki’s bill. However, Captain Edmund Kennedy in 1836 was more persuasive. He convinced Hawaiians to add Boki’s debt to the Kingdom’s overall debt, which wasn’t fully paid off until 1843, as Ralph Kuykendall has pointed out. Thomas Morgan reported that this final payment was $14,000.

Sandalwood collections throughout the 1830s were significantly less than they had been in the 1820s, but they were still conducted. In 1833, King Kauikeouli placed a kapu on the younger trees and tried to assert a monopoly on the trade to prevent the sort of debt crisis that had wracked Hawai‘i in later 1820s. But his control over the wood was not formalized until 1839 when he wrote a sandalwood monopoly and forest privatization law. The law was reported to have said:

The owner of each division of land is allowed to select one kind of wood on that portion of the mountain connected with his land, which wood he may claim as his private property. It also claims for the government two-thirds of all the sandalwood. Whoever cuts it, has one-third for himself and delivers the other two-thirds to government.91

The following year in 1840 this law was amended by the Hawaiian legislature. It stated:

His Majesty the King taboos the sandal-wood for himself. The visitors of the mountains shall not touch that timber until such time as the king-

-shall say, when all the people may cut it by paying two-thirds to the
King, reserving one-third to themselves. He also taboos all large trees
such as one man cannot grasp ... Whoever violates the taboo on those
trees... or breaks down the small shoots of sandal-wood in the mountains,
shall be fined one hundred rafter each five yards long. But if the man be
furnished with a whip-saw, they are the third class of persons who may cut
large trees of the forest, but not the sandal-wood.\footnote{92}

According to Morgan, 'iliohi was not traded between 1840 and 1843, so this law seems to
have limited sandalwood logging for all parties, or at least sales. In 1843, the debts were
paid and buried, and the sandalwood era, which had been in severe decline since 1829,
withered. Although the sandalwood trade was dead, 'iliohi trees were not. In fact, 'iliohi
had a history of its own to tell. The following chapter seeks to sketch part of that
environmental tale.

\footnote{92 Thrums, 1904-1905, page 68.}
My whiteman, the blacksmith, will be the one in Puna to cut sandalwood.
---John Paalu to John Adam Kalua, Oahu, June 24, 1823

Manuere [Manuia] took every man’s taxes first of the best, then let them sell.
Stephen Reynolds, April 19, 1827

Chapter Three:

Ecology, Exchange and Extraction, 1811-1843.

Exchanges and extractions of ‘iliahi between 1811 and 1843 were defined by the environment of Hawai‘i and sandalwood biology as much as they were by global and local shifts in politics and culture. In this sense, ‘iliahi is a text that can help us comprehend dialectical tensions of shifting practices towards nonhuman nature in Hawai‘i which arose during early colonial encounters between Hawaiians and foreigners, mainly Americans. This chapter seeks to highlight how sandalwood, the environment, and social power arrangements overlapped in overt and subtle ways. A basic introduction to sandalwood biology and pre-contact forest clearings is needed to underscore these two themes.

I. Sandalwood Biology

Sandalwood belongs to the genus *Santalum*, a member of the family *Santalaceae* in the order *Santales*. In the genus *Santalum* there are four sections: *Santalum*, *Solenentha*, *Hawaiiensia*, and *Polynesia*. From these four sections there are an estimated 16 species and 17 known varieties. The exact evolutionary birth period of *Santalum* is not known, but the species originated in either insular Southeast Asia or northern Australia and gradually radiated outwards across the Pacific and through the Indian Ocean monsoon belt to the South Asian subcontinent. In the Pacific, sandalwood had a historical western range in Indonesia and a southern belt across Australia, Papua, New

---

93 Brennan and Merlin, pages 30-31
Caledonia, Vanuatu, Tonga, Fiji, Tahiti, the Marquesas, etc. The Juan Fernandez Islands off the coast of South America marked its eastern dispersal edge, and Hawai‘i and the Bonin Islands defined its northern reaches. Sandalwood has not been observed growing in the Marianas, Micronesia, the Marshalls, or the Solomon Islands, which suggests that its distribution was uneven across the Pacific.94

On a highly speculative level, it is not entirely implausible to say that these islands might have had sandalwood at one point, but were destroyed before Europeans arrived. After all, sandalwood is susceptible to fire, disease, insects, livestock and human destruction. For example, the *S. album* specimens in India and Indonesia are particularly prone to fire. It seems that fire was the likely culprit in the distribution of *S. lanceolatum* in Queensland, and (coupled with development), may have led to the extinction of *S. austrocaledonicum* on Aneityum Island in Vanuatu.95 The spike disease in particular has afflicted sandalwood in India and Hawai‘i. The spike disease “shortens the internodes, reduces leaf size, kills the haustoria [parasitic roots] connections, and blocks the vascular bundles in the phloem. It also causes tip dieback, in which leaves fall and give the tree a spiked appearance.”96 A type of moth has been observed girdling the stems of *S. album* in Western Australia, and it is evident that sandalwood is “quite palatable” to rats and livestock – horses, sheep, pigs, goats, and cattle. While each of these animals can disperse seeds in minor ways, they overwhelmingly threaten sandalwood, and should be viewed as a double-edged sword; with a sharper blade on the destructive side.

---

94 Ibid, pp.30-32.
96 Ibid, page 3.
Storms and cyclones may have led to sandalwood distribution, but it is far more likely that birds contributed to the dispersal of its seeds. *Santalum* seeds range from 6-7 millimeters to 1.3-1.5 centimeters in diameter, have a 1 millimeter fleshy or leathery exocarp and flourish in a variety of soil conditions and climates. From red loams in India to sandy clays in Queensland, Australia to lateric earth in New Caledonia to the volcanic dirt of Vanuatu and Hawai‘i, *Santalum* seeds are enormously adaptable as long as the soils are free-draining. Soil conditions aside, it grows in radically varying eco-niches, from the arid Australian outback, through the seasonally parched monsoon climes of India, Eastern Indonesia and Vanuatu to subtropical habitats with near uniform rainfall in Hawai‘i and New Caledonia. From rainfall ranges as low as 50 millimeters to as high as 3,800 millimeters per annum, with a mean average of 1,000 millimeters, sandalwood grows as a small shrub or tree. Its elevation range is equally diverse: on the mountainous habitat of Haleakala volcano on Maui at 2,590 meters, *Santalum haleakale* thrives at a higher elevation than any of the species, while 13 others grow at or near sea level. Most species live between sea level and 1,000 meters.97

All species of *Santalum* establish themselves by growing special needle-like ganglia siphons called haustoria that penetrate the roots of other trees, grasses, or herbaceous shrubs and leach off their moisture and nutrients, including nitrogen, phosphorous, potassium, and iron. With its lateral, shallow root ganglia and haustoria(s) firmly entrenched, the *Santalum* shrub or tree will grow alone alongside its host, or form a coppice. Single trees have been observed growing in isolation, so haustorias are not always needed for survival. The most notable feature of sandalwood is its oil producing heartwood, encased in the trunk. After 15 years of growth, the fleshy heartwood gains 1

97 Ibid, pages 1-4.
kilogram annually and will eventually become ripe and rich with the sweet oil, usually by its 30th year. These plants reach maturity between 50 and 100 years. From the heartwood, the pungent oil circulates in lesser amounts in the outer layers of the body with minute traces in the limbs. In India and Timor, S. album, white sandalwood, produces the most oil of any of the species and was (is) therefore highly sought after. Conversely, S. murrayam and S. acuminatum in Australia produce very little or no oil at all. Needless to say, oil content varies from species to species, and is dependent on three general factors: genetic variation, age, rainfall, and growth rate. Age and genetic variation are too broad to discuss here, but rainfall and growth rate are somewhat clearer. In general, if a given tree is exposed to a small amount of rainfall, it will have a higher yield of oil—the more rain, the lesser the oil yield. In general, if a tree grows too rapidly, it will have a lower yield of oil—slow growing trees produce more oil. In either case, oil stains the inner tissues with various hues and shades of mustard yellow. The oil is a colorless or pale yellow liquid with a sweet and “woody” odor. It contains no less than 90% free alcohols by weight which are principally of the sesquiterpene group and are collectively referred to as samalol. The two main odiferous components of the oil are α-santalol and β-santalol.

Moving beyond generalities of the entire genus, according to the Manual of Flowering Plants of Hawai‘i there are four species and seven varieties in the section Hawaiiensia:

S. ellipticum (Coastal sandalwood), S. freycinetianum var. freycinetianum (Freycinet sandalwood on O‘ahu and Moloka‘i), S. freycinetianum var. pyrularium (Kaua‘i

98 Ibid, page 4. Based off the two most studied species, S. album and S. spicatum.
99 Ibid.
100 Ibid.
101 Ibid, page 9
sandalwood), *S. freycinetianum var. lanaiense* (Lana'i and Maui sandalwood), *S. haleakale* (Haleakalā Volcano sandalwood), *S. paniculatum var. paniculatum* and *S. paniculatum var. pilgeri* (both Hawai'i sandalwood).102

As with 40 percent of the initial colonizing plants in Hawai'i, sandalwood seeds were more than likely introduced by birds well before humans arrived between 300 and 500 C.E.103 Sandalwood seeds colonized the dry and rocky leeward coasts and mesic lowland forests. It was one of five primary endemic trees that formed a vibrant dry land, open canopy. It grew alongside wiliwili (*Erythrina sandwicensis*), *naio* (*Myoporum sandwicensis*), 'ohe (*Reynoldsia sandwicensis*), and 'āla'a (*Planchonella Spp.*).104 Adaptation of the seven main species of sandalwood from one or two mother plants was made easier due to the isolation of Hawai'i. Within this biological vacuum, two types of sandalwood, those with red flowers and those with green flowers, diffused and evolved across the archipelago: red flowered trees may have originated from *S. pyrularium* on Kaua'i; and green trees may have stemmed from *S. paniculatum var. pilgeri* on Hawai'i.105

One green flowered species, *S. ellipticum*, coastal sandalwood, a sprawling shrub or small tree, extended from Hawai'i to Kaua'i and even existed on Laysan Island.106 This species might have been a mother plant as well. Hawaiians called coastal sandalwood

---

Coastal sandalwood, like other *Santalum* species, historically thrived alone, in small patches or groves, taking root along ridges, slopes, gulches, dry shrub land, rocky sites and 'aʻā lava fields. The shrubs primarily grow at sea level, but the trees are found at an elevation of 610 meters above sea level: it rarely grows beyond 2,124 meters altitude. The shrubs grow between 1 and 5 meters high and the trees can reach as high as 15 meters and can fatten as wide 1 meter in diameter. Its outer bark is dark gray, rough, and deeply furrowed into scales or thick rectangular plates, while the inner bark is streaked vermilion and brown. Twigs are green, brown and hairless. Other key hallmarks of coastal sandalwood include its leaves and flowers. Leaf blades range from elliptical to round shapes, and are roughly .6 to 1.9 centimeters long and 1.9 to 3.8 centimeters wide, with blunt or rounded apexes and long or short-pointed bases. Leaves, thick and brittle or leathery and thin, flat or curved, have upper surfaces that are slightly shiny green, and dull light green lower surfaces. Amidst these supple leaves grow terminal or lateral greenish-yellow bell shaped flower clusters.

A second species of green flowering sandalwood, *S. paniculatum*, is only found on the island of Hawaiʻi and consists of two main varieties: *S. paniculatum var. paniculatum* and *S. paniculatum var. pilgeri*. These two similar varieties grew in lava fields, dry forests, cinder cones, and high land wet forests as either shrubs or trees. Recent observations peg their range from 455 to 1,972 meters, and sometimes 2,427 meters. The *S. paniculatum var. pilgeri* variety was (is) endemic to the montane forest region of

107 Elbert and Skolmen, Ibid.
Kona on the leeward coast while the \textit{S. paniculatum var. paniculatum} variety grew throughout the westerly slopes and arid lava plains.\textsuperscript{109} \textit{S. paniculatum var. pilgeri} grows as a tree and is considered to be one of the largest types of sandalwood, reaching 18 meters in height.\textsuperscript{110} Height aside, \textit{S. paniculatum var. pilgeri} can be distinguished by its olive-green, paper-thin, round or elliptical leaves. \textit{S. paniculatum var. paniculatum} takes shape as a large shrub or tree, and ranges from three to ten meters in height. Its leaves are leathery, thick or paper thin, with an orange or bluish tint on the upper surface that appears dull on the lower surface. Like all species of Hawaiian sandalwood, they both tend to have larger leaves in the mesic forests, and smaller ones in the drier regions. Both varieties have coarse gray bark. Their flowers look the same too. With green corollas tinged with brown, orange, or salmon colors after opening, these fragrant flowers come in both bell and conical shapes and are roughly four to eight millimeters long. Upon maturity, their seeds blend in shade from purple to black.\textsuperscript{111}

There are also two red flowering species. The first has three varieties: \textit{S. freycinetianum var. freycinetianum}, \textit{S. freycinetianum var. pyrularium}, \textit{S. freycinetianum var. lanaiense}; the second has but one variety, \textit{S. haleakalae}.

\textit{S. freycinetianum var. freycinetianum} is a small shrub or tree between 360 cm and 11 meters tall that primarily grew in the dry lowlands and dominated the mesic and wet forest slopes and ridges of O‘ahu and Moloka‘i. From its drooping branches, flat, elliptical, wilted looking green leaves surround weakly fragrant reddish yellow flower buds. These floral tubes, eight to seventeen millimeters long, start out yellowish white
then age into crimson colors with dark red inner corollas that are tinged vermilion to forest yellow-green on the outside. The reddish purple to black seeds cluster together.

On Kaua'i, the *S. freycinetianum var. pyrularium* variety also inhabited the dry and mesic forests. It grows as a tree and averages between 6 and 9 meters in height, and tops out at an elevation range of 333 meters. Unlike the previous variety, its leaves, while elliptical, don't droop. The tubes of the dull red flowers are constricted at the throat, and have rough endocarps. Its large seeds, nearly 2 centimeters long, appear as bulbs. On Lana'i and Maui, the *S. freycinetianum var. lanaiense* variety is a short, gnarled tree with large burly branches and stems loaded with fat, oblong, dark green leaves coursed with red veins. Averaging a little over 3 meters in height, this tree grows large red flower petals around 2 centimeters long. Fruits are absent from this variety that peaks at an elevation range of 910 meters. 112 *S. haleakalae*, which also grows on Maui, is a gnarled bush or tree between 4.5 and 8 meters high. Endemic to Haleakalā volcano, this species thrives as high as 2,427 meters above sea level in the dry, sub-alpine zone. Nestled amidst fat green oblong leaves, engorged ovarian clusters of scarlet flowers run riot at the end of its stiff, reddish twigs. *S. haleakalae* is exceedingly fragrant with a deep and rich, dark yellowish wood.

Each of these latter four species of Hawaiian sandalwood were referred to as *'iliahi* for the reddish hue of the leaves or flowers in full crimson bloom. All of the Hawaiian species were generally referred to as *'la'au'ala*, the "sweet" or "fragrant" wood.

II. Hawaiian Forest Clearings Prior to European Contact

Agriculture had the most profound influence on forest clearing in Hawai‘i prior to the arrival of Europeans in 1778. By forest clearings, I am broadly referring to both processes of forest modification and forest conversion. Forest modifications simply define land that is partially but significantly denuded of trees or underbrush. Forest conversions simply define land that has its forests entirely removed and converted into farming or pasture fields at best or barren wastelands at worst.

In Hawai‘i, there are three general types of forests: dry forests found primarily on the leeward lowlands, with the exception of Lana‘i, Kaho‘olawe and Ni‘ihau which were historically almost all dry forest; lowland and upland (montane) rainforests; and the mesic (mixed) forests that grow above the dry forests and below the rainforests on the lower mountain slopes. All of these, to some degree, were impacted by three broad periods of pre-contact forest clearings, all of which are modeled from reports of increased agricultural field growth. 113

The first period, or the “Early Clearing Phase,” (ECP) extends from the initial Hawaiian migrations from the Marquesas in 300 C.E. to the 12th century, when migrants from Tahiti arrived. The second burst of forest clearings occurred during the “Intensive Clearing Phase,” (ICP) or roughly from 1150 C.E. to the early 16th century, when large forests tracts were removed for agriculture. The third period, or “Diminished Clearing Phase,” (DCP) occurred from the early 1500s to 1778 when Captain Cook arrived, and represents diminished old growth forest clearings for new agricultural fields.

113 These phases of forest clearings are adapted from Thomas Dye’s article “Population Trends in Hawaii Prior to 1778,” in The Hawaiian Journal of History, Vol. 28, 1994, pp 1-20. Although my phases of forest clearings draw on Dye’s arguments of population growth and agricultural intensification, let me stress that in doing so I am not endorsing his assessment of the pre-European contact figures of Hawai‘i’s human population.
During the ECP, small patches of lowland forests were cut and burned in order to create industrious gardens. Charcoal and pollen records from archaeological and paleoenvironmental data give some inference of forest clearings in Hawai‘i during the first 800 years of settlement. According to the charcoal record, Hawaiians in the ECP were not widely using fire to burn forests to create fields for agriculture. According to the pollen record, however, the lowland canopies appear to have been on the decline towards the end of the ECP in the 11th century, just as agriculture was increasing, so significant cutting seems to have taken place.  

During the ICP, the population increased and so did their need to create more agricultural lands. Following Thomas Dye’s argument that higher concentrations of charcoal in Hawai‘i’s archeological record reveals more intense burnings of old growth forests, the ICP represents a significant alteration of lowland forest canopy. During this period, pollen counts reveal that certain types of forest plants like the loulu or fantail palm (*Pritchardia* spp.), which ranges between .6 and 11 meters in height and may have constituted a bulk of lowland forests, suffered enormously. Increased forest conversions of the dry lowland, leeward forests mark this second period of forest clearings from roughly 1150 C.E. to the early 16th century, but the extent of the amount of acreage this entails is not clear.

The Diminished Clearing Phase marks a decline in the amount of old growth forests cleared for agricultural production. From the early 16th century to the arrival of Cook in 1778, people primarily used older fields that had been cleared for agriculture. However,

---

114 Dye, pages 4-7.
this does not mean that Hawaiians did not cut or burn forests to grow crops. Dye has indicated that fewer amounts of charcoal found in this era reflect less intense burnings of old growth trees, and suggests that they were instead burning secondary forests for agriculture.

The sum total of Hawaiian forests cut or burned in order for people to survive is not known, but it amounted to a significant alteration of the lowlands, especially the dry forests below an elevation of 1,500 feet. Archaeologist Patrick Kirch argued that by the early 1600s, “probably 80 percent of all of the lands in Hawaii below about 1,500 feet in elevation had been extensively altered by the human inhabitants.”116 Using O‘ahu as base example, paleo-environmentalist J. Stephen Athens goes even further than Kirch to argue that almost 100% of the lowlands were severely altered. Athens said, “The lowland vegetation of O‘ahu was in fact completely altered from its original and pristine condition. And it has been this way since before the time Captain Cook arrived in Hawai‘i in A.D. 1778.”117

Thus when early European visitors came to Hawai‘i and described the land, they reported that native forests on the larger islands such as Kaua‘i, Hawai‘i, O‘ahu, Maui and Moloka‘i were located far away from the coasts. Members of the Cook expedition even noted that the dry forests of Lana‘i, Kaho‘olawe and Ni‘ihau were almost entirely cleared.118 These transformations of land, while immersed in local power arrangements, were done in order to ultimately feed people in a sustainable and egalitarian way.

117 Athens, pages 250-251
Hawaiian’s *ahupua'a* land tenure system—land divided into approximate pie-shaped wedges stretching from mountain to ocean—were designed so that all the people who lived within them had access to upland, lowland and ocean resources. Unlike the sandalwood era and the periods of forest destruction in Hawai‘i that ensued in 19th and 20th centuries, these early phases of forest clearings were not done according to the stimulus of global markets. Unlike the periods of post-contact forest destruction, there are no written sources from the early phases about the amount or types of wood cut to help comprehend the connections between forest loss and shifting social power. According to Stephen Athens, even sandalwood pollen is difficult to trace in the early record.119

**III. Piculs and Power**

According to the Encarta World English Dictionary, a picul is a Malay word from the 16th century that alludes to a load or general measurement of 133.3 pounds. Its usage with sandalwood in China probably arose in the 16th and 17th centuries from increased contact with Malay, Dutch and Portuguese sandalwood trading vessels. The presence of Europeans in Southeast Asia in the 16th century did not lessen the participation of Malay, Javanese or other Southeast Asian ships in the historic trade ecumene throughout the islands and mainland of Asia: Southeast Asian ships continued to exchange sandalwood in China and consume it locally. Dutch shippers helped spread the word and the concept of a picul too when they began trading in Southeast Asia, but the Portuguese certainly moved it in their vernacular. In 1515, the Portuguese were so enticed by a vibrant local sandalwood trade on Timor that they initiated colonization there in order to trade the trees themselves at Macao and Canton. American and British merchants trading in China learned of the picul measurements and passed it on to Hawaiians when they began

exchanging sandalwood from 1811 onwards. Sandalwood was not the only good measured in piculs in Canton. Opium, for example, was measured in piculs.

Picul counts of sandalwood logs are some of the strongest pieces of evidence for measuring the extent of early colonial deforestation in Hawai‘i, which will aid the larger project of understanding global deforestation. One of the best sources of sandalwood picul counts in Canton from the early 19th century comes from Charles Gutzlaff, a missionary who visited China the early 1830s and authored an in-depth chronicle of Chinese history, culture and trade. Many look to Gutzlaff’s fourth appendix in the second volume to gauge the amount of sandalwood lumber cut in Hawai‘i. This appendix (See Table 1) lists goods imported by American ships in Canton between 1804 and 1832. This list has been used to argue that the sandalwood trade was flourishing in Hawai‘i as early as 1804. However, there are major flaws with this list in terms of its application to Hawai‘i. The figures from the period to 1804 to 1811 entail all American ships, which included sandalwood traders coming from Vanua Levu; the figures from 1811 to 1820 also include American ships coming from the Marquesas. Gutzlaff did not note the names of the vessels that imported the goods, which problematizes piecing together which ships came from where.

Other appendixes in Gutzlaff that depict the consumption of sandalwood in Canton and matters of localized power in Hawai‘i further complicate the meaning of this chart in terms of measuring the amount of 'iliahi cut in Hawai‘i. Appendixes two, three, six, seven, eight, nine, ten and eleven chronicle picul counts from British ships or those that flew the Union-Jack from 1813 to 1834, respectively. They collectively depict private merchants, those flying the British flag and the East India Company.
### Sandalwood Picul Counts from Charles Gutzlaff

**Appendix IV: American Imports to Canton 1804-1832**

<table>
<thead>
<tr>
<th>Years</th>
<th>Sandalwood Piculs</th>
<th>Sandalwood Piculs Converted to Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1804-1805</td>
<td>900</td>
<td>119,970</td>
</tr>
<tr>
<td>1805-1806</td>
<td>1,600</td>
<td>213,280</td>
</tr>
<tr>
<td>1806-1807</td>
<td>2,700</td>
<td>359,910</td>
</tr>
<tr>
<td>1807-1808</td>
<td>2,000</td>
<td>266,600</td>
</tr>
<tr>
<td>1808-1809</td>
<td>4,800</td>
<td>639,840</td>
</tr>
<tr>
<td>1809-1810</td>
<td>1,815</td>
<td>241,936</td>
</tr>
<tr>
<td>1810-1811</td>
<td>496</td>
<td>66,117</td>
</tr>
<tr>
<td>1811-1812</td>
<td>11,261</td>
<td>1,501,091</td>
</tr>
<tr>
<td>1812-1813</td>
<td>19,036</td>
<td>2,537,499</td>
</tr>
<tr>
<td>1813-1815</td>
<td>1,100</td>
<td>146,630</td>
</tr>
<tr>
<td>1815-1816</td>
<td>2,500</td>
<td>333,250</td>
</tr>
<tr>
<td>1816-1817</td>
<td>7,400</td>
<td>986,420</td>
</tr>
<tr>
<td>1817-1818</td>
<td>15,825</td>
<td>2,109,473</td>
</tr>
<tr>
<td>1818-1819</td>
<td>14,874</td>
<td>1,982,704</td>
</tr>
<tr>
<td>1819-1820</td>
<td>100,073</td>
<td>13,339,731</td>
</tr>
<tr>
<td>1820-1821</td>
<td>6,005</td>
<td>800,467</td>
</tr>
<tr>
<td>1821-1822</td>
<td>26,822</td>
<td>3,575,372</td>
</tr>
<tr>
<td>1822-1823</td>
<td>20,653</td>
<td>2,753,045</td>
</tr>
<tr>
<td>1823-1824</td>
<td>8,404</td>
<td>1,120,253</td>
</tr>
<tr>
<td>1824-1825</td>
<td>7,438</td>
<td>991,485</td>
</tr>
<tr>
<td>1825-1826</td>
<td>3,097</td>
<td>412,830</td>
</tr>
<tr>
<td>1826-1827</td>
<td>6,680</td>
<td>890,444</td>
</tr>
<tr>
<td>1827-1828</td>
<td>13,265</td>
<td>1,768,225</td>
</tr>
<tr>
<td>1828-1829</td>
<td>18,206</td>
<td>2,426,860</td>
</tr>
<tr>
<td>1829-1830</td>
<td>10,807</td>
<td>1,440,573</td>
</tr>
<tr>
<td>1830-1831</td>
<td>9,750</td>
<td>129,968</td>
</tr>
<tr>
<td>1831-1832</td>
<td>1,400</td>
<td>186,620</td>
</tr>
<tr>
<td>1832-1833</td>
<td>5,600</td>
<td>748,480</td>
</tr>
</tbody>
</table>

Total=324,507  Total=43,256,783
British, but not Australian, ships did purchase sandalwood in Hawai‘i, so these figures arguably reflect some portion of ‘iliahi, however minor. The majority of sandalwood British vessels brought, especially the East India Company, were from India but comparative research would undoubtedly shed light on the amount of ‘iliahi cut in Hawai‘i. Of course, not all vessels from Hawai‘i took wood to Canton: at times a small number of ships ventured to Macao and Manila. British or other foreign ships might have purchased Hawaiian sandalwood or even their “billetes,” or chunks of wood, in Macao and Manila and traded it in Canton. Granted, the majority of ships leaving Hawai‘i with ‘iliahi were bound for Canton. But does this mean that Gutzlaff’s figures still reflect an accurate portrayal of the amount of sandalwood cut in Hawai‘i? What about the figures that reflect sandalwood coming from Fiji and the Marquesan from 1804 to 1820? More poignantly, what should the piculs be asked to reflect? The answers to these questions are two-fold, and should start with the latter.

For my purposes, piculs should as accurately as possible reflect interrelationships between colonial encounters, shifting Hawaiian social power and environmental degradation in Hawai‘i. But Gutzlaff’s piculs only go so far in doing that. Given the science of sandalwood, one might be able to create a model weight of an average Hawaiian (or Fijian and Marquesan) sandalwood tree. One might look Gutzlaff’s list of piculs, multiply them by 133.3 to create a list of pounds and then divide that sum with the average weight of a sandalwood tree to calculate the number of trees cut. By inference, one could then average canopy coverage and the acreage involved in the deforestation.
This would certainly aid an understanding of a general pattern of global deforestation in the early modern era. But in terms of Hawai‘i, what is the purpose of entertaining this notion if there are no solid place references in Gutzlaff with which to map an acreage figure? Furthermore, as will be illustrated momentarily, generating such a database would have to ignore the fact that piculs were often from different parts of the tree, including the smaller limbs, not just the heartwood, and reflected specific negotiations and moments in the trade. Species diversity also cannot be inferred from Gutzlaff because clearly a 9 meter specimen of *S. freycinetianum* on O‘ahu or Moloka‘i would produce less wood than *S. paniculatum var. pilgeri* which grows over 18 meters high in Kona on Hawai‘i. Wood from various locations was often mixed on the holds of ships or circulated and sold by different merchants to one another. As Stephen Reynolds once noted of James Hunnewell:

He did not keep the wood separate, but sent it off promiscuously with his other wood.120

Gutzlaff is, nonetheless, useful for giving insight into raw figures and clearly reflects periods of general ebbs and flows. But until a better list that links piculs from specific Hawaiian places and exact ships arriving in Canton is drafted, his work is of limited value for mapping deforestation and social power arrangements in Hawai‘i. The next section hopes to suggest such a model by looking where, when, and how ‘iliala was cut in the islands. Where possible, it will even discuss which species of sandalwood were removed.

**IV. Islands of ‘Iliahi, Sandalwood Mapped**

Historical Hawaiian chants have left snapshots of references to the places where ‘iliala grew prior to the arrival of Europeans. In his book of Hawaiian myths and legends

King David Kalakaua relayed a story about Kamapua'a, an evil ali'i who took the form of pig. In one legend, after stabbing the king Olopana during a ceremony in Hauula, O'ahu, Kamapua'a, “rushed from the temple, fled along the coast to his well-known valleys, climbed the steep precipices and rejoined his grandmother and his followers. Leading his band of rough robbers down through the sandalwood forests of the Wahiawa region, he crossed over the plains to the Waianae [mountains].”

Although this legend about sandalwood forests in Wahiawa is not grounded into a specific time frame, it is spatially relevant and also suggests that despite pre-contact clearings, there might have been forests stands heavily laden with 'iliahi on the lower slopes of the Ko‘olau’s leeward range and the Leilehua plains when Hawaiians and Europeans encountered one another.

'iliahi has also been mentioned in certain chants about the sun god Māui. According to myth, Māui ascended Haleakalā volcano to capture the sun and slow its rotation around the earth down so people could grow their crops. Some versions of the legend say that Māui was “told by the 'alae 'ula (Hawaiian mudhen) to rub together sticks of 'iliahi, meaning ‘fire bark,’ to produce fire.” The connection of Māui with 'iliahi opens up images of S. haleakale growing on the sub-alpine slopes of Haleakalā volcano.

On Kaua‘i, references to sandalwood are to be found at Waimea river at the mouth of the Waimea Canyon. Waimea, which means reddish water, takes its name from the dirt-run off from the canyon and the chemical content of the organic matter that falls in the river. Consequently, Waimea was called “Wai‘ula 'iliahi” in many chants, which

---

means red sandalwood water. *S. freycinetianum var. pyrularium* was abundant in Kaua‘i and a lot of it was taken from Waimea during the sandalwood era, so this geographical reference is telling.\(^{123}\)

These three brief snapshots hint at a deeper web of chants that could help locate where sandalwood was growing before the exchange. Regrettably, that is beyond the scope of this research. Fortunately, there are direct references during the sandalwood era that help map out the places where the wood was cut.

Before giving more details about the places that were logged, it should be recalled that there were several stages involved in the extractions: labor was needed to locate the trees, cut them down, prepare them, transport them to the beaches or royal storehouses (some of which were in lava tubes), weigh and deliver them to either awaiting ships, or other nodes of shipment. This last point refers to logs, say, coming from Waimea, Kaua‘i or Kawaihae, Hawai‘i, and being shipped to Honolulu for export. On O‘ahu, ports from Waimea to Waialua to Waianae to Barber’s Point to Pearl Harbor often shipped sandalwood to Honolulu before it left for Canton.

The first stage of labor, locating the trees, varied from place from place throughout the trade, and will be discussed with specific cases momentarily. The second phase of labor was also contingent upon place due to factors of time and distance, but, generally speaking, the chopping was made easier by metal saws and axes. From 1811 to 1827 the work would have been supervised by ali‘i and or konohiki; after 1827 not all logging may have been supervised by ali‘i or konohiki, as will be discussed later.

Because the most valuable part of tree, the oil producing heartwood, was encased in the trunk soil, the lower portion had to be dug out and sawed. There is a paucity of

reports about the actual procedure of logging for Hawai‘i, but an account from Fiji noted that they would cut "down the trees as close to the ground as possible... the tree being thus sawed, after all the bark and sap should be shaved off, it would have the heart part of the diameter of about one and quarter inches." Historian James R. Gibson has pointed out that an anonymous source onboard the Russian ship Blagonamerenny that visited Hawai‘i in the late teens or early 1820s said that sandalwood was cut with a saw, not an ax, in order to avoid wasting the chips. Preparation involved precise measurements by cutting the "body and limbs to proper lengths of between four and five feet, and then shave off, with the drawing knife, all the bark and sap." The length and width of the piculs varied, but it seems that they attempted to make each load weigh no more than 133 pounds, more or less. The firm of Bryant and Sturgis desired logs from ten to twelve inches in diameter and from "four to five feet long" in 1817. Gibson said that a Russian source noted that a picul was a "log measuring seven feet in length and five and one-quarter inches in thickness." A later report stated:

The trees were felled in the woods, cut into logs from three to four feet long, [and] the sapwood hacked off.

Once the piculs were measured, ostensibly, in the lua moku ‘iliahi pits, the loads were prepared for transportation to the shoreline. Wood was strapped to people’s backs with either rope or ti-leaves. J.M. Lydgate wrote, "The loads of wood were carried on the back by means of haawe packing gear, corresponding to the tump gear of the north west

126 Gibson, 254-255; Citing Bryant and Sturgis to Clark, December 1, 1817, Bryant and Sturgis Papers; and ‘Blagonamerenny,’ page 224.
Indian, the pack rope passing over the shoulders, and under the arms, after the manner of the knapsack gear, the most practical of all ways of carrying a load if you must carry one, and those who were used to this method could carry very heavy loads for very long distances, 135 pounds being considered the limit of the load.\textsuperscript{128} Once loaded, "they then shouldered it, and all in Indian file proceeded down the mountain."\textsuperscript{129} Both the distances traversed and the labor used to transport 'iliahi to the ships are best discussed with contextualized cases.

The Kamehameha I period from 1811 to 1819 has the least number of sources to aid in the construction of the forest extractions, but a few do exist. On O'ahu, the hills behind Honolulu had accessible stands of sandalwood that were not far from the harbor. Biologist Harold St. John said that:

sandalwood originally extended the length of the [Koʻolau] mountains and occurred on all the ridges behind Honolulu....To supply the sandalwood trade, the large population of Honolulu would naturally seek the trees on the nearest accessible ridges, which were those behind the city.\textsuperscript{130}

To the southwest of the Koʻolau Range, Francisco De Francisco De Paula Marin, one of Kamehameha's foreign advisors, was given land where Waimalu stream flows into Pearl Harbor: sandalwood was harvested here during the years leading up to Kamehameha's death. Biographer Ross H. Gast noted that Marin's lands were next to "large areas of forested land where sandalwood was cut" at the Waimalu tributary "which flowed into Pearl Harbor."\textsuperscript{131} As was mentioned earlier, in 1812 on Hawaiʻi

\textsuperscript{129} Fanning, pages 61-63.
\textsuperscript{130} "This History, Present Distribution, and Abundance of Sandalwood on Oahu, Hawaiian Islands" by Harold St. John, in Pacific Science, Vol., No. 1, January 1947, pp 5-20. Page 15.
Kamehameha I sent men into the “mountains of Kona and Ka‘u to cut sandalwood” and “others” to carry “the wood to the landings of Kona and Ka‘u as well as Kohala and Hamakua.” Kamehameha I then ordered the ali‘i “to send out their men to cut sandalwood” across the archipelago. A member of Kamehameha’s court and later Hawaiian historian, John Papa ʻi, said:

When it was learned that ʻiliahi was the wood in demand, [in Canton] the mountain forests of these islands were diligently searched for it. In fact, the time of most of the men was taken up with the cutting of sandalwood for trade in China.

As was mentioned in chapter one, the Winship brothers and Davis tried to get some wood from Kaua‘i in 1814, so some logging was occurring there under Kaumuali‘i. The War of 1812 lasted until 1814 and sandalwood logging lulled during this time and did not resume until 1815. ʻi said that in 1817 upon Kamehameha’s “return to Kamakahonu [in Kailua-Kona] Liholiho saw that the king was lonely without his men, all of whom he had sent to South Kona to cut sandalwood.”

In 1818, V.M.Golovnin visited Waimea, Kaua‘i and remarked: perhaps there is not much more of it [ʻiliahi] here than on the other islands, but, due to the location of the mountains where it grow, it is much more accessible.” According to Gibson, an anonymous Russian source also commented about sandalwood around this time. Gibson said “The best [quality] grew on Oahu, Maui, and Kauai and the most on Hawaii but it was inferior.” Because sandalwood produces more oil in drier

132 Kamakau, Ruling Chiefs, page 204.
134 Ibid, page 139.
136 Gibson, page 254.
environments, this statement suggests that the wood in this period on O‘ahu, Maui and Kaua‘i was of “high quality” and hence at a lower elevation, below the rainforests. On Kaua‘i S. freycinetianum var. pyrularium was easier to access and was of “good quality” near Waimea and the surrounding mesic slopes. It terms of maka‘ainana labor, it may have been easier and faster to tap into local stands to transfer logs to the shores of Kaua‘i. The “more accessible” trees could also reflect a lack of logging. On Maui, it isn’t clear if the species Gibson’s source alluded to were either S. haleakala or S. freycinetianum var. lanaiense or both. Because S. haleakala grows at a higher elevation, it is probable that the reference concerns S. freycinetianum var. lanaiense which may have still been abundant on the lower mountain slopes. Implications for maka‘ainana labor on Maui at this time are not clear. S. freycinetianum var. lanaiense is a smaller tree and may have been easier to fell, which may have reduced the overall time of the expeditions. Then again, we don’t know how many trees were cut down on Maui during the Kamehameha I period.

On Hawai‘i the trees S. paniculatum var. paniculatum and S. paniculatum var. pilgeri, “were more abundant but of poorer quality.” But what does this mean in terms of the labor needed for extraction? Both varieties grew in lava fields, dry forests, cinder cones, and high-land wet forests as either shrubs or trees. Does “poorer quality” refer to the fact they were only shrubs or small trees on the lowers slopes or the fact that they grew at higher elevations with more precipitation and thus had less amounts of oil? The latter case seems to be more plausible because Kamehameha I was sending people to Kona and Kau in 1812 and South Kona in 1817: S. paniculatum var. pilgeri is endemic to the montane forests of Kona and grows more than 18 meters in height. In this sense, the
southern Hawai‘i logging campaigns may have involved more labor to climb the slopes and reach the trees, but less to locate them. Sawing and preparation may have taken longer due to the size of the trees, but the maka‘āinana would have had had to cut fewer specimens of ‘iliahi to get high picul counts.

On O‘ahu, the “better quality” of sandalwood seems to refer to *S. freycinetianum var. freycinetianum*. Like the other islands during the Kamehameha I period, there are a few references that help tease out specific places where cutting occurred on O‘ahu. On December 30, 1817, Marin wrote that near his vineyard next to Nuuanu stream in Honolulu, “Craymocu [Kalanimoku] ordered all the trees near my vineyard to be seized.” On February 27, 1818 at the Waimalu stream “Mr Pit [Kalanimoku] was carrying sandalwood to the mouth of the river” at Pearl Harbor. On March 10, 1818 Marin noted that the “Minister [Kahalai‘a, a nephew of Kamehameha] went to Pearl River for sandal-wood.”

This connection with the Waimalu stream at Pearl Harbor reflects more than just the immediate stands of ‘iliahi that were cut there. John Papa I‘i articulated a sense of the trails that crisscrossed the leeward side of the Oahu (See Map 1). These trails connected the Pearl basin with all parts of the island, especially the southern Waianae range. Ecologist Barbara Frierson noted that there were thick stands of ‘iliahi in the Honouliuli ahuwua ‘a of the Ewa moku, in the southern Waianae mountains. Frierson said there were probably “dense stands of sandalwood down to [an elevation] of 300 feet” mixed in an “open forest or savanna of wiliwili and ohe” before the trade began. This

---

137 Gast, page 221. December 30, 1817.
138 Gast, page 223. February 27, 1818
139 Ibid. March 10, 1818
does not mean that the sandalwood coming out of Waimalu stream at Pearl Harbor was
coming from the Southern Waianae range at this time. However, connections between
mountain sources of sandalwood and port nodes of exchange and transportation were,
ostensibly, becoming increasingly linked together along these older leeward trails that I‘i
recorded on O‘ahu. For example, I‘i said of the Kumaipo trail on leeward O‘ahu:

It was customary to have dwelling places along the mountain trails that
led downward from here [Puu Kawiwi] here into Kamaile, as well as
along the beach trail of Makaha. There were many houses at Makaha,
where a fine circle of sand provided a landing place for fleets of fishing canoes.
The trail which passed by this sandy bar was the one from Puu o Kapolei,
which had joined the beach trail from Puuloa and from Waimanalo. It then
went along the shore all around this island.\textsuperscript{141}

Waianae is only a few miles from Kamaile, and was a significant sandalwood export
node in the 1820s: thus harbors and mountain forests were easily linked. During the
Kamehameha I period certain port or harbor landings such as Waimea on Kaua‘i, Pearl
Harbor and Honolulu on O‘ahu, and Kailua and Kawaihae on Hawai‘i seem to have been
the main nodes for taking sandalwood for loading. Other landings across the islands,
such as Lahaina and Makena, which didn‘t really flourish as commercial centers
until the 1830s with the whaling fleets, may have been minor sandalwood shipment
centers at this time, but this too is speculation.

\textsuperscript{141} Ii, page 97.
Map 1.

Trails of leeward Oahu as described by li. Map by Paul Rockwood.
The collective references to places where sandalwood cutting was conducted between October 1811 and May 1819 give a faint sketch of the complex network of extraction. The labor that the maka‘āinana exerted during this time was done according to Hawaiian cultural practices of reciprocity. They were not working for money nor for the exchange of goods, although it appears that Kamehameha I made payments during the first rush in 1812. Because the ali‘i and maka‘āinana were not permitted to trade ʻiliohi due to the kapu Kamehameha I enacted that limited logging and protected younger trees, because most of the wood appears to have been at lower elevations, this period of sandalwood exchange and extraction seems to have been conducted stably—despite the famine of 1812.

Following Kamehameha’s death on May 8, 1819, an order was issued by the royal family from Hawai‘i that placed a kapu on sandalwood that seems to have been aimed at stopping cutting. Marin wrote from O‘ahu on May 20, 1819:

In the morning arrived the schr [schooner] San Martin proceeding from Vaji [Owhyee or Hawai‘i], with order to tabu the dogs, hogs & sandal wood and to plant ‘tapa fis’ [Mulberry trees].’’

References in Marin’s journal do not mention sandalwood logging for another year and a half, as will be shown momentarily, and confirm Charles Bullard’s comment that “little if any wood has been cut since the King’s death, until the present season” of 1821. In the meantime, later that year in 1819, Louis Claude de Saulses de Freycinet, a scientific explorer and commander of the Uranie, arrived in Hawai‘i and began to classify plants, people, geography and history. His name was assigned to the classificatory term for sandalwood: S. freycinetianum. He briefly said of sandalwood “it

---

142 Gast, page 231, May 20, 1819.
143 Bullard, October 25, 1821.
seems that several species of sandalwood are found here, and the indigenous names—*iē ara* and *iloa'ahi*—that are still used to designate this wood would appear to confirm this fact; the tree grows abundantly on the mountains of the Sandwich Islands.”

Also in 1819, Charles Gaudichaud, whose name still is assigned to certain taxonomical references of Hawaiian sandalwoods, followed Freycinet’s visit, but gave a more detailed account of *'iliahi*. He used Hawai‘i, Maui and O‘ahu to create a composite sketch of specific eco-zones, flora and fauna. He remarked that in the shoreline zone both invasive and native flora were growing with *'iliahi*. He noted:

One finds also, and with profusion, melons (matiana), watermelons (ibou-aore) [ipu-haole], pumpkins, calabashes (ibou) [ipu]... several stalks of vines, introduced a few years ago, have been cultivated here with success; onions (aka kage) ['aka 'akai], garlic (aka kage- péou) ['aka 'aka-pilau], sweet potato (oula) ['uala], yams (oufi) [uhi], the pimento (niō-i) [ni oif]... tobacco (pak) [paka], as well as the turnip, the cabbage, etc. which now grow in the shade of the breadfruit and the sandalwood.

In the mountains, Gaudichaud said that as he moved beyond the zone where sandalwood was abundant and up into the cloud zone he “suffered cruelly from [the] change of temperature.” He doesn’t say what island he experienced this on, but does note that his Hawaiian guides also suffered. Once past the upper reaches of the sandalwood stands:

The guides, who, with the hope of a light payment, attached themselves constantly to my steps, refused to accompany me any longer; it was only through much trouble and glowing promises that I succeeded in persuading the most intrepid of the troop to endure longer with me the wet cold which enveloped us. The abundant collection with which we quickly loaded ourselves, the chest pains, with cramps in the kidneys, the benumbed and truly pitiable look-

---

146 Ibid, page 10
-of my companion, the frigid air, all forced me soon to quit an area in which I stayed too long for my health, but not long enough for science.”

He also noted that the awapuhi ginger plants were used to help alleviate influenza. The flowers of awapuhi, “furnish a viscous sap, aromatic, very sugared, employed with success against influenza to which the people who inhabit this mountainous region are continually exposed.”

Gaudichaud’s record serves as a metaphor for the condition of sandalwood in 1819: ‘iliahi a-lo’e on the coasts were evident, but the wood was primarily logged where it was more valuable – and abundant – in the mesic zones of Kaua‘i, O‘ahu, Maui and Hawai‘i; proceeding to the upper edges of the sandalwood stands that overlapped with the montane rainforest and cloud zone could spell health troubles for those logging. Whatever profitable wood there was on Lana‘i, Kaho‘ohlawe and Moloka‘i was probably taken out by 1819. Medicinal plants like awapuhi could be used to help remedy diseases like influenza, but how effective would they prove against other diseases like pneumonia, syphilis, or cholera? The next burst of logging in the early 1820s seems to have pressed into the rainforest zone in certain places; the maka‘āinana encountered hardships if they pressed too high when it was wet and cold.

The abolition of the kapu system, which included restrictions on ‘iliahi as of early January 1821, and the subsequent opening up of the trade to the ali‘i ushered in a period of intensified labor demands on the maka‘āinana and put stress on Hawaiian eco-systems. Marin wrote that on January 22, 1821 “Craymocu [Kalanimoku] gave me orders that Poqui [Boki] should land & take all the wood in Neaju.” The location of “Neaju”

---

was not very specific but may have alluded to Ni‘ihau. The location is a moot point, but
the emphasis of taking “all the wood in Neaju” is suggestive that certain ali‘i were
moving away from the concept of malama ʻaina or care for the land in order to trade
ʻiliahi to purchase foreign goods for their own personal mana.

On February 5, 1821 Kaumuali‘i “arrived [in Honolulu] with 800 piculs of sandlud
[sic]” from Kaua‘i. The precise size of these Kaua‘i piculs is not certain, but on April
30, 1821 Marin commented that he had sold “280 piculs of 2 ½ feet long for $55.” In this is new period of logging, demand increased for goods to extract ʻiliahi. Bullard
wrote on Oahu on March 20, 1821:

The best articles of Hardware are Jack Knives, Axes, X-Cut Saws,
Small Adzes or a similar tool to sap wood with.

These purchases reflect what the ali‘i and konohiki were buying in addition to the
types of luxury items mentioned in chapter two. It might also reflect, in a minor way,
what the maka‘ainana desired in order to reduce the amount of labor they put into
cutting. Bullard also pointed out in 1821:

After the Barge and Thaddeus were bought [in 1821], the Great Chiefs
were ordered to cut 800 peculs [sic] each for payment, and then as
much for themselves – The Petty Chiefs – Head Men – Canakas —
[also cut independently] and it has been in consequence of this
couragement that so much has been cut.

It is unclear to what extent the makaʻainana “willingly” participated in this cutting, but
their close inclusion in a discussion that highlights the possibility that they were
permitted to take cuttings, however minor, hints at some shades of voluntary agency or at
least small payments to a few people for hard work. And 1821 was a hard year of work.

150 Ibid, February 5, 1821
151 Gast, page 249, April 30, 1821
152 Bullard, March 20, 1821
Bullard wrote in his letter book that 5,500 piculs came from Kaua‘i on April 30, 1821; 800 arrived from Kaua‘i on July fourth; 26,000 piculs were cut on O‘ahu by October 2, 1821; from Waimea, Kaua‘i another 4,000 arrived from Kaua‘i on October 2, 1821. Part of the reason for the high volumes of ‘iliahi taken from O‘ahu has to do with the extra laborers brought from Maui to help log. The Russian Vasilyev in 1821 claimed that Liholiho brought 5,000 men to log ‘iliahi but was initially “unmindful as how they should maintain [provide for] themselves.” Despite this boom, Bullard wrote a letter of caution to Bryant & Sturgis. The letter said:

You must not calculate that 20,000 peculs [sic] are to be cut on Woahoo [sic] every year by any means—It is impossible to form any estimate of the wood growing on that Island [O‘ahu] but I should think it must become scarce by & by. There is no doubt a great quantity standing on Owhyee, but the trouble of getting it is much greater than Woahoo.

Obtaining ‘iliahi on O‘ahu may have been easier than on Hawai‘i in 1821, but certain types of sandalwood were impacted more so than others. George Bennet (or Bennett) was on O‘ahu in 1821 on a world tour with the Reverend Daniel Tyerman. Bennet later published a report about his observations of Hawaiian sandalwood. Bennet said:

At the Sandwich Islands, the tree is named iliahi … and when young it is of very elegant growth. At Wouhala (Island of Oahu), I observed numbers of young trees, some of which are covered by a profusion of beautiful flowers of a dark red colour; the flowers, however are often observed to differ in colour on the same tree, and even on the same stalk; they grow in clusters, some having the corolla externally of a dark red colour, and internally of dull yellow; others having it entirely of a dark red, and others again have the corolla partly red and white externally; the young leaves are of a dark red colour, and give an elegant appearance to the tree. two varieties of the wood are observed by the natives, depending, however, on the-

---

154 Bullard, April 30, July 4, October 2, 1821
156 Bullard, page 25, October 25, 1821
-age of the tree; the young or white wood is called lau, keo keo (lau wood, keo keo white); and the red wood, lau, hula hula (lau wood, hula hula red). As before stated, the wood, when taken from a young tree, is white, containing but a small quantity of oil; as the tree increases in growth, the wood becomes of a yellowish colour, and the oldest and best is of a brownish red colour.157

St. John deduced that the “Wouhala” Bennet spoke of was “Pouhala” on the Leilehua plains between the Koʻolau and Waianea ranges, just one mile south modern day of Schofield Barracks158—not far from the sandalwood forests in Wahiawa of the Kamapuaʻa legend. Bennet’s passage illustrates that coastal sandalwood was “abundant on the hills” near the Leilehua plain but that he only saw “numbers of young trees” with scarlet flowers—S. freycinetianum var. freycinetianum. Given Bennet’s and even Guadichaud’s writings, it seems S. freycinetianum was the dominant tree traded on Oʻahu. Pre-contact forest clearings notwithstanding, the Leilehua plain must have provided a significant amount of ‘iliahi and factored into Bullard’s remark that it was easier to secure on Oʻahu than it was on the Big Island.

The apparent difficulty of procuring ‘iliahi on Hawaiʻi may have been caused by pre-contact forest clearing of the lowlands and Kamehameha’s cuttings. But what did this mean in terms of makaʻāinana labor in the early 1820s? According to a letter from June 24, 1823, the supervision of extractions on Hawaiʻi were overseen by aliʻi or konohiki sent from Oʻahu. John Adam Kalua, or Kuakini, the brother of Kaʻahumanu and Keʻeaumoku II, the governor of Hawaiʻi, received a letter from another brother, John Paʻaulua, that said:

I love to you very day. This is my communication to you. Here are our men coming to you to cut Sandal wood in Hamakua. They are to go to Hamakua to cut the wood. 1st is Mahi, the 2nd. Kaua, the 3rd, is Kai, the 4th, is Upai, the 5th, is Kanae, the 6th is Kainea, these are the men. My whiteman, the blacksmith-

-will be the one in Puna to cut Sandal wood.159

This is not to say that these men were going to cut all of the wood alone. Rather, they were going to oversee the extractions in general and cut. Not only were the “whiteman” there to oversee extraction:

Here is another thing I wish to inform you. Our whitemen are coming to you to shoot cattle in Waimea (Hawai‘i); they are to shoot the heads, the 1st whiteman is the Blacksmith and the second whiteman is the cooper, they are to shoot the cattle. The Blacksmith will do the shooting and the cooper will do the salting and is to bring the beef back to me.160

The presence of outside ali‘i, especially armed haoles who were slaughtering cattle, would have added to the sense of pressure and coercion for the collection of ‘iliahi in Hamakua and Puna, but the question of how much time and muscle was involved in this process is unclear. The best source for understanding the time and muscle involved in ‘iliahi logging on Hawai‘i comes from the journal of William Ellis. Ellis, along with Asa Thurston, Artemas Bishop and Joseph Goodrich, trekked across Hawai‘i in the summer of 1823. During one excursion from Hawai‘i to Lahaina, Maui in the summer of 1823, Ellis struck up a conversation with some ali‘i and asked them why they did not spend more time with the bible. He wrote their response:

If we (meaning all those that had the care of the king’s lands) were to spend our time at our books [bibles], there would be nobody to cultivate the ground, to provide food, or cut sandal wood for the king.’ I [Ellis] asked them what proportion of their time was taken up in attending to these things? They said they worked in the plantations three or four days in a week, sometimes from daylight till nine or ten o’clock in the forenoon; that preparing an oven of food took an hour and that when they went for sandalwood, which was not very often [my italics], they were gone three or four days, and sometimes as many weeks.”161

159 John Paalu to John Adam Kalua, Oahu, June 24, 1823. Foreign Office and Executive files, Kingdom of Hawaii, Archives of Hawaii, Honolulu.
160 Ibid, June 24, 1823
Given that ali‘i and/or konohiki were overseeing the labor of the maka‘āinana during these logging trips, we can assume that this schedule pertained to both classes.

Sandalwood logging was, moreover, in 1823, infrequent, only lasting a few days.

Although Kamehameha I was dead, in 1823 the logging was done according to his balanced measures of extraction: farming was to precede logging. Within this schedule of infrequent logging in 1823 it seems that campaigns of several weeks were exceptions. The comment that 3-4 week expeditions occurred “sometimes” may have been a reference to the logging trips of 1821 and 1822.

Back on the windward side of Hawai‘i, Ellis captured one leg of ‘iliahi logging: mountain to shore hauling. At Waiakea he observed:

During the same journey we overtook [encountered] Maaro, the chief of Waiakea, and three or four hundred people, returning with sandal wood, which they had been cutting in the mountains. Each man carried two or three pieces, from four to six feet long, and about three inches in diameter. The bark and sap had been chipped off with small adzes, and the wood appeared lighter in colour than what is usually sold at Oahu, probably from it having been but recently cut down. The sandal wood is the same as in the East Indies, and is probably the santulum album. * It is a tolerably heavy and solid wood, and after the sap, or part next to the bark, is taken off, is of a light yellow or brown colour, containing a quantity of aromatic oil. Although a plant of slow growth, it is found in abundance in all the mountainous parts of the Sandwich Islands, and is cut in great quantities by the natives, as it constitutes their principal article of exportation. It is brought down to the beach in pieces from a foot to eighteen inches in diameter, and six or eight feet long, to small sticks not more than an inch thick and a foot and a half long. 162

This passage portrays the diversity of the sizes that ‘iliahi was cut into and the inherent problem of recasting how many piculs constituted a tree. Although Ellis may be right about the wood being of a lighter color because it was recently chopped, it more

* Incorrect, *s. album* is not endemic nor was it planted in Hawai‘i at this time.

162 Ellis, 214-215
than likely reflects more moisture in the wood, and therefore either a higher elevation of extraction or an area with more rainfall. The logs the men carried were long, but puny in diameter. By deduction, there may have been more labor to find the wood at the higher elevations, they may have been more susceptible to colder air, but the wood they each carried may not have constituted a full picul. Assuming that Lydgate is correct and that each load they carried constituted no more than 135 pounds, then each person would represent a picul: they may have been carrying between 300 and 400 piculs. This particular extraction seems to have involved lighter wood, but other logging ventures at this same time in the north were dealing with heavier wood. Ellis encountered one such extraction to the north at Waipio.

After “leaving Maaro, we returned through a highly cultivated part of the district” as they approached and arrived at Waipio.¹⁶³ At Waipio, Ellis and his party met with the Haa, a village ali‘i, and ate dinner in his hut. Their “fish was prepared for super by a fire of sandal wood, which, instead of filing the house with disagreeable smoke, perfumed it with a fragrant odour.”¹⁶⁴ Although sandalwood had been historically used as firewood, by 1823 it was a symbol of wealth and was displayed as such. The burning of sandalwood may also have been a subtle invitation to initiate a discussion about trade; which was clearly going on. The next day Ellis wrote:

During the afternoon great numbers of men belonging to the valley [of Waipio] returned with loads of sandalwood, which they had been cutting in the neighbouring mountains [Kohala]. The wood was much superior to that which we had seen at Waiakea, being high coloured, strongly scented, and sometimes large in pieces nearly a foot in diameter.¹⁶⁵

¹⁶³ Ellis, page 222.
¹⁶⁴ Ellis, page 254.
¹⁶⁵ Ellis, page 261
The number of men that conducted this extraction is not known, but they more than likely traversed the steep cliffs of the windward side of the Kohala mountains to reach the drier leeward side to get the “superior” wood with large, fragrant pieces (probably *S. paniculatum var. paniculatum*). A week later he described a larger incursion into the Kohala range that explicitly pegged the logging to Waimea, way up in the hills. At Waipio, the *makaʻainana* labors involved ascending steep cliffs and transporting pieces of wood as big as one foot in diameter. As will be illustrated shortly, however, they may not have had to cut or prepare the wood. Additionally, because they lived in the cool windward valley, they may have been better acclimatized and accustomed to cooler mountain air. Of course, it was August 19, at the height of summer, so it would not have been as cold as in the winter months. Moreover, their labors don’t appear to have induced a decline in their levels of subsistence agriculture. Apart from noticing the high degree of cultivation between Waikea and Waipio, Ellis described the abundance:

> According the number of houses which we have seen, in all 265, there are at least 1325 inhabitants in this sequestered valley, besides populous villages on each side along the coast, which might be easily visited. This circumstance, together with the fertility of the soil, the abundance of water, the facility with which, at most seasons of the year, supplies can be forwarded by water from Kairua [Kailua] or Towaihae [Kawaihae], combine to render this spot for a missionary station.¹⁶⁶

It is unclear how far the men at Waipio trekked to collect ‘iliahī, but the Kohala mountains are not far away: Waipio is only five miles from Waimea which is not far from the upper ridgelines of the Kohala mountains, for example. Furthermore, once the wood was brought down to their valley, it could have been easily transported by boat or canoe to other maritime nodes on Hawai‘i (Kailua and Kawaihae) before being shipped to Honolulu. Ellis and his party witnessed such a shipment the following day at Waimanu.

¹⁶⁶ Ellis, page 261. August 19, 1823.
He wrote:

After proceeding pleasantly along for five or six miles, we arrived at Waimanu a little before eight o'clock. We found Arapai, the chief, and a number of his men, busy on the beach shipping sandal-wood on board a sloop belonging to the governor, then lying at anchor in a small bay off the mouth of the valley.... The valley, though not so spacious or cultivated as Waipio, was equally verdant and picturesque; we could not but notice the unusual beauty of its natural scenery. The glittering cascades and waterfalls that rolled down the deep sides of the surrounding mountains, seemed more numerous and beautiful than those of Waipio.\textsuperscript{167}

Leaving this fertile and lush valley, they moved onward to Kamehameha's birth place at Miomioi, and then went north by northwest through an area with rich soil and vegetation. At the village of Kapaau the party observed the population:

The tract we passed over today seemed more populous than that through which we had traveled yesterday, but we found most of the villages destitute of inhabitants, except a few women who had charge of some of the houses. On inquiry, we learned that a \textit{short time ago} [my italics] the people of Kohala had received orders from the king to provide a certain quantity of sandal-wood, and that they were absent in the [Kohala] mountains, cutting it.\textsuperscript{168}

Later that day they arrived and found the village of "Owawarua" nearly empty:

About three p.m. we reached Owawarua, a considerable village on the north-west coast, inhabited mostly by fisherman. Here we tried to collect a congregation, but only three women and two small children remained in the place, the rest having gone to Waimea to fetch sandal wood for Karaimoku [Kalanikupu].\textsuperscript{169}

Although several coastal villages were in the Kohala mountains collecting sandalwood, Ellis attests that there was no dearth of food:

Quantities of fish were spread out in the sun to dry, in several places, and the inhabitants of the northern shores seem better supplied with this article than those of any other part of the island.\textsuperscript{170}

\textsuperscript{167} Ellis, page 265.
\textsuperscript{168} Ellis, page 283
\textsuperscript{169} Ellis, page 285
\textsuperscript{170} Ibid, page 286
He continued to say that the Society Islands had more diverse types of marine life in their reefs and therefore had more stores of fish than Hawai‘i, but “the industry of the Hawaiians in a great degree makes up the deficiency, for they have numerous small lakes and ponds, frequently artificial, wherein they breed fish of various kinds, and in tolerable abundance.” These lumber crews may have taken quantities of fresh water with them too, because Ellis had trouble locating any. Lack of water propelled their party “about twenty miles back to Kaiwaihae by canoe.” From the sea, they observed the size of the population:

Though we had numbered, in our journey [from Owawarua to Kaiwaihae], we had not seen anything like four hundred people, almost the whole population being employed in the [Kohala] mountains cutting sandal wood.

At Kawaihae they rested. Before daylight broke the next morning:

[We] were roused by vast multitudes of people passing through the district from Waimea with sandal wood, which had been cut in the adjacent [Kohala] mountains for Karaimoku [Kalanimoku], by the people of Waimea, and which the people of Kohala, as far as the north point, had been ordered to bring down to his storehouses on the beach, for the purpose of its being shipped to Oahu. There were between two and three thousand men, carrying each from one to six pieces of sandal wood, according to their size and weight. It was generally tied on their backs by bands made of ti leaves, passed over the shoulders and under the arms, and fastened across their breast. When they had deposited the wood at the storehouse, they departed to their respective homes.

This passage illuminates the diversity of ‘iliahi extractions. It was not the men of the leeward coastal villages conducting the logging or the preparation. It was the maka ‘āinana of Waimea (or Kamuela) on the upland windward side who performed the logging and preparation. Then the people from Kohala, from Kawaihae to Waipio, came

---

171 Ellis, page 286
172 Ellis, page 286
173 Ellis, pages 286-287
and carried the wood to their respective landings. Assuming that the “superior” quality of ‘iliahi that Ellis saw at Waipio was from the same locale in the Kohala mountains that the leeward coastal men were taking their sandalwood from, two insights can be gleaned. Firstly, given that this wood was both big and fragrant, each man would have been carrying no less than one picul in weight. Following the logic that each man Ellis counted represents a picul, there was a total of between two and three thousand piculs being carried around five miles from the Kohala mountains miles to Kawaihae on August 22, 1823—just one landing. According to Gutzlaff (See Table 1), in the 1823 to 1824 period, 8,404 piculs came into Canton from American ships. Had this wood which was slated to flow directly to O‘ahu gone to Canton during this season, it would have constituted one-quarter to thirty percent of all the wood shipped. In terms of the implications for the labor involved in extraction, it shows that a high volume of wood could be rapidly removed from upland forests of Hawai‘i by assigning different tasks to different villages.

Moreover, the logging was conducted without weakening food supplies during the summer when the mountains were arguably warmer. For the people transporting ‘iliahi to the leeward landings, especially, Kawaihae, the driest spot in the Hawaiians islands, the cool mountain and morning air may have even offered respite from working in the summer heat and sun of day.

This Kohala passage also reflects a deeper level of continuity in the way in which ‘iliahi was logged. When Kamehameha I first gave orders for people to cut sandalwood in 1812, he issued instructions for the people of Kona and Kaʻu to cut sandalwood while “other men carried the wood to the landings of Kona, Kaʻu, Kohala and Hamakua.” This method of mixed labor extraction may have extended across the archipelago along with
his order to cut ‘iliahi. This same type of labor formula of extraction was still being employed on O‘ahu in 1821 (See Kamakua in the next chapter) and at Kohala, and possibly throughout the Big Island, in 1823.

The extractions also mirror the shifting culture of procuring the mana of haole money with local ‘iliahi. Ellis described the bi-annual ho‘okupu rents or taxes each member of society paid to those above them:

The governor of the island pays over to the king annually, or half yearly, the rents or taxes required by the latter. These he receives from the chiefs under him, who generally pay in the produce of soil. Sometimes the king requires a certain sum in Spanish dollars, at other times sandal wood. This, however, is a modern regulation, introduced since they have become acquainted with the use of money, and the value of sandal wood.174

Ellis also captured the social relationships between ali‘i and maka‘āinana:

The common people are generally considered as attached to the soil, and are transferred with the land from one chief to another. In recently conquered districts, they were formerly obliged to abide on the land which they cultivated, as slaves to the victors; at present, though they frequently remain through life the dependents or tenants of the same chief, such continuance appears on their part to voluntary. [my italics]175

Ultimately, sandalwood extractions on Hawai‘i during the summer of 1823 offer four points of texture to the trade in the interim between Kamehameha’s death in May 1819 and the onset of the ‘iliahi tax in January of 1827. Firstly, although ali‘i, konohiki, and haoles were sent to Hawaii from O‘ahu to oversee logging campaigns, the division of labor assigned to different villages seems to have reduced the amount of time and muscle each maka‘āinana had to put into the extractions. Secondly, the labor of logging does not seem to have diminished their food production, especially fish supplies. Thirdly, the extractions were done in the hot summer when it would have been easier to cope with the

174 Ellis, page 302-303
175 Ellis, page 304
cooler mountain air. Lastly, these extractions seem to have been done for the summer biannual ho’okupu. Granted, the payments of ho’okupu rents were changing to incorporate cash and sandalwood that Europeans valued. However, their system of reciprocity and aloha was experiencing tensions and cracks—especially on O‘ahu. As such both they and ‘iliahi suffered there.

On O‘ahu, it was reported that in 1823 or 1824 the central plains were set fire too in order to locate ‘iliahi. St. John wrote that this burning was done “in order to detect standing or fallen logs of sandalwood by the sweet odor of their smoke. The flames, of course, killed many young sprouts and seedlings and prevented the recovery of the depleted stands of sandalwood or other trees.” Passages that reflect force or threats placed on the maka‘āinana to cut sandalwood will be discussed at greater length in the next chapter. However, some examples from Christian public gatherings or building projects should suffice to show the threat of punishment for resisting orders. On September 11, 1825 Stephen Reynolds wrote:

Natives from Palama – to the distance of four or five miles attended meeting place was crowded round for some distance – it was judg’d from six hundred to a thousand people were there Many of them say that if they do not go, the chiefs will take their lands away, and cast them off their presence.

This threat of removal from one’s land on O‘ahu was a rupture from past rights the maka‘āinana had to reside on the land. It also brought “about three thousand people” who came from “Wairua [Waialua] & other places, with timber to build a [Christian] meeting house – 40 fathams by 15. all which has been done cut and collected in less than three weeks.” Reynolds further remarked that “I wish they would get sandalwood as

---

176 St. John, page 18; Morgan page 66, citing Ellis p. 45
177 Reynolds, page 105, September 11, 1825
fast.” The following year, Ka‘ahumanu ordered “the north side of Islands to cut large timber to buid [sic] a very extravagant [Christian] meeting house.”\(^\text{179}\)

Reynolds’ quip that he wished the maka‘ainana would “get sandalwood as fast” as they collected timber for a Christian meeting house, aside from representing merchant/missionary tensions and jealousies, shows two mutually reinforcing points. It suggests that sandalwood collection campaigns were tapering off by 1825. It also suggests that accessible stands of sandalwood behind Honolulu were becoming harder to find. Andrew Bloxam, the naturalist of the H.M.S. Blonde, writing about the scarcity of \(S. \text{freycinetianum}\) in the Nuuanu Valley confirms the latter point. On May 13, 1825, Andrew Bloxam and the botanist James Macrae ventured to Nuuanu Valley towards the pali, traversing 6 to 8 kilometers up through the valley into the forest. The scenery was marked with huts, taro patches and thick woods. It was a landscape mixed with alien invasive species and native plants. Bloxam wrote in his diary:

> We found a great variety of ferns and other plants among which the ginger plant was very prominent. We saw several of that beautiful tree the \(Eugenia \text{malaccensis}\), or Malacca apple, in full bloom with its bright scarlet flowers, the dooe dooe, or oil nut [now called kukui, \(Aleurites \text{moluccana}\)] was very common. We could not fine one sandalwood tree, all had probably been cut down here for the purpose of barter.\(^\text{180}\)

The decline of old growth \(S. \text{freycinetianum}\) on the mountains behind Honolulu in 1825 can also be confirmed from economic records. Statistical data mined from Reynolds’ journal illustrates that the majority of wood cut on O‘ahu came from other parts of the island. Tables two through six have been organized from information written

\(^{178}\) Reynolds, page 107, October 3, 1825

\(^{179}\) Reynolds, page 147, August 17, 1826.

in Reynolds' journal. In 1824, 369 piculs came from the Pearl basin, 212 piculs came from Barber's Point, and 190 came from Waialua (See Table 2). In 1825, only ten piculs came from Kalihi Valley, while the rest came from elsewhere: 25 came from Barber's Point, 160 from the Pearl basin, 150 from Waialua, 177 from Waiekele, and between 672 and 772 came from the windward coast (See Table 2.). Although this information reflects extractions that left port nodes, Reynolds kept a keen eye on nearly all of the sandalwood counts and would have said something if the trees were being cut close to Honolulu. In fact, Pauline King, who edited the first volume of Reynolds' journal, said that his "listing of sandalwood is one of the best records now available in regard to the trade."\(^{181}\) Each of the places Reynolds noted, moreover, shows that logging was being extended to the adjacent mountains: namely the Waianae and northwestern Koʻolau ranges. Waimea Bay on the north shore of Oʻahu had yet to start sending ships to Honolulu with 'iliahi, so the expansion into the northern leeward valleys of the Koʻolau range was probably just beginning.

In 1825, nearly all of the logging in the Hawaiian islands was conducted on Oʻahu. According to figures for Kauaʻi and Hawaiʻi, no sandalwood was being shipped (see Tables 3 and 4). On Maui, however, 400 piculs chopped "in[the]mountains" were sent to Honolulu. This probably reflects a stripping of \(S. \text{freycinetianum. var. lanaiense}\) at lower elevations and excursions onto Haleakalā volcano for \(S. \text{haleakale}\). In 1826, 'iliahi was not shipped from Maui, and only limited extractions were made on the other islands: 250 piculs came from Hawaiʻi, 497 came from Waimea, Kauaʻi, and 570 were shipped from Waialua, Oʻahu: a conservative total estimate of 1,317 piculs in 1826.

\(^{181}\) Reynolds, page 164.
<table>
<thead>
<tr>
<th>Piculs</th>
<th>Place</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td>109</td>
<td>Piculs Place</td>
<td>1824</td>
<td>Capt. Bates on &quot;Schooner&quot;</td>
</tr>
<tr>
<td>150</td>
<td>42 Pearl River</td>
<td>1824</td>
<td>Capts. Meek &amp; Blanchard</td>
</tr>
<tr>
<td>15</td>
<td>15 Pearl River</td>
<td>1824</td>
<td>Capt. Blanchard</td>
</tr>
<tr>
<td>100</td>
<td>100 Pearl River</td>
<td>1824</td>
<td>Deliverance</td>
</tr>
<tr>
<td>212</td>
<td>212 Pearl River</td>
<td>1824</td>
<td>Deliverance</td>
</tr>
<tr>
<td>80</td>
<td>Waialua</td>
<td>1824</td>
<td>Tavehorro</td>
</tr>
<tr>
<td>110</td>
<td>Waialua</td>
<td>1824</td>
<td>Schooner Washington</td>
</tr>
<tr>
<td>62</td>
<td>Barber's Point</td>
<td>1824</td>
<td>Marshall &amp; Wildes</td>
</tr>
<tr>
<td>10</td>
<td>Kalihi Valley?</td>
<td>1825</td>
<td>Charles Hammat</td>
</tr>
<tr>
<td>160</td>
<td>Pearl River</td>
<td>1825</td>
<td>Marshall &amp; Wildes</td>
</tr>
<tr>
<td>25</td>
<td>Barber's Point</td>
<td>1825</td>
<td>Capt. Eliab Grimes</td>
</tr>
<tr>
<td>120</td>
<td>Waialua</td>
<td>1825</td>
<td>Schooner Washington</td>
</tr>
<tr>
<td>177</td>
<td>&quot;Wailele&quot;?</td>
<td>1825</td>
<td>Superb</td>
</tr>
<tr>
<td>30</td>
<td>Waialua or Pearl?</td>
<td>1825</td>
<td>Eclipse</td>
</tr>
<tr>
<td>72</td>
<td>Windard Coast</td>
<td>1825</td>
<td>Becket</td>
</tr>
<tr>
<td>600-700</td>
<td>Windard Coast</td>
<td>1825</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>570</td>
<td>Waialua</td>
<td>1826</td>
<td>Capt. Charlton</td>
</tr>
<tr>
<td>200</td>
<td>Waialua</td>
<td>1827</td>
<td>Missionary Packet/Capt. Hunnewell</td>
</tr>
<tr>
<td>241</td>
<td>Waianae</td>
<td>1827</td>
<td>Waverly</td>
</tr>
<tr>
<td>500</td>
<td>Waialua</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>2</td>
<td>Waialua</td>
<td>1827</td>
<td>Missionary Packet/Capt. Hunnewell</td>
</tr>
<tr>
<td>400</td>
<td>Waianae</td>
<td>1827</td>
<td>Teignmouth</td>
</tr>
<tr>
<td>60-70</td>
<td>Oahu</td>
<td>1827</td>
<td>Mary Marine</td>
</tr>
<tr>
<td>85</td>
<td>Pearl River</td>
<td>1827</td>
<td>Schooner Amelia</td>
</tr>
<tr>
<td>112</td>
<td>Pearl River</td>
<td>1827</td>
<td>Waverly</td>
</tr>
<tr>
<td>133</td>
<td>Pearl River</td>
<td>1828</td>
<td>Schooner Kaukioli</td>
</tr>
<tr>
<td>508</td>
<td>Waianae</td>
<td>1828</td>
<td>Capt. Meeks</td>
</tr>
<tr>
<td>109</td>
<td>Waianae</td>
<td>1828</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>171</td>
<td>Makua</td>
<td>1828</td>
<td>Loaded by Reynolds</td>
</tr>
<tr>
<td>230</td>
<td>Pearl River</td>
<td>1828</td>
<td>Schooner Washington</td>
</tr>
<tr>
<td>40</td>
<td>Waimea</td>
<td>1828</td>
<td>Loaded by Reynolds</td>
</tr>
<tr>
<td>217</td>
<td>Waimea</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>28</td>
<td>Waialua</td>
<td>1828</td>
<td>Nd. Brig</td>
</tr>
<tr>
<td>370</td>
<td>Waimea</td>
<td>1828</td>
<td>Loaded by Reynolds</td>
</tr>
<tr>
<td>294</td>
<td>Waimea</td>
<td>1828</td>
<td>Loaded by Reynolds</td>
</tr>
<tr>
<td>139</td>
<td>Waianae</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>474</td>
<td>Waialua and Waimea</td>
<td>1829</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>117</td>
<td>Pearl River</td>
<td>1829</td>
<td>Truro</td>
</tr>
<tr>
<td>92</td>
<td>Pearl River</td>
<td>1829</td>
<td>Mr. William French</td>
</tr>
<tr>
<td>83</td>
<td>Haulea</td>
<td>1829</td>
<td>Truro</td>
</tr>
<tr>
<td>50</td>
<td>Pearl River</td>
<td>1829</td>
<td>Mr. George Wood</td>
</tr>
<tr>
<td>60</td>
<td>Moanalua</td>
<td>1829</td>
<td>Capt. Meek</td>
</tr>
</tbody>
</table>

Total Piculs= 7,328  
Total Pounds=976,822
Table 3.

<table>
<thead>
<tr>
<th>Piculs</th>
<th>Place</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>Kauai</td>
<td>1823</td>
<td>Paragon</td>
</tr>
<tr>
<td>497</td>
<td>Waimea</td>
<td>1826</td>
<td>Tamaahmaah</td>
</tr>
<tr>
<td>450</td>
<td>Kauai</td>
<td>1827</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>400-500</td>
<td>Kauai?</td>
<td>1827</td>
<td>Capt. Ebbets</td>
</tr>
<tr>
<td>90</td>
<td>Kauai?</td>
<td>1827</td>
<td>Tamaahmaah</td>
</tr>
<tr>
<td>168</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>90</td>
<td>Kauai</td>
<td>1827</td>
<td>Capt. Ebbets</td>
</tr>
<tr>
<td>200</td>
<td>Kauai</td>
<td>1827</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>730</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>758</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>137</td>
<td>Kauai</td>
<td>1827</td>
<td>Capt. Ebbets</td>
</tr>
<tr>
<td>205</td>
<td>Kauai</td>
<td>1827</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>365</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>200</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaahmaah</td>
</tr>
<tr>
<td>344</td>
<td>Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>145</td>
<td>Hanalei</td>
<td>1827</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>228</td>
<td>Hanalei</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>1,200</td>
<td>Kauai</td>
<td>1828</td>
<td>Diana</td>
</tr>
<tr>
<td>186</td>
<td>Kauai</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>800</td>
<td>Kauai</td>
<td>1829</td>
<td>Active</td>
</tr>
<tr>
<td>104</td>
<td>Kauai</td>
<td>1829</td>
<td>Pakii</td>
</tr>
<tr>
<td>211</td>
<td>Kauai</td>
<td>1829</td>
<td>Pakii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Piculs=8,358</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Pounds=1,114,121</td>
</tr>
</tbody>
</table>

Mixed Waimea Kauai/Oahu?

<table>
<thead>
<tr>
<th>Piculs</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td>500+</td>
<td>1827</td>
<td>Tamaliolani: both Waimea, Kauai and Waialua, Oahu</td>
</tr>
<tr>
<td>82</td>
<td>1827</td>
<td>Young Thaddeus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Piculs=582+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Pounds=77,580</td>
</tr>
</tbody>
</table>
Table 4.

<table>
<thead>
<tr>
<th>Piculs Place</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 Hawaii</td>
<td>1826</td>
<td>Schooner Washington</td>
</tr>
<tr>
<td>250 Hawaii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400-500 Hawaii</td>
<td>1827</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>170 Hawaii</td>
<td>1827</td>
<td>Waverly</td>
</tr>
<tr>
<td>113 Hawaii</td>
<td></td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>800-900 Kailua-Kona</td>
<td>1827</td>
<td>Brig Owyhee</td>
</tr>
<tr>
<td>18 Hawaii</td>
<td>1827</td>
<td>Brig Rambler</td>
</tr>
<tr>
<td>640 Hawaii</td>
<td>1828</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>124 Hawaii</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>129 Hawaii</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>200 Hawaii</td>
<td>1828</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>300 Hawaii</td>
<td>1828</td>
<td>Capt. Meek</td>
</tr>
<tr>
<td>120 Hawaii</td>
<td>1829</td>
<td>Capt. Meek</td>
</tr>
<tr>
<td>400 Hawaii</td>
<td>1829</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>110 Hawaii</td>
<td>1829</td>
<td>Volunteer</td>
</tr>
<tr>
<td>200 Hawaii</td>
<td>1829</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>133 Hilo and Kailua</td>
<td>1829</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>100 Hawaii</td>
<td></td>
<td>Pakii</td>
</tr>
<tr>
<td>62 Hawaii</td>
<td>1829</td>
<td>Schooner Young Thaddeus</td>
</tr>
<tr>
<td>34 Hawaii</td>
<td>1829</td>
<td>Missionary Packet</td>
</tr>
</tbody>
</table>

Total Piculs= 4,441
Total Pounds= 591,985

Table 5.

<table>
<thead>
<tr>
<th>Piculs Place</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Maui</td>
<td>1823</td>
<td>Arab</td>
</tr>
<tr>
<td>100 Maui</td>
<td>1824</td>
<td>Schooner Robinson Crusoe</td>
</tr>
<tr>
<td>400 &quot;Mountains&quot;</td>
<td>1825</td>
<td>Enterprise</td>
</tr>
<tr>
<td>640 Lahaina</td>
<td>1827</td>
<td>Missionary Packet</td>
</tr>
<tr>
<td>180 Maui</td>
<td>1828</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td>258 Maui</td>
<td>1828</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>20 Maui</td>
<td>1829</td>
<td>Young Thaddeus</td>
</tr>
</tbody>
</table>

Total Piculs= 1,710
Total Pounds= 227,943

Table 6.

<table>
<thead>
<tr>
<th>Tax/Debt Wood</th>
<th>Piculs Place</th>
<th>Year</th>
<th>Ship/Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>730 Kauai</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td></td>
<td>758 Kauai</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>85 Pearl River, Oahu</td>
<td>1827</td>
<td>Schooner Amelia</td>
</tr>
<tr>
<td></td>
<td>508 Waianae, Oahu</td>
<td>1828</td>
<td>Capt. Meeks</td>
</tr>
<tr>
<td></td>
<td>230 Pearl River, Oahu</td>
<td>1828</td>
<td>Schooner Washington</td>
</tr>
<tr>
<td></td>
<td>640 Lahaina, Maui</td>
<td>1827</td>
<td>Tamaliolani</td>
</tr>
<tr>
<td></td>
<td>800-900 Kailua-Kona, Hawaii</td>
<td>1827</td>
<td>Brig Owyhee</td>
</tr>
<tr>
<td></td>
<td>18 Hawaii</td>
<td>1827</td>
<td>Brig Rambler</td>
</tr>
<tr>
<td></td>
<td>400 Hawaii</td>
<td>1829</td>
<td>Chinchilla</td>
</tr>
<tr>
<td></td>
<td>200 Hawaii</td>
<td></td>
<td>Chinchilla-- wood 'part tax &amp; part bot'</td>
</tr>
</tbody>
</table>

Total Piculs= 4,419
Total Pounds= 589,052
The following January, the infamous sandalwood tax was levied and picul counts rose sharply. On Kaua‘i, over 4,300 piculs were collected; on O‘ahu and Hawai‘i over 1,600 piculs were taken from each island, respectively totaling over 3,200 piculs; only 640 were taken from Maui (See Table 5). Vague references to either “Waimea,” Kaua‘i or O‘ahu say that 1,340 piculs were taken. In terms of place in 1827, on Kaua‘i, most of the wood was being shipped out of Waimea, but one shipment of 145 piculs came from Hanalei. On O‘ahu, 85 piculs came from the Pearl basin, over 700 piculs came from Waialua, and close to 700 piculs came from Waianae. On Hawai‘i, nearly all of the wood seems to have been shipped from Kailua-Kona, and may have come from the Kohala and Kona ranges. Six hundred forty piculs came from Lahaina, Maui. The power arrangements that defined these extractions are multifaceted.

The tax law of 1827 required all men to pay half a picul to the government, but the other “half they got over” was to “be their own.” Pauline King said that this law led the maka‘āinana to dominate this period of extraction. “Estimates have been made that much of the trade was now conducted by this class [the maka‘āinana].” There were occasional moments previously where the maka‘āinana seemed to have bargained independently with ‘iliahi. For example, on May 5, 1824 Reynolds said:

Natives came to have me overhaul wood. went to a house of very small wood – objected – looked into a house of fair wood – they told me if I would take the small I should have the large & not otherwise – quit. afternoon found they had thrown wood out, began to weigh – after weighing thirty five drafts piculs a draft in dispute put an end to weighing for the day.

---

182 Reynolds, January 2, 1827, page 169.
183 Reynolds, page 185.
The following day he commenced to weigh 140 piculs, but bargaining with the maka‘āinana and others left him frustrated. “It is most mortifying to have to do so much to get a little [‘iliahi], and then be ridiculed by all who look at you or are in any way interested in wood at this place.” Following the tax announcements in 1827, Reynolds continued to be ridiculed by maka‘āinana sandalwood bargainers. He was “teased by Natives to buy Sandd wood [sic]/refused many Lotts/ bo’t [sic] 25 piculs Small wood.” Despite the continuity in bargaining, they could only sell ‘iliahi after their taxes were paid:

Some very small. Manuere [Manuia] weighed the wood – took every man’s taxes first of the best, then let them Sell.”

Both the Kingdom’s law and the incentive of profit compelled them to saw. In January, Reynolds noted that Boki and King Kauikeaoul‘i went “to the Pearl River” and that all the people [were] going to cut wood. He also wrote:

Natives all going into the mountains to cut wood – which will leave the village [of Honolulu] very thin.

According to John Papa I‘i, they also went to Waialua to cut:

The king, Boki, and the other chiefs—including Kekuanaoa and Kinau — were among those who journeyed to Waoaloo [Waialua] to cut trees.”

Of this same time Samuel Kamakau said that King Kauikeaoul‘i and his court:

All repaired to upper Kolokini, Wao‘ala, ‘Aikanaka, Kaloka in upper Makaleha, and to upper Mokule‘ia, to cut sandalwood. Kau-i-ke-aoul‘i was but a boy in his thirteenth year while cutting at upper Wao‘ala and lower Maeaea....
At one of these extractions sometime between January and March 1827 a foreign sailor, nicknamed “The Old Quartermaster,” accompanied the King and ali‘i into the mountains and wrote about what he witnessed. He recounted:

The time of cutting it is appointed by the King, and that is invariably at night, but for what cause I could never find out; this time was appointed while we lay [his ship] here [Honolulu], and the captain was invited to accompany the young king to view the scene; our cutter [boat] was ordered to take the party, and it took us nearly all the forenoon to get to the spot [possibly Waialua or Waimea]. When the party took horses and left me in charge of the boat, I asked and obtained leave to ascend the hill in the evening; the ascent was painful and fatiguing, but it fully repaid me by the pleasing sight that met my eyes; there stood a vast number of men assembled each with a torch made from sandalwood which burns bright and clear, at a certain signal they dispersed; each taking his own way to cut his load accompanying his labour with a song, to which the whole band within hearing join[ed] in the chorus; the song we understood not, but in the calm of a beautiful night it was calculated to inspire delight. After the labour of two or three hours the wood is collected together, each chief inspecting his own lot, judging of the quality by colour and weight, it is then taken to the water’s edge where it is piled end on ready for boats to take away; the people then returned to their homes, and we to the young King’s country house, after which I went to the boat.192

Given the “vast numbers” of men involved in the sawing, it can be surmised that this passage might typify the types of large scale logging campaigns on O‘ahu in 1827. In terms of the labor involved, then, they would have had faced a steep ascent to get to the trees. The age, physical condition, and the climbing experience of the sailor is unclear, so it’s hard to say whether these loggers found the climb “painful” or “fatiguing.” It does not appear that the sailor was uncomfortably cold. He said the night was calm and beautiful. The maka‘āinana sang as they sawed. They only cut wood for two to three hours and were able to transport the logs and pile them on end at the beaches, then return home. It appears that this wood was tax wood. Summarily stated, it appears that the labor involved

in the collection of this tax wood was mild, fast and efficient. They moved a “vast”
amount of wood in a matter of hours. The purpose for working at night could be twofold:
the men could spend a few hours tending fields in the day and avoid the hot sun when
transporting the piculs. This efficiency partially factored into the rapidity with which
some of the debts were paid off—which initially impressed the merchants and eased
tensions. For example, a few months after the initial round of cuttings, merchants and
ali‘i were on relatively better terms: debts were being paid. Reynolds said he:

Finished putting Tax wood on board [the ship] Princess Louisa. The lower
hull full, having 2,360 piculs.\textsuperscript{193}

To celebrate this atmosphere, Reynolds and others attended a luau. He said of Sunday
March 25, 1827:

Afternoon went up behind Punch Bowl Hill [crater] to eat Luow [sic].
Among the eatables was a nice dog, of Which Several of the
Whale Capts ate quite hearty and tho’i [sic] it very fine.\textsuperscript{194}

Feasting aside, records from 1827 to 1829 also give information about the different
collections of debt wood. Tax records for 1827 to 1829 in Reynolds’ journal are often
vague, but it appears that certain islands paid more wood than others and at different
times. Kaua‘i paid around 1,500 piculs in 1827, but little or nothing afterwards. On
O‘ahu, 85 piculs of tax wood came out of the Pearl basin in 1827 and 230 came out in
1828; 618 came from Waianae in 1828. Moreover, there are dozens of references about
small amounts of tax wood on O‘ahu, but they are not anchored to any real place, and
therefore confuse attempts of measuring how much was cut there. On Maui, 640 piculs of
tax wood were shipped from Lahaina in 1827. Between 818 and 918 piculs came out of
Kailua-Kona on Hawai‘i in 1827—400 came from Hawai‘i in 1829 (See Table 6).

\textsuperscript{193} Reynolds, page 178.
\textsuperscript{194} Reyolds, p. 179 March 25, 1827
Lumber earmarked as "debt" or "tax" was unevenly collected and therefore hints at different degrees of maka‘āinana labor. But this is difficult to gauge.

Kaua‘i paid the most amount of wood the quickest, which suggests that a large labor drive was organized there. Do the 1,500 piculs collected on Kaua‘i represent a labor force of 1,500 workers, each carrying a picul? Were there fewer men than this who made several picul trips? There were at least two different loads of around 750 piculs delivered. Were there more than 1,500 workers, or just 750? Did different villages cut and others carry logs to the coast? Who loaded the wood onto the ships? Did the maka‘āinana trade independently? These questions for Kaua‘i are problematic and seemingly unanswerable for the time being. However, an estimated 4,373 piculs were shipped from Kaua‘i between 1827 and 1829 (See Table 3), which suggests that the maka‘āinana in some way might have earned some profits.

On Hawai‘i, it seems that they provided two bursts of tax collections, 818-918 in 1827, then 400 in 1829. Questions asked of Kaua‘i can also be applied to Hawai‘i, but are also difficult to untangle. On the whole around 3,000 piculs were cut on Hawai‘i and shipped to Honolulu between 1827 and 1829. Did the maka‘āinana there earn some profits?

If Kaua‘i and Hawai‘i seem lacking in data, Maui is even more opaque: 258 piculs of non-tax wood were exported in 1828; only 20 came in 1829. Had the wood run low on Maui? Was it too difficult to get on Haleakalā? Whatever the case may be, Maui, like Kaua‘i and Hawai‘i, paid sandalwood taxes in single bursts (or double for Kaua‘i), but have the fuzziest records for construing how the maka‘āinana used the new law to their advantage to bargain. If O‘ahu is any indicator for bargaining, then, the maka‘āinana
across the islands had opportunity to exchange their labor or lumber for foreign goods. On O‘ahu, there are scores of references from Reynolds’ journal that show small-scale dealings in sandalwood, averaging from a few piculs to a dozen. But they are too pithy or vague to use as solid sources. He wrote lines like, “got a few piculs Sandlewood very small,” or “got a small lot of Small wood,” or “Cash got 3 piculs,” etc.\(^{195}\) Usually, Reynolds wrote the names of the leaders, from Ka‘ahumanu or Hoapili with all sales, so the omission of names indicates that these sales might represent maka‘ainana and/or konohiki bargaining. Although Reynolds’ vagueness proves a hindrance to getting a solid grip on the extent of how much sandalwood the maka‘ainana traded in Honolulu or O‘ahu in 1827 or thereafter, there are clear cases where they sold their labor for foreign wares and money. The few explicit cases that describe maka‘ainana selling independently in Honolulu noted in Reynolds’ journal have already noted above, but there were also opportunities in negotiating the transportation of wood from the beaches to the ships or from the ships to the port of Honolulu.

In the latter case, Reynolds hired several Hawaiian women to help unload the Brig Tamaahmaah, which had arrived from Kaua‘i on September 18, 1827 with a “full load of wood.”\(^{196}\) This ship, which previous figures suggest could hold at least 200 piculs, began to unload on September 20, 1827. He said, “Discharging wood. Hired women to work for a Horn comb each had over fifty people employed.”\(^{197}\) The wood was not fully removed from the ship until the following day. He continued, “Finished landing wood from Brig [Tamaahmaah] at 2. o’clock. Paid forty five dollars for labor landing.”\(^{198}\)

\(^{195}\) Reynolds, April 27, May 1, June 7, 1827.
\(^{196}\) Reynolds, page 198, September 18, 1827.
\(^{197}\) Ibid, page 198, September 20, 1827
\(^{198}\) Reynolds, page 198, September 21, 1827
Not all transactions could flow this smoothly. On October 1, 1828, Reynolds attempted to get some makaʻāinana to carry wood to the harbor’s shores so that it could be transported to Canton:

Commenced getting wood off early & completed weigg [weighing] Tried to get about 160 pics carried ¾ of mile which they asked 40. dollars – tho’ it too high & left it

Labor negotiations with the makaʻāinana were also problematic for Reynolds elsewhere on Oʻahu at this time. The following day, on October 2, 1828, Reynolds journeyed to Waimea Bay on the north shore with Richard Charlton. He:

went on shore & commenced getting wood off [of the beach] – people all in mountains cutting wood. Mr. Charlton’s man getting his wood on the beach.

It sounds like an aliʻi or konohiki was directing the mountain to beach segment of the extractions, and possibly helping mobilize labor to put the wood on the ship, but it is not clear. He continued:

Finished getting my wood off & began…. Surf broke so as to make it difficult getting wood off – got all on the beach off – 370 pics [sic] nearly.

Curiously, although the makaʻāinana ostensibly aided in loading this wood through the strong surf, they refused their labor the following day when the water was calmer. They wouldn’t even bring the wood from storehouses down to the beach:

Surf not so high this morning – succeeded in getting wood off – could not get the people to bring it to the beach – so that at four P.M. Started for Honolulu 294 pics for Mr. Charlton on board.

References to extractions coming from various port nodes on Oʻahu listed in Reynolds’

199 Reynolds, page 239, October 1, 1828
200 Reynolds, page 239, October 2, 1828
201 Ibid, October 3, 1828
202 Ibid, October 4, 1828
journal suggest that opportunities or options of work refusal may have been widespread.

Significant hauls of 'iliahi were conducted at these O'ahu nodes between 1827 and 1829:
6 hauls came from Waialua; 10 came from Waianae; 7 came from Pearl; 1 came from Makua, and 1 from Hauula. Given the high volume of ships coming into Honolulu, there would have been opportunity to hire people to unload these ships.

Despite the real pressure that existed for them to collect wood for the taxes and for new ali'i purchases, it is evident that there were opportunities that the maka'ainana took advantage of from 1827 to 1829 when marketable sandalwood could still be found in large quantities. After 1829, the maka'ainana continued to cut and trade 'iliahi independently. The 1830s are rather opaque when it comes to comprehending their experiences and the location of the trees, but letters from late 1838 offer some insight.

Paul Kanoa, a member of the O'ahu legislature, wrote a letter in Honolulu on October 27, 1838 to one "G. Laanui," possibly Gideona La'anui, the chief of Waialau, on behalf of Ke-ku-anao'a, Boki's cousin. The letter read:

My Dear G. Laanui:

I wish to tell you, that at the first of next week, you are to make ready to collect the money for the taxes: you are to proclaim to the people from Kaena to Kapaeloa [Just south of Waimea Bay] to get together on that day at your place, and then you are to tell them to pay their taxes. You are to tell them as follows: 'Those of Kamaananui and a portion of Paalae are to try and earn one dollar in one month. Those who have money for the Poll tax and the land tax can stay and they are to attend to the Government labor days, and all other working says of the land. At the expiration of the time for those who are out earning their dollar they are to come home and those who have not yet gone out can go out and earn their dollar.

You are also to tell the people, those who have sandalwood, not the green trees growing in the forest which are to be left alone, but the old wood, they are to collect them and some of your overseers are to lead those who have sandal wood to me,
-and I will dispose of the wood to those who have money, they are not to dispose of any wood to outsiders for they will not get the best prices for them, but I will dispose of the wood myself.203

This order pertained directly to the moku of Waialua, and gave specific instructions to the people living in the Kamaanui and Paalae [Pala 'ala 'a] ahupua'a. This order for collective labor to pay taxes and the explicit instructions for people to collect and hand over their old sandalwood illustrate that the 1827 tax law was still being enforced as of 1838. The instructions also show that that maka‘āinana were mistrusted to bargain with the wood, which suggests that they were actively exchanging it. It also points out that the ali‘i had trouble controlling the maka‘āinana dealings—the ali‘i may have had difficulty procuring sandalwood for themselves. This emphasis on making sure the maka‘āinana did not trade ‘iliahi independently was expressed in another letter Kanoa wrote to “G. Laanui” This letter was written in Honolulu on November 7, 1838 and stated:

You must inquire around and find out who has any sandal wood and send them direct to us and we will dispose it to the foreigners, otherwise they will sell it at a loss. To sell secretly is not right,
You are to state in this manner to the people.204

This second plea to control the wood, indeed to name whoever had it and tell the people that “secret” sales of sandalwood were not right, shows how seriously the ali‘i in Honolulu desired the ‘iliahi (mainly for debts) and that the maka‘āinana seemed to have had a high degree of control over it. Despite Kanoa’s letters, the orders were not followed. Naukana, possibly an ali‘i or konohiki, wrote Paul Kanoa a letter explaining the breakdown in communication. Dated November 20, 1838, this letter stated:

203 Paul Kanoa to G. Laanui, Honolulu, Oct. 27, 1838. F.O. and Ex, AH.
204 Paul Kanoa to G. Laanui Nov. 7, 1838. F.O. and Ex, AH
Your order to the people in regard to sandal wood to be taken to you came after two had already bought sandal wood from the people. I did not tell the people to sell the sandal wood to those two. I only repeated what Laanui told me, that is, if any one has sandal wood, to take it to Honolulu to Kanoa, and that’s all I said. We never had any talk with the two, neither did I meet the two. What they stated about me is false.205

Naukana’s letter sounds like a rebuttal to accusations that he allowed the maka‘ainana to deal sandalwood independently. He’s deflecting blame. Conceivably, Naukana somehow ignored Laanui’s remarks and profited from maka‘ainana sales, but he could be telling the truth. It’s a messy point. But even if he was lying in this letter, it is unlikely that he would tell an outlandish lie. Why would he fabricate an unbelievable lie? Even if this were a lie, it would be a lie that could be believed by others, and hence reflects actual circumstances: the maka‘ainana in 1838 were still using the 1827 tax law as a means to cut and sell sandalwood for their own material and social needs. 205

Maka‘ainana free cutting and trading were soon to be restricted, however, with the passage of a forest privatization law that gave Kauikeaul‘i a royal two-thirds monopoly. Enacted in 1840, this law seems to have reduced if not suspended public sales-of sandalwood for three years, when the debts were finally paid off. The last period of the sandalwood era ended. But the pressures on ‘iliahi and Hawaiian forests did not.

Part of this pressure was due to the sandalwood trade itself. In the most general of terms, removal of sandalwood trees impacted species diversity by causing erosion, diminishing canopy coverage, both of which created open space for invasive flora and fauna to penetrate. Among the most destructive of the introduced fauna were goats and cattle, who trampled the delicate surface sandalwood roots and helped kill them. They

---

205 Naukana to Paul Kanoa, Saturday Nov. 20, 1838. F.O. and Ex, AH
also grazed on the protective underbrush. Goats found sandalwood seeds succulent and ate them avidly, which reduced regeneration. The Gold Rush of 1848 in California exacerbated deforestation in the islands as Hawai‘i became a breeding ground for cattle that was later sold as beef in San Francisco. The archipelago-wide forest conversions that ensued with an increased population of hoofed ungulates during the Paniolo era were made easier by the spaces created by the forest modifications of sandalwood logging.

Comprehending the extent of forest recession and ecological changes from the sandalwood era requires scientific research in the specific eco-niches were the trees grew. Although conducting such studies is beyond the scope of this research, the previous discussion can help aid this effort by pointing out where to begin looking. The brief discussion that follows--- based on bits of news accounts, maps and scientific observations from the 20th century--- can also help.

Currently, ‘iliahi, like Hawaiian dry-land forests, are islands in themselves, fragmented and fragile. A recent documentary dubbed Maui’s dry-land a “museum forest,” because each tree or shrub is nearly alone and isolated, like surviving relics of a bygone era. According to the film *The museum forest of south Haleakala*, in the ‘Ulupalakua forest reserve in southern Maui, native trees and shrubs are further threatened by increased human activities, fires, and attacks from feral goats and cattle. For example, during dry spells and summer months, goats butt their heads against *hala pepe* trees, knock them down and gnaw on them.

A contemporary botanical chart collected by biologist Lani Stemmerman shows that these islands of ‘iliahi grow across the archipelago (See Map 2). With the exception of *S. freycinetianum var. lanaiense*, which only has one tree on Lana‘i and around 100 on
Maui, the other varieties are not endangered—ʻiliohi is now considered commonplace on Kauaʻi, Oʻahu, and Hawaiʻi. Stemmerman’s map, however, has limitations for understanding where the trade occurred. Historicizing this map to reflect where the sandalwood trade took place is somewhat problematic because so much environmental damage and restoration has occurred since 1829. References closer to the 19th century are also tainted by these forces, but might be more useful than current distribution lists. For example, the August 22, 1900 Honolulu Advertiser reported of Molokaʻi:

Despite the current opinion that there are no more sandalwood trees on the Islands as a result of the whole sale destruction of the forests that occurred during the days of Kamehameha I, it is stated by those who know, that there are many of the trees on the peaks of the Island of Molokai.206

The weak point of this passage is the authority of the anonymous sources who were supposedly in the “know” about the whereabouts of ʻiliohi on the mountains of Molokaʻi. Of course, based on personal experiences working as freelance reporter in Hawaiʻi, conversations with local journalists, and discussions in Pacific Island history courses, people here are and have been reticent to speak to the press and have their name appear in the media, so this anonymous citation about sandalwood growing in the peaks of Molokaʻi seems plausible.

On Hawaiʻi, a government map from 1900 depicts a “sandalwood forest” growing a few miles north of the upper reaches of the Kealekekua ahupuaʻa. (See Map 3) This does not mean that this was a pure stand of sandalwood. Rather, ʻiliohi at one time dominated this forest, probably in dense coppices. Ralph Hosmer, an earlier “Territorial” Superintendent of Forestry, commented in Thrum’s Annual that this forest had long been

206 “To Cultivate Sandalwood: Valuable Trees Will be Grown Once More in Hawaii” Honolulu Advertiser, August 22, 1900. Page 10, C-1
destroyed by fire. He said of sandalwood distribution:

While specimen trees [of ‘ili‘ialii] doubtless exist on each island the only place where sandal-wood is at all abundant seem to be on Oahu, in the forest above Waialua and on Hawaii, in the southern part of the Kona district. In the latter section the sandal-wood is confined to a narrow belt, several miles in length by from one-half to three-quarters of a mile in breadth, lying on the northwestern slope of Mauna Loa at an elevation approximately, 4,500 feet above sea level. This area is a little to the southwest of the words ‘sandal-wood forest’ on the large government map of Hawaii. 207

In the footnote below this passage in the journal, either Thrum or Hosmer wrote that the area labeled “sandalwood forest” on the map was:

overrun by fire ages ago; some people think by design, to be rid of compulsory, burdensome toil, while others affirm it to have been the result of an accidental brush fire getting beyond control. No one claims to know the time of its occurrence which seems evidence in itself that the event had not connection with the ‘rush orders’ of the sandalwood trade. 208

Although Hosmer or Thrum dismisses this latter notion, the idea that it was contested in memory suggests that this might be the location of the mysterious sandalwood revolt. Given that the location of this “sandalwood forest” is in Kona and that the largest known species of sandalwood grows there, *S. paniculatum var. pilgeri*, the oral memory about the revolt might be true. This variety of sandalwood grows over 60 feet high and would have been labor intensive to both saw, prepare and haul, especially at an elevation of 4,500 feet. It is conceivable that this is the location of the reported revolt where the maka‘ainana “uprooted” the trees to prevent their children from having to endure logging. But when did it take place? It remains a mystery. More will be said of this reported rebellion in the following chapter.

208 Thrum's, 1905, page 73.
Figure 1—Generalized distribution of Hawaiian sandalwoods.
FIG. 1. Present distribution of sandalwood (Santalum Freycinetianum) on Oahu. Solid black dots mark the localities for specimens with exact data; half-black dots those with incomplete data; circles those recorded in field notes but without substantiating specimens.
Moving east from Kona, there are also reports of sandalwood extractions on the northern edge of Kilauea caldera. The April 15, 1926 Honolulu Advertiser published an article about a new trail in the volcano that was to be called the “Sandalwood Trail.”

It reported:

A trail which will add greatly to the pleasure of visitors to the Hawaii National Park has just been completed by the park force under the supervision of Superintendent Boles. Starting from the steaming bluff just south of Kilauea Military Camp it winds down the face of the wall cliff at a point just below the Observatory.

Although only three thousand feet in length, it provides a series of interesting and unusual features. One hundred feet after leaving the steaming bluff it crosses on a rustic bridge on [an] earthquake crack fifteen feet wide, and within the next few yards passes along the first of a series of steaming vents. A few yards farther the trail passes over a ‘saddle’ dividing two immense steaming pits, the walls of which are coated with small ferns and mosses, and it is remarkable how these plants can grow in such intense heat.

Shortly beyond this is a ‘lookout’ or observation point, from which a comprehensive view is obtained of Kilauea crater, with Uwekahuna Bluff and Mauna Loa as a background, and a little farther down the trail crosses diagonally a steaming earthquake crack about two feet wide. From here on the trail winds down through a jungle of staghorn ferns, with clusters of the uki grass and painu.

Several excellent specimens of true sandalwood are then found close by the trail, some of the trees being almost thirty feet high. They stand out in distinct contrast to the darker shades of the nearby ohia. These sandalwood trees should be of great interest to the visitor whey they are reminded that this part of the island was at one time heavily forested with sandalwood, practically all of which was cut down and exported to China. In fact, there are so many sandalwood trees along this route that it has been suggested that ‘Sandalwood Trail’ would be a fitting name for this route to the volcano.209

The date of the ‘ili‘ahi deforestation in this area is not clear, but it could mark the high water mark of logging incursions into the interior of Hawai‘i. Labor to fell and prepare

209 “New Trail to the Volcano May Be Called the ‘Sandalwood Trail.’” Honolulu Advertiser, April 15, 1926. Page 3 C-1.
them may have been intensive, assuming that the trees were as high or higher than the specimens the *Advertiser* reported. Unlike most of the extractions on O'ahu, it is not known exactly where they hauled these trees to for shipment, but historic trails do lead down to Ka‘aha Bay, 16 to 19 kilometers to the south.

On O'ahu, luckily, there are a lot more clues for comprehending the connections between mountain sources and shore nodes of maritime transportation. And for understanding the distribution of *S. freycinetianum* and hence a sense of the ecological implications for its removal in these places. This information may not sound new to biologists, but historians would do well pay attention to the writings of Harold St. John when it comes to knowing where the trees survived: it marks where the trade took place at different moments. St. John made a distribution map of *S. freycinetianum* (See Map 4) on O'ahu that was taken after 1907, but before 1947, that reflects stands of trees that were either seeds or saplings during the sandalwood era.

According to this map, *S. freycinetianum* in the early 20th century was growing at “the lower edge of the dry forest” and was common “beginning at 1,000 or 1,200 feet altitude” or 300 to 364 meters across O'ahu. In the Waianae range St. John said it was widespread and occasional. It grew on both sides of the Waianae range from 150 to 728 meters in elevation, but not at Kolekole Pass. St. John said that this traditional travel corridor was “treeless, denuded, and much eroded.” He continued to say of the Kolekole Pass, “Probably the tree occurred originally across this stretch. Its absence now may be due to denudation by [sandalwood or other] lumbering, forest fires or cattle grazing.”

---

210 St. John, page 17.
212 St. John, page 14.
On the leeward slopes of the Koʻolau range, St. John recorded that sandalwood grew at an altitude between 166 and 546 meters from the “Niu-Wailupe Ridge to Kaunala and” swung “around the northern end to Laie.” The northern, sloping end of the range receives less wind and rain and can therefore support sandalwood, whereas to the southeast of Laie there were no historic stands of ʻiliahi. From Manoa to Moanalua on the southwestern side of the Koʻolau Range St. John said there “has been a conspicuous [12 kilometer] gap in the distribution of sandalwood.” With the exception of Gaudichaud who used Oʻahu as part of his composite sketch of ʻiliahi, “there is no old record, no published record, no herbarium specimen to represent this region [behind Honolulu], despite the fact that it is the most thoroughly botanized section in the Hawaiian Islands.” He also said of the hills and valleys behind Honolulu:

As this habitat is suitable [for ʻiliahi to grow], this 8-mile gap is curious. Sandalwood is attractive, easily recognized; it thus has both historic and sentimental interest, and most botanists collect it every time they see it. Consequently the gap is probably not due to lack of [botanical] collections.

Despite the eight-mile or 12 kilometer gap, St. John noted of the Koʻolau Range that *S. freycinetianum* grew “on the leeward side on nearly every secondary ridge,” and “was common at the lower edge of the forest in the Koa Zone and occasional up into the forest. Young trees are numerous, but so, too, are old trees.” In certain spots in this range, the trees were nearly full sized. He noted:

At Kalauao there are trees 20 feet tall, 6 inches in diameter; at South Opaekaʻa Gulch trees are 20 feet tall, 1 foot in diameter; at Laie-Malaekahana ridge a grove with trees up to twenty feet tall, 1 foot in diameter; and at Puu Peahinaia a tree 30 feet tall, 18 inches in diameter.

---

216 St. John, page 14.
218 St. John, page 15.
Other large specimens were also found in the late 1930s and early 1940s. St. John cited Charles S. Judd’s 1939 report that in the Waola Valley in Kawaiola on the north shore, *S. freycinetianum* was “30 feet high, 21.3 inches in diameter.” He also said that one “territorial” forest ranger, Tom McGuire, reported that on September 28, 1943, he saw an even larger specimen of *S. freycinetianum*, near the Anahulu river. McGuire told St. John:

> It is near the north crest of a northern ridge descending from the Anahulu Trail about one-fourth mile inside the Forest Reserve boundary at about 1,300 feet altitude. The tree had many branches and a wide spreading crown. As its trunk forked 4 feet from the ground it was measured at 3 feet from the ground. It was 25 feet tall, 78 ½ inches in circumference, 28 inches in diameter.

There are several other cases that could be cited from St. John, but it is evident that *ʻiliahi* survived logging, fires, and destruction from goats, cattle and horses. He concluded:

> Though decimated by the sandalwood trade, the tree persisted on Oahu, survived the overgrazing and forest recession, and is now common and widespread at its former upper limit, now the lower forest line on the lee[ward] side of the Koolau Range and on both sides of the Waianae Mountains. Most of its present stations are protected from further destructive exploitation by their situation within the Territorial Forest Reserves.

As evidenced by Stemmerman’s map, the persistence of *ʻiliahi* was not limited to O‘ahu, but extended to Kaua‘i, Hawai‘i, Maui, Moloka‘i, and Lana‘i. With the exception of a handful of ethno-botanists, authors discussing sandalwood depletion in Hawai‘i have not pursued or highlighted this angle. In particular, historians and anthropologists who

---

218 St. John, pages 15-16
219 St. John, page 16; citing Charles S. Judd,
220 St. John, page 16.
221 St. John, page 20.
have chronicled the sandalwood era have yet to incorporate information about ‘iliahi that biologists have been privy to soon since St. John’s article appeared in 1947. To be fair, these writers were concerned with different questions, or rather certain quotations that sought to summarize the trade. The next chapter lists and gives brief comments on these quotations.
The uncritical application of a blanket explanation has in fact encouraged the neglect of material which might throw light on other reactions of the islanders to contact with foreigners.
---They Came For Sandalwood, Dorothy Shineberg

**Chapter Four:**

**Splinters of Sandalwood, Depictions of Deforestation**

Roughly ten primary sources have come to dominate the historical discourse about what the maka‘ainana experienced during the sandalwood era. Compared to other moments of Hawaiian labor history that have a plethora of written, oral, or pictographic sources, sandalwood logging has but a dearth. Constructing maka‘ainana working experiences from these sources is like using splinters to reconstruct a sandalwood tree or forest. Because these sources, or parts of them, have been so often cited by historians, from Ralph Kuykendall to John Beechert to Noel Kent, for example, and hence diffused to the public, they deserve some commentary. For rhetorical purposes, I will step away from chronology and instead order them according to the relative subject positions of the authors who penned them. The Hawaiian historians David Malo and Samuel Manaiakalani Kamakau writing in the 19th century illustrate an indigenous perspective about how the sandalwood trade was conducted. Christian missionaries Levi Chamberlain, Peter J. Gulick, Daniel Tyerman and George Bennet reflect the proselytizing positions of the American Board of Commissioners for Foreign Missions and the London Missionary Society, respectively. The merchant/explorers Otto Von Kotzebue, Gilbert Farquhar Mathison, Charles Wilkes and Sir George Simpson represent more secular and/or commercial viewpoints.
Although the discussion that follows pegs these authors according to their relative subjective positions, this does not mean I am trying to recapture their biographies in any substantial sense. Instead, I seek to tease out multiple, possible meanings from the most notable sandalwood quotations. This essay does not seek to exhaust each quotation. It humbly offers questioning vignettes.

I. The Hawaiian Sources

David Malo’s Mo‘olelo

David Malo was an ali‘i who trained himself to read and write in English at a Lahaianluna Christian missionary school in the early to middle 19th century. He wrote numerous news article and a history book, a mo‘olelo, about life in Hawai‘i. In terms of sandalwood, there are two articles that need probing; an 1839 article he wrote discussed relations between ali‘i, maka‘āinana, and the debts; an 1840 piece discussed sandalwood logging in the mountains and debt.

In the April 2, 1839 edition of the Hawaiian Spectator newspaper Malo lambasted ali‘i with a broadside titled “On The Decrease of Population on Hawaiian Islands.” In this polemic, he laid out his criticisms of the ali‘i:

The chiefs seem to have left off caring for the people. Their attention has been turned more to themselves and their own aggrandizement and they do not seek the welfare of the people as a nation, and therefore they [the people] are more oppressed at the present time [1839] than ever they were in ancient times.... Even at this present time the chiefs are in debt, and the people are generally seeking money to pay their chief’s debt.... On account of this want of care on the part of the chiefs for the people, some of the people are losing attachment to the land of their birth; they forsake their place of residence, their kindred, and live here and there where they can find a place.

This passage illustrates that by the late 1830s social relationships that had historically bound ali'i and makaʻāinana together were breaking down. The makaʻāinana were being “oppressed.” Of course, the makaʻāinana were not mere passive victims. They made choices to either stay and resist passively through compliance or leave the ahupuaʻa where they were being abused. The abuse seems to have strained family ties and created a class of workers in the early stages of proletarization whereby they labored in order to procure money to pay aliʻi debts instead of tilling their own fields to generate payment from the land’s wealth. Malo’s statement that the makaʻāinana were more “oppressed at the present time” than at any other time in their history, is dealing directly with the happenings in the late 1830s, but could also be extended to the 1820s. Even in this case, as the letter from Kanoa to Laʻanui shows, the makaʻāinana in the late 1830s were subverting aliʻi orders by logging and trading independently. Concomitantly in the late 1830s, King Kauikeaouli was drafting a pre-Mahele forest privatization law and restricting sandalwood logging by asserting a two-thirds monopoly over it. The tenor and of the law and his monopoly do reflect Malo’s points that certain aliʻi were no longer interested in caring for the makaʻāinana. In other words, this passage tells several stories about abuse, overt resistance, accommodation, and social disruption occurring in the late 1830s. Malo seems to have extended this late 1830s criticism to the early 1820s in another article published in 1840.

In the August 1, 1840 edition of the The Polynesian, Malo wrote an article that described the reign of Liholiho, drinking, sandalwood and debt. He wrote:

The chiefs also gave to their men—to some ten packages (of cloth), to some five to others two; the king [Liholiho] also bought several vessels on credit. In this way the king became involved and his subjects exhausted in collecting sandalwood. For this purpose they-
-spent long seasons inland, and many died in the mountains\textsuperscript{223}

This paragraph illustrates the early 1820s when the ali'i were permitted to participate in the sandalwood trade. Varying amounts of payment of cloth packages to their “men” also offer murky clues about gifts to lesser ranking ali'i and how this might have excited them to push and “exhaust” the “subjects.” Read another way, a pyramid of payment for delivery of wood suggests opportunity for the makaʻainana—was hard work rewarded with “two” packages of cloth? Might have this small enticement encouraged some to spend “long seasons inland”?

An inherent weakness of Malo’s articles is the fact that they give no spatial references, nor take into account nuances of the time involved in processing and transporting ʻiliahi. The “long seasons” he speaks about seem to allude to 1821 when well over 20,000 piculs were collected on O'ahu. Ellis’s writings point out that in 1823 (and perhaps until January 1827) sandalwood extractions were infrequent, only lasting 3 to 4 days, and were only done after agriculture was tended to. Without question, pneumonia would have been exacerbated by chilly mountain winds. Of course, pneumonia and diseases new to the Kanaka Maoli killed thousands on the balmy beaches too, regardless of whether they were working or not. As for the debt, Malo continued:

Debt is a viper. Like a roaring lion, so is the debt of Hawaii.
One may well pity the common people whose shoulders the payment [of sandalwood] is laid; those who contracted the obligation cannot discharge it. The burden of this folly has existed from the time of Liholiho till now...
The natives labored diligently to pay the debts, but without success, for the favorites at court were not less diligent in contracting new ones, saying, Let us run into debt that the chiefs and common people may by [sic] burdened since we issue no order to them.\textsuperscript{224}

\textsuperscript{223} The Polynesian, August 1, 1840. UH MICROFILM
\textsuperscript{224} Ibid.
Malo is right that the debt was placed on the maka‘āinana, but he does not point out that they were allowed to sell their wood after paying half a picul and did just that. As was mentioned in the previous chapter, the majority of the wood cut in 1827 was the property of the maka‘āinana, although they were paying ali‘i taxes and conducting logging for them. It is also true that the wood they possessed was of poorer quality. It is also true that certain ali‘i continued to exchange new foreign goods without first paying off their old debts, but that was due to multiple factors: an expression of bargaining power over merchants and merchant dependency on the market to stimulate new trade in order to stay afloat. Personal debts were passed on to the Kingdom’s national debt, which was not paid off in 1840 when Malo was writing. But it was not the sole act of new consumption that led to the continuation of the debts: the Hawaiian Kingdom’s subversive tactic of delay in the face of warships, the reluctance of others to pay for the debts of dead ali‘i like Boki, and the ecological depletion of marketable sandalwood factored into the debts being prolonged. His final comment about the ali‘i taking advantage of Liholiho to run up debts reflects a reckless cadre within the court that included several Americans. Kamakau said of this cadre:

[they] strove to lead Liholiho to drink more heavily, and when he was drunk they would run him into debt and sell him, not small lengths, but many bolts of cloth, and charge goods to his name.\(^{225}\)

Malo is accurate in terms of this faction’s corruption, and the anger that comes across in his article is understandable. However, his portrayals of ali‘i, maka‘āinana and ‘iliahi in these passages, I contend, reflect the worst aspects of the trade, not the more mundane qualities. He also downplays maka‘āinana agency by describing them within a victim trope. He gives no sense of the Kamehameha I period when the trade was more stable.

\(^{225}\) Kamakau, Ruling Chiefs, page 251..
nor the period starting in 1827 when the maka‘āinana exercised their opportunity to exchange ‘iliahi for practical and luxury goods associated with mana. His criticisms do have credence, but lack the sort of specifics that would give a clearer picture about on the ground events and decisions. Luckily, Samuel Kamakau’s writings about ‘iliahi are more specific.

Kamakau on the Kanaka Maoli

Nearly all of the primary citations from Kamakau used by American historians about the sandalwood era come from Ruling Chiefs of Hawai‘i. Ruling Chiefs is a compilation of news articles he wrote in the 1860s and 70s that were translated from the Hawaiian language newspapers Kū ʻōkoʻa (Ke Au ʻokoʻa) and Ka Nupepa Ku ʻokoʻa. He also authored a trilogy that spelled out ancient traditions, customs, agricultural systems, creation stories, place myths, the Hawaiian calendar and ali‘i genealogies, among other topics, but he did not really concern himself with specifics about the sandalwood exchange in these books. Ruling Chiefs is really where the strongest splinter sentences of sandal reside.

To be exact, as far as the relationships between sandalwood cutting, agricultural production, hard labor, and famine are concerned, Kamakau discussed them in two passages. The first passage pertains to the origins of the trade during Kamehameha’s sixth or seventh year on O‘ahu—1811— and has been used in earlier chapters of this work. After signing an agreement that gave Davis and the Winship brothers export monopoly rights, Kamehameha I returned to Kailua, Hawai‘i, in 1812 and “sent people to

226 The following are a complete title list of Kamakau’s trilogy: Ka Poe Kahiko: The People of Old; The People of Old; Nā Hana o Ka Poʻe Kahiko: The works of the people of old; Nā Moʻôlelo a ka Poʻe Kahiko: Tales and Traditions of the People of Old.
mountains after this wood, which some of the foreigners had pointed out to him." He then sent men:

into the mountains of Kona and Ka-'u to cut sandalwood, paying them (my italics) in cloth and in tapa material, food, and fish. Other men carried the wood to the landings of Kona, and Ka-'u as well as of Kohala and Hamakua. The chiefs also were ordered to send out their men to cut sandalwood. This rush of labor to the mountains brought about the scarcity of cultivated food throughout the whole group. The people were forced to eat herbs and tree ferns, hence the famine called Hi-laulele, Haha-pilau, Laulele, Pualele, 'Ama'u, or Hapu'u, from the wild plants resorted to. The chief immediately declared all sandalwood to be the property of the government and ordered the people to devote only part of their time to its cutting and to return to the cultivation of the land. 228

This is the most compelling case for suggesting that the maka'ainana suffered from want of food that was caused because cultivation was curbed in favor of cutting and carrying sandalwood. However, there are three pressing points that need to be stressed. Firstly, cloth and food provisions were given, but it is unclear who received these payments. Certainly, the paucity of "cultivated" food drove them to eat traditional famine ferns across the islands.

Secondly, the famine might have been sparked by other factors: slow economic recovery from Kamehameha's wars of conquest, the impact of new diseases on the producing population, or the food provisions that were spent as payment for the logging. As David Stannard has noted, most of the population lived on the windward coasts. But most of the sandalwood was to be found on the leeward dry land forests and mesic forests on the mountain slopes. Population movements to the other side of the island may have led the windward fields to languish. Lastly, Kamehameha I took action immediately to quell the famine and protect the population. Directly following this temporary "cultivated" food shortage in 1812, on Hawai'i, he began planting a taro farm and placed

227 Ibid. Page 204.
228 Ibid, Kamakau, page 204.
a kapu on them, including their tops. Kamehameha I intervened to protect the population and even respected the maka‘ainana’s rights to refuse giving their food to ali‘i. Kamakau said, “He (Kamehameha) believed in the rights of the common people, even their right of refusal (to give food to ali‘i).”

The second passage pertains to 1821:

The king’s [Liholiho’s] favorites [which included a coterie of Americans] helped increase the debt. They were outspoken in saying, ‘Let us run up the debt and make the chiefs and the commoners work; they are no friends of ours, so let us get what we can while our lord is alive.’ The debts were met by the sale of sandalwood. The chiefs, the old and young, went into the mountains with their retainers, accompanied by the king and his officials, to take charge of the cutting, and some of the commoners cut while others carried the wood to the ships at the various landings; none was allowed to remain behind. Many of them suffered for food; because of the green herbs they were obliged to eat they were called ‘Excreters-of-green-herbs’ (Hi-lalele), and many died and were buried there. The land was denuded of sandalwood by this means.

The moment Kamakau depicts from 1821, the peak year of sandalwood logging, is disturbing. A faction within Liholiho’s court comes across as callous in their attitudes towards the maka‘ainana and other ali‘i outside of their circle. This appears to be the same group that included Americans who ran up bills when Liholiho was inebriated. Both disease and want of food took the lives of “many” maka‘ainana. Did the maka‘ainana know that disease would run high and food low when they went into the mountains in 1821? Based on the famine of 1812, they might have harbored worry. Then again, sandalwood extractions after 1812 up until that point had been more stable, so it is possible that they weren’t expecting troubles. They might have known about their tasks in

---

[229] Ibid, page 204.
terms of the division labor: some would cut, others would haul. In any event, accommodation to ali`i demands was their path when called to log.

Concerning the food shortage itself, as Charles Bullard noted (and which was cited in chapter two) although agricultural production in 1821 was weakened by sandalwood logging, it may have also have been impacted by several months of feasting and, possibly, poor rainfall. In terms of place, this reference alludes to a massive mobilization of the population. More than twenty-thousand piculs were cut on O`ahu in 1821, so this passage more than likely reflects suffering on this island and not the outer-islands. This reference might include Kaua`i where around ten-thousand piculs were taken, but it is uncertain. More than likely, three mountain areas on O`ahu are being described in this passage. He might be describing the leeward Koʻolau valleys and mountains from Manoa to Aiea due to their close proximity to Honolulu; the southern Waianae range due to its location to trails that lead to Pearl Harbor; and the northern Waianae range near Waialua.

St. John argued that between 91 and 300 meters, sandalwood grew on every secondary ridge in the Waianae range and the leeward side of the Koʻolua range. As was mentioned in the last chapter, Reynolds notes that most of the wood was coming from other parts of O`ahu, and not behind Honolulu as of 1823. Put plainly, I contend this passage portrays suffering on O`ahu, and maybe Kaua`i, in 1821.

II The Missionaries

Levi Chamberlain

Levi Chamberlain was an ABFCM missionary who was living Honolulu at the time of the post-Kamehameha I sandalwood trade in the early 1820s. On one of his proselytizing excursions into Ewa in March of 1822 he and his party ran into trouble.
They took no provisions with them and expected the natives to sell them goods. But procuring food wasn’t easy. The March 19, 1823 edition of the *Missionary Herald* recounted their experiences:

> But they found the people very poor, and it was with much difficulty that they could obtain any food of the natives, and then only by three times its value. The reasons why provisions are so scarce on this island is, that the people, for some months past, have been engaged in cutting sandalwood, and have of course neglected the cultivation of the land. Vegetables are sold at a very dear rate.”

Three factors complicate this passage’s observation and conclusion. Firstly, their conclusion that sandalwood sawing created a short agricultural supply is contingent upon their description that they faced a hard bargain for the food they bought. Ill supplied, these missionaries were frustrated after they had “returned about noon, much fatigued, as well as very hungry” and relayed their tale and ruminated on its rationale. In other words, they had lost money and were trying to justify spending so much on food, notably the high priced vegetables.

Secondly, although agricultural production was recovering on O‘ahu from sandalwood logging the previous year, only the prices of “vegetables” are noted. Were they buying *taro* and cooking traditional Hawaiian meals, or searching for European produce? More than likely, they were after familiar European foods that probably were not given planting priority over *taro* at this time.

Lastly, it looks as if these missionaries were milked by shrewd *maka‘āinana* bargainers. Chamberlain and his party seem to have offered a lower rate for produce and acted indigently when they were not given their way. In 1822, no less than 60 ships came to Honolulu and purchased food supplies. Competition for supplies would have raised the

---

231 Missionary Herald, XIX, 1823, page 184.
price of food by decreasing supplies and encouraged the maka‘ainana to ask for current, not previous, market prices. There also may have been two sets of prices: one for locals, another for haoles. Ultimately, this passage says more about the bargaining between maka‘ainana in Ewa and these missionaries than it does about the relationship between sandalwood logging and the production agriculture, especially taro, in 1822.

**Reverend Daniel Tyerman and George Bennet Esquire**

Reverend Daniel Tyerman and George Bennet Esquire visited the Hawaiian islands in late 1821 and early 1822 as part of a world tour with the London Missionary Society. In the spring or summer of 1822 on Kailua, Hawaii, they observed:

> On one occasion we saw two thousand persons, laden with faggots [stick bundles] of sandalwood, coming down from the mountains to deposit their burthens in the royal store-houses, and then depart to their homes, wearied with their unpaid labours, yet unmurmuring at their bondage.\(^{233}\)

This passage from the journal of Reverend Daniel Tyerman and George Bennet Esquire shows three complex points. To begin with, earlier in the text, they illustrate a naïve and limited sense of the sandalwood trade. They said, “the king monopolizes the property of these trees.”\(^{234}\) They wrote this observation in 1822, three years after Kamehameha I, and his monopoly on ʻiliahi, had died. Liliholiho had no such monopoly. This lack of understanding seems to have extended to observations that these workers were inherently suffering; they didn’t capture traditional systems of reciprocity and equated their labor with “bondage.” To be fair, Hawaiian social systems of reciprocity and aloha were strained at this time, but Tyerman and Bennet don’t seem aware that this was occurring.


\(^{234}\) *Tyerman and Bennet, Vol. 2 page 43.*
Secondly, their observations about “unpaid labours,” and “unmurmuring... bondage” seem imbued with a Christian moral quality that would have played into justifications for proselytizing. In other words, their goal of spreading Christianity (especially Tyerman) for the London Missionary Society appears to have compelled them to look for “injustices” to correct with their interpretations of the teachings of Jesus. In terms of the social meanings of sandalwood extraction, then, this passage is limited. However, it can be inferred that because the observation occurred in 1822, the maka‘āinana were practicing tactics of accommodation in the face of ali‘i demands for ‘iliahi.

Lastly, although the social meanings of their writings are problematic, it is still useful for pointing out how rapidly a lot of wood could be transported from the mountains to coastal storehouses. Assuming that each person was carrying at least a picul of “faggots” or sticks, in one afternoon alone over 2,000 piculs could be transported to warehouses on the coast. The time spent in locating and felling sandalwood is uncertain, but given that different groups cut the wood and others groups carried it, does is not seem unsurprising that they were “unmurmuring”? Using this observation in tandem with Ellis’s writings about extractions on Hawai‘i in 1823, a pattern of swifter extraction emerges whereby thousands of tons wood were moved from the mountains to the coast in less than a day.

In summary, this passage does not necessarily reflect coercion or suffering. Had Bennet described their experiences as closely as he wrote about sandalwood and Hawaiian plants, then, this passage might be more persuasive that the maka‘āinana suffered.

Peter J. Gulick

The Reverend Peter J. Gulick was another missionary who wrote a crucial account of sandalwood extraction. In April of 1830 on Kaua‘i, Gulick wrote:
Felt distressed and grieved for the people who collect sandalwood. They are often driven by hunger to eat wild and bitter herbs, moss &c. And though the weather is so cold on the hills that my winter clothes will scarcely keep me comfortable, I frequently see men with no clothing except the maro. Were they not so hardy, many of them of would perish.\footnote{Ibid, page 90. Cited from the \textit{Missionary Herald}, Vol. 27, page 382.}

There are two main points that need to be kept in mind when reading this passage: the meanings of sandalwood logging on Kaua‘i in 1830, and Gulick’s purpose for going into the mountains where he encountered the maka‘āinana loggers.

Firstly, even before the Gulick penned this passage, he wrote that sandalwood collection was levied as a punishment on people who were consuming and selling alcohol and probably practicing Hawaiian religion. Gulick said:

\begin{quote}
The governor recently fined several natives, for drunkenness. Each man found guilty was fined a quantity of sandal wood valued at sixteen dollars and each woman half that amount. The foreigner who sold them the liquor was also fined [His italics]. A company of men and women have recently been fined [in sandalwood?] for idolatry, that also being contrary to law.\footnote{Gulick, \textit{Missionary Herald}, Vol. 27,1831, page 381.}
\end{quote}

Violation of temperance and probably the practice of Hawaiian religion, Christian “kapus,” were part of the sandalwood collection equation on Kaua‘i in 1830, as was the Kingdom’s ‘iliohi taxes. Depletions of ‘iliohi at more accessible lower elevations created a context whereby its collection was unfavorable and could serve to discipline and punish those violating certain tenets of Christianity.

Secondly, Gulick was ill when he wrote about the “cold” winds of the mountains. Weeks before he went into the interior he became sick. On April 12, 1830, he wrote:

\begin{quote}
Rode into the interior of the island, chiefly for the benefit of my health, which for a few weeks had been rather feeble. Travelled [sic] about fifteen miles in a northern direction.\footnote{Gulick, page 381.}
\end{quote}
This quotation shows that he rode 15 miles north—the following day he ran into men bearing sandalwood. Might have the land been significantly denuded of ‘iliahi for 15 miles north of Waimea in 1830? Attempting to regain his health, and still feeling sick one day later, on April 13th, he briefly observed the ‘iliahi loggers and commented about how cold it was even in his “winter clothes.” These European “winter” garments were unlikely suited for tropical humidity and may have sponged-up moisture, keeping his skin wet and sensitive to any wind. Moreover, he does not say that maka ‘āinana were sick. He said they were “hardy.” They might have been sick and thus eating medicinal ferns or moss to regain health, but it is hard to know this without knowing the specific plants they were eating. Assuming that they were hungry or sick, that it was cold, and that they were suffering, judging from how one man reacted to Gulick, it appears that they were cutting sandalwood as a Christian fine for drinking or selling alcohol; and possibly for practicing their traditional religion. Gulick approached this man and began talking about religion:

 Attempted to converse with a man who seemed somewhat offended. This is the only instance I have known at the islands of a person appearing to be displeased with conversation on the subject of religion.238

This passage does not offer any conclusive evidence that these men were cutting sandalwood in order to pay off a fine of $16, but, like the quotation from Gulick that he was sick, it complicates the meanings and context of the citation in question.

The Explorer/Traders

Otto Von Kotzebue

Otto Von Kotzebue, a German captain for the Russian American Company who visited Hawai‘i in 1817-1818 and 1824, is often cited for a brief remark he made about the decline of agricultural production associated with sandalwood logging.

238 Gulick, page 382.
He simply said of O'ahu in 1817:

Many fields also lie uncultivated, as the inhabitants are obliged to fell sanders-wood [sic].

This caption from the Kamehameha period is correct to point out that the maka 'āinana were obliged to cut sandalwood, but it is difficult to gauge the extent of the meaning about cultivation. It is unclear which fields he speaks about, or how long the people were gone for. Moreover, what is the meaning of this sentence when matched up with his other accounts of cultivation? Of O'ahu he said:

it is called the garden of the Sandwich islands, and it has a right to this name, on account of its extraordinary high state of cultivation.

He said of taro fields:

I have seen whole mountains covered with such [taro] fields, through which the water gradually flowed; each sluice formed a small cascade, which ran through avenues of sugar-cane or banana, into the next pond, and afforded an extremely picturesque prospect.

One year later, in 1818, another Russian explorer, Vasilii Mikhailovich Golovnin, reported that a considerable amount of taro was being exported from O'ahu to Hawai'i. Thus, whatever labors they were pouring into cutting, it does not seem that they necessarily undermined subsistence levels of food production on O'ahu in 1817 and 1818.

---

240 ibid, p 319, v1.
241 ibid, p 314, v. 1
Gilbert Farquhar Mathison

The English traveler Gilbert Farquhar Mathison visited Hawai‘i in the early 1820s as part of his tour around the world. At one point, he visited the ali‘i Ke‘eaumoku Coxe in Waialua, O‘ahu in July of 1822. During this visit, Mathison witnessed a moment of punishment. Mathison said:

When a tenant refuses to obey the order of his chief, the most severe and summary punishment is inflicted on him, namely, the confiscation of his property. An instance occurred while I was at Waialua. Coxe had given orders to some hundreds of his people to repair to the woods by an appointed day to cut sandal-wood. The whole obeyed except one man, who had the folly and hardihood to refuse. Upon this, his house was set fire to and burnt to the ground on the very day; still he refused to go. The next process was to seize his possessions, and turn his wife and family off the estate, which would have been done had he not made a timely submission. It has been said that no compensation is made to the laborers for their work, except a small grant of land. This, however, does not prevent the chief, if kindly disposed, from distributing supplies gratuitously among them. Kalaimoku is said to have once distributed no less than 300 blankets among his people.²⁴³

Unquestioned, Mathison’s assessment may sound “matter of fact,” but there are three issues which need be considered for the sake of its complexity. Firstly, by Mathison’s own pen earlier in the text, he said that the people were only required to labor for their ali‘i, Coxe, “one day in a week, or a fortnight, as occasion may require.”²⁴⁴ Following this vein, Mathison wrote, “I have seen hundreds of them—men, women, children—at once employed in this way (working one day a week) on the tarrow [sic] plantations; all hands turn out for they assist each other in a body, and thus get through the work with greater expedition and ease.”²⁴⁵ This dissenter, then, was not merely

²⁴⁵ Ibid.
resisting the wanton whims of Coxe, but was violating the nature of communal cooperation for easier labor production: he was therefore risking banishment from that *ahupua'a*.

Secondly, there might have been a particular metaphor to the incendiary punishment. According to David Malo, in order to construct a house, people would, “journey into the mountains, and having selected the straightest trees, they felled them with an ax and brought them down as house timber.” If this man refused to go the mountains for sandalwood, this punishment would have forced him to go to the mountains anyway to collect wood in order to reconstruct his home.

Thirdly, Mathison said that people were paid with a small parcel of land for their *'iliahi* labors, and, occasionally, rewarded with blankets. Might he have been paid in land, at the very least, and thus have an obligation to Coxe to work when periodically summoned? Had he not been paid, and thus refused to work?

Ultimately, we have no real proof as to why this one person initially resisted joining the rest of his community in collecting sandalwood on that particular day in July of 1822. His actions do represent overt resistance to the demands of sandalwood extractions. But what compelled him to resist? Was he a former *ali'i* replaced by Kamehameha's appointees and thus challenging the new rulers? Was he exhausted? Did he feel the sandalwood trade upset traditional relations between *maka'ainana* and *ali'i*, a rupture of the reciprocity of *aloha*? Was this man angered that women and children had to participate? Was Coxe failing to provide for the people? This statement might be used to reflect the threat of force *maka'ainana* could face in the early 1820s if they failed to collect would, but it seems to speak more about what Coxe did than a broad blanket.

---

statement about all ali‘i. Also, it still is uncertain what he and the maka‘āinana were ordered to do that day. Were they cutting wood, collecting wood, or both?

Charles Wilkes

Charles Wilkes headed the United States Exploring Expedition which from 1838 to 1842 traveled throughout the Pacific amassing scientific data. Wilkes published his work in five volumes in 1845 about his global journey. Concerning Hawai‘i and sandalwood, he made several sweeping comments after the large part of the trade was over. He said:

The course of this trade led to all sorts of tyranny and oppression by the chiefs towards their dependants. 247

He continued to write a dramatic rendition of the maka‘āinana’s alleged response to logging:

Those [trees] which were not cut down for sale, it is said [my italics] were destroyed by the natives, to prevent impositions being practiced upon them. Not unfrequently, the chiefs would dispatch their dependants to the mountains, with nothing to eat but what they could gather from the forest of ferns, the core of whose trunk supplied them with a scanty and precarious subsistence. These hardships were enough to cause whole tracts to become waste. 248

Other authors have commented about how the ali‘i abused the maka‘āinana throughout the course of the trade. Like them, Wilkes misses the various periods in the trade, and the agency of the maka‘āinana, who cut sandalwood for themselves from 1827 until 1840. One of the most unique qualities of his observations concerns how the maka‘āinana resisted sandalwood logging by destroying the remaining trees. Curiously, no other authors noted this. David Malo, Samuel Kamakau and even John Papa I‘i openly

248 Ibid.
criticized the ali‘i and felt that the commoners were abused. But not even they said that the maka‘āinana destroyed the trees to prevent impositions from them. One questions where Wilkes obtained this bit of information. Furthermore, he does not say that the maka‘āinana destroyed the trees to prevent their children from having to harvest them.

The earliest source I could locate that said this was Charles Sheldon Judd, one of the early “territorial” foresters who published an article in the *Honolulu Star-Bulletin* on February 8, 1936. Judd said:

> And so the harassed common people took matters into their own hands and did their best to root out and destroy every last sandalwood tree so that the oppression of the chiefs in compelling them to slave for this commodity could not be extended to their descendants. 249

This story of rebellion for the sake of the “descendants” was reiterated again in 1989 by Ralph E. Daehler, the State District Forester for Kaua‘i. Daehler said:

> Unjust demands eventually caused the toiling Hawaiians to pull up young sandalwood trees so that their children would not also be compelled to fell and pack sandalwood logs. 250

This tale of the rebellion for the sake of the children is so engrained in the current understanding of the trade that people can say that it happened without even citing a single source to bolster this claim. Not even the classical early 20th century historians like Theodore Morgan, Thomas Bradley, or Ralph Kuykendall said the maka‘āinana rebelled, and they too, like Malo, Kamakau and I‘i, openly criticized the ali‘i. Hawaiian oral traditions may have encoded this story, but even those authors who express this detail don’t say when or where it came from. This is not to say that the maka‘āinana did

---

not subversively resist by destroying trees. However, other than Wilkes’ vague comment and a forester’s newspaper paragraph written over one-hundred years later, there is no written proof that they did this. In the previous chapter I suggested that if sandalwood sabotage did take place, it was probably done on the Big Island in the “sandalwood forest” above Kealekekua Bay where *S. paniculatum var. pilgeri*, the tallest of the species, was growing at an altitude of 1,365 meters. However, I do not (like either Thrum or Hosmer) claim it was done for the sake of descendants or children. More research is needed to clarify this sticky subject. Where is the primary source?

**Sir George Simpson**

Sir George Simpson, Governor-in-Chief of the Hudson Bay Company, also remarked about sandalwood after the trade had ended. The few chapters he authored about Hawai‘i on his world travel narrative of 1841 and 1842 are dramatic. Simpson wrote of the sandalwood trade:

> As the sandal-wood grew chiefly in rugged and almost inaccessible heights, the natives, accustomed, as they are to the coasts, to a temperature approaching more nearly to perfection, both in degree and steadiness, than perhaps any other in the world, were doomed to endure the chilly air of the mountains without shelter and clothing, the cold of the night being aggravated by the toil of the day; and when they accomplished their tasks with bodies enfeebled by these constant privations, not only uncommonly also by want of food, they were compelled to transport the whole on naked shoulders to the beach by paths hardly practicable in many places to one unburdened.

> As a matter of course, many of the poor wretches died in their harness, while many more of them prematurely sank under the corroding effects of exposure and exhaustion.

> During the reign of Kamehameha, who monopolized the trade in question, such evils were in a considerable degree checked by his comparatively enlightened policy; but no sooner was he succeeded, in 1819, by Liholiho, than they were not only systematized in the most cruel manner, but accompanied by incidental evils fully as fatal as themselves.
The thoughtless and dissipated youth surrendered his father’s monopoly to individual chiefs, who knew little wisdom as they did of mercy; to hard-hearted oligarchs, in whose eyes satins and velvets, china and plate, wine and sweetmeats, were infinitely more precious commodities than the lives of serfs. Under the new order of things the men were driven like cattle to the hills, to every cleft in the rocks that contained the sapling of the sacred fuel; while, through the consequent neglect of agriculture and the fisheries, the women and children, without controlling power either of social decencies or of domestic affections, were left to snatch from each other, the strong from the weak and the weak from the helpless, such miserable pittances as rapacious tyrants and hungry thralls were likely to spare for idle mouths.  

Six factors complicate this account. Firstly, it is entirely hearsay and off-the-cuff. He admits this at the outset of his writings about Hawai‘i in the second volume. “I shall separate, though without aiming at extreme accuracy [my italics], of [a] classification” of these peoples. Secondly, the sandalwood trade was over by the time Simpson skipped through the islands. Thirdly, even if one champions Simpson for his writings about natural details, there are still gaping flaws within the text. Even before ever setting foot on O‘ahu, he was already projecting postulations about what had happened to the land. Interestingly, this example also pertains to sandalwood. On approach to O‘ahu from Moloka‘i, he wrote:

In our present position, Woahoo [O‘ahu] bore a remarkable sterile and rugged aspect, exhibiting, at least to our comparatively distant view, nothing but distant rocks, which, varied in form, and in form only, between the truncated crater and the towering peak—the sandal-wood, which once clothed them [how does he know?], having been literally extirpated. It was distinguished by the natives as Leahi, which was merely translated into Diamond Hill, from a notion that it contained, or had once contained, precious stones.

---

Unless specifically told by a local, long-seasoned beachcomber, merchant, or missionary (and he doesn’t say) it is impossible that Simpson could have known that Diamond Head had been “clothed in sandalwood.” Supposing it had been stripped bare of ‘ili‘iahi, this is a low lying, arid crater, and not one of those chilly mountain passes he claims where the trade took place: extraction would have been relatively easy at Diamond Head. This passage, I contend, illustrates his naïve notions about expected landscapes (especially from a “distant view”) and therefore assuages his commentaries about deeper social issues.

Fourthly, his pen paints colorful impositions, but masks the more quotidian qualities of the exchange. In other words, his reach for the poetic proves more about the fictive nature of his tale than it does the truth. Prior to exhorting the lengthy passage that was later printed in Thrum’s Annual, he wound up the pitch with biblical fire and brimstone flare that hinted at the “depravity” of “savagery.”

Simpson said:

Again, these wars [of Kamehameha] were almost immediately succeeded by a still heavier scourge in the prosecution of a trade which, by a mysterious dispensation of Providence, virtually sacrificed to the idols of a foreign land a far greater number of human victims than had ever been actually consumed on the blood-stained altars of the group.254

As for the fifth point, his comment that the Hawaiians were “victims to idols of foreign lands” as a result of the sandalwood trade seems like an odd concern for the Governor-in-Chief of Hudson Bay Company who was actively implementing a Pan-Pacific capitalist ecumene: logging in British Columbia was one of the company’s sources of wealth. His writings sound like a subtle snipe at the American’s who were

---

then dominating the trade and colonizing the islands. This passage, then, seems to have a subtext of colonial jealousy. Or, if he was referring to China, it would have a racist connotation, among many, of Europe's or Great Britain's cultural superiority. In either case, the Hawaiian past is mapped onto these guiding colonial subtext constellations, and not really depicted for an audience of Hawaiians—which seems obvious, but needs to be stressed nonetheless to show that he has no real need to relay "an extreme degree of accuracy" or truth to what he's saying about Hawai'i, but is instead making a literary story for a specific group.

Lastly, Simpson quotes a temperature chart made by the missionaries at different times of the day for two years, 1837 and 1838. He says that the chart came from the Hawaiian Spectator, the same publication that ran David Malo's essay on the decline of the native population in 1839, three years before Simpson's arrival. Given the fact that Malo wrote another article in The Polynesian in 1840 that mentioned that the makaʻāinana were laboring in the mountains, and the fact that Malo, in the Spectator, also pegged part of the decline of the natives due to the "burdens" placed on them, two things more than likely occurred. The community of English speakers privy to these publications passed along to Simpson Malo's interpretation as a memory model of the entire period. Also, Simpson, who not only engaged this Anglophone community and would have been influenced by this memory model (as well as independent spins of it). His discussion of these labor abuses, not surprisingly, is embedded in an essay which comments on the prime factors of the decline of the native population. However, his hearsay rendition seems to have come from a limited, filtered fountain of facts that blurred rather than mirrored the 'iliahi trade.
Conclusion

The purpose of offering small commentary on these sources, these splinters of sandalwood, has not been to say that the maka 'āinana did not experience abuses or suffering during the logging. Rather, the purpose has been to complicate the way in which the story of their abuse is told. To do so requires a radical rethinking of the sources that have been most used, a rethinking of the strengths and weaknesses inherent in them, and how they might reveal as much about maka 'āinana agency as the appear to say about victimization.

Pacific historian David Chappell has written about the messy tensions involved in Pacific Island historiography when discussing “active agents versus passive victims.” Following James Scott’s writings about “everyday resistance” peasants in Malaysia exhibited, from work stoppages to sabotage, etc., Chappell has suggested that Islanders could be both “active agents and passive victims” at the same time. In terms of the maka 'āinana during the sandalwood era, they were both victims and agents, but at different moments and to different degrees. Before the earnest trade started in 1811-1812, some of the maka 'āinana may have been “actively” selling sandalwood as firewood to foreign ships, but this is not clear. During the Kamehameha I period, they were active agents participating in traditional Hawaiian public works projects that were geared for a newly emerging exchange economy. From 1819 to 1826, they were victims of certain ali 'i and konohiki excesses in the emerging capitalist exchange economy but continued to participate and accommodate and were thus also active agents. Ali 'i demands on and abuses of their labor did not necessarily decrease after 1827, but the maka 'āinana had a

255 "Active Agens versus Passive Victims: Decolonized Historiography or Problematic Paradigm?” by David Chappell, pp. 303-326 in Voyaging through the Contemporary Pacific edited by David Hanlon and Geoffrey M. White
greater degree of motive and freedom to log and sale ‘iliahi independently and actively exercised those options.

Their independent and collective deliberations during these periods of sandalwood logging have all but escaped the written record, but they were nonetheless part and parcel of the history of Hawai‘i’s shift from an agricultural tributary economy to a capitalist exchange economy. The following chapter concludes that their labors, like those of the ali‘i, represent a radical shift in how Hawaiians related to non-human nature, and therefore exemplify an ecological revolution.
"All of the trees belong to me."
-- Anonymous haole, Kaua'i, September 1848

**Conclusion**

Following the argument that an examination of work over time reveals how people relate or interact with non-human nature, it is evident that *maka 'āinana* labors during the sandalwood era are emblematic of an ecological revolution. Their deliberations, their choices of accommodation and compliant participation with Kamehameha’s call for logging, the accommodation, subtle and overt resistance they exhibited under *ali 'i* excesses, the participation, accommodation and resistance that marked their lumber labors from 1827 to 1840, cannot be overlooked or ignored when considering the structural transformation of Hawai‘i’s political economy.

With the exception of anthropologists Jocelyn Linnekin and Marshall Sahlins, most authors have overlooked or side-stepped *maka 'āinana* agency in this structural transformation during the sandalwood era. However, both Linnekin and Sahlins miss certain points about agency in this social and ecological shift. In a six page section about the sandalwood trade, Linnekin says that:

> Supplying shippers allowed some competition between chiefs and commoners; extracting sandalwood was experienced by the commoners as oppression, to which they responded with passive resistance.\(^{256}\)

Although this statement notes that the *maka 'āinana* competed with *ali 'i* for supplying ships, she repeats the standard narrative about their experiences during extractions. She does note that they used “passive resistance” but gives no details as to what this means nor a descriptive portrait of what the “oppression” or the “extraction” entailed. To be fair, Linnekin gives a general discussion of the trade that is only a brief section in a larger

---

chapter about economic transitions. Still, because she otherwise gives a tenacious and
trenchant rendering of how Hawai‘i became enmeshed in and dependent upon capitalist
economics, it needs to be stressed that her work misses the broader experiences and
agency of the maka‘ainana in this transition during the sandalwood era. A milder version
of this critique holds true for her mentor at the University of Chicago, Marshall Sahlins.

In a collaborative two volume work with archaeologist Patrick V. Kirch, *Anahulu: The Anthropology of History in the Kingdom of Hawai‘i*, Sahlins wrote two chapters in
the first volume about the sandalwood period. Apart from the inherent weakness of
broadly employing information about the entire sandalwood era as a history of the
Anahulu Valley in the Waialua moku on O‘ahu, his work is the most recent and
arguably strongest piece of socio-cultural scholarship on the trade. One chapter, titled
“The Political Economy of Grandeur” concerns itself with ways in which the “Kingship”
became enmeshed with the politics of accruing mana. In a deft and richly researched
discussion of Hawaiian court politics from 1820 to 1830, he examines how alliances with
foreign merchants and missionaries created “a complex set of chiasmic structures” of
power. 257 Hawaiian leaders were “divided among themselves, politically and religiously
as well as economically, and the Hawaiian chiefs, also mutually at odds, were quick to
seize upon the differences among foreigners to further their own ambitions.” 258

Sandalwood provided the economic means by which power could be accrued and
hierarchy asserted. Although this chapter characterizes court and elite culture to portray
the general sandalwood period, it does not say much about the maka‘ainana. If anything,
they are construed as corvée labor that collected the wood for power thirsty elites.

However, he partially assuages this stigma in a second chapter titled “Sandalwooding in the Countryside: Waialua.” Of the makaʻāinana he said:

In the unusual circumstances of large-scale crash campaigns, the common workers might be allowed to take a small amount of sandalwood on their own account after they had fulfilled the chief’s requirements.\(^{259}\)

Citing Bullard, he says they took wood for themselves in 1821 and 1822, when the highest yields were taken. Citing Kuykendall, he also says that this happened in 1827 “when the cutters were allowed to retain a half picul of wood” for the aliʻi debts.\(^{260}\)

However, Sahlins doesn’t take into account that from 1827 to 1840, the makaʻāinana were also cutting and selling independently. He is not entirely correct, then, to conclude that “As a rule, however, the commoners were excluded from the sandalwood business, except in the capacity of labor.”\(^{261}\) If applied to the period when Kamehameha I conducted the trade, this statement holds true. If applied to the period from 1821 to 1826, it is complicated because most of the logging took place in 1821 and 1822 when he acknowledges that the makaʻāinana retained some sandalwood, which they ostensibly bargained with independently. If applied to 1827 and thereafter, this statement is tenuous at best because the makaʻāinana were not excluded from exchanging sandalwood. In fact Kauikeouliʻi had to push a royal two-thirds monopoly act in 1839 to restrict makaʻāinana and aliʻi dealings. As the small letters unearthed at the Hawaiʻi state archive reveal, even the makaʻāinana were selling sandalwood logs as late as 1838.

For the remainder of the “Sandalwooding in the Countryside” chapter, Sahlins discusses other demands placed on makaʻāinana labor, such as the hoʻokupu land taxes,

---

\(^{259}\) Sahlins, page 84.

\(^{260}\) Ibid.

\(^{261}\) Ibid.
and the Christian "regime of the new Kaʻahahumanu," but less about the specific labors of logging in Waialua or elsewhere. As with the early parts of this chapter, the makaʻāinana are described more in terms of what happened "to" them instead of what they were doing within the new structures. He also relies heavily on information about the Kaʻahumanu court and the construction of religious schools in Waialua to paint a picture of the landed aristocracy that serves as an example of how power was managed in the rest of rural Oʻahu. He said:

As elsewhere in rural Oʻahu, the local efflorescence of chiefship went hand in hand with a decline in the farming population as well as the diversion of labor to sandalwooding.\(^{262}\)

Granted, this seems more an issue of scant sources rather than his unwillingness to include direct information about the makaʻāinana. He said of information later recorded by Kamakau in the 1860s:

No one knows exactly what the Waialau people felt or said about this regime [of Kaʻahumanu]. There is only the displaced but telling comment in the stories circulating about the chief's relations....\(^{263}\)

Despite the remnants of the "displaced but telling" comments left in Kamakau and elsewhere, Sahlins does not really tease out the layers of makaʻāinana agency during the sandalwood era. To be fair, he discusses them in an entire end chapter, but the subject pertains to their lives in the mid-19th century and examines shifting kinship structures and how they impacted later economic arrangements.

Although I quibble with the way in which Sahlins discusses what the makaʻāinana experienced in the sandalwood era, I feel he correctly concludes that:

Capitalism realized itself through the mediation of a set of Hawaiian structures. In and through the Hawaiian system there developed a-

\(^{262}\) Sahlins, page 96.
\(^{263}\) Sahlins, page 90.
-specific organization of commercial demand, desires for commodities of certain kinds, certain forms of labor control [and resistance], an intensity of 'exploitation' and resentment thereof, particular relations of land tenure, tendencies of migration, policies of social reproduction and so much more. 264

He also said that these processes passed through "through local relationships of kinship and exchange."265 Although my work is not concerned with kinship, I do contend that the makaʻāinana exchanged ʻiliahi. It is my contention that they should be viewed as both victims that were not passive and agents influenced by structure. Their deliberations, actions, experiences too, in summary, mediated and mirror the transition from a tributary mode of production and exchange to an early capitalist mode of production and exchange. Sandalwood profits were the impetus for this ecological revolution: cultural disruption and deforestation were the outcomes. Regrettably, there are no written materials available in English that describe the inner-workings or contradictions of these deliberations. My research barely scratches the surface of this issue. More research in Hawaiian language newspapers should shed light on their deliberations.

If an ecological revolution encompasses shifts in production, exchange, reproduction, and consciousness, then my interpretation of the deliberations the maka ʻāinana made about their labors can only offer so much for comprehending changing relationships with non-human nature. I do not explore modalities of consciousness, nor discuss how this changed both biological and cultural reproduction. However, as far as production and exchange are concerned, this thesis does offer insight into those changes and pegs them to specific locations of sandalwood loss and survival. Historians and anthropologists alike have underscored how the sandalwood era intrinsically linked Hawaiʻi with global

264 Sahlins, page 216.
265 Ibid.
market forces and America’s sphere of influence in the Pacific basin. This thesis agrees with those conclusions.

From 1812 to 1829, production increasingly shifted towards using maka‘āinana labor for logging campaigns and did, in 1812 and 1821 (and possibly in 1827) take a toll on the amount of food planted and harvested. Pressures from Fiji, the Marquesas, Canton and America influenced the global rhythms and contours of the Hawaiian sandalwood exchanges, but local politics mainly mediated the extent of forest loss. Internal shifts in production were mainly mediated by the types of exchanges negotiated by Hawaiians and foreign merchants, especially New Englanders. It should be emphasized that during the sandalwood trade, even in the face of American gunboats, Hawaiians did not lose the upper-hand over the exchanges with foreigners. As long as there was a marketable supply of sandalwood, kings, ali‘i, and post-1827 maka‘āinana independent cuttings all played a role in the time-table involved in the repayment of debts. Some ali‘i, like Boki, took their debts with them to the grave. Seventeen years transpired before the Hawaiians paid back all of the debts in 1843.

Internally, the fabric of the Hawaiian system of reciprocity was rupturing in the 1820s and 1830s as ali‘i marshalled maka‘āinana labors for mana and self aggrandizement. Hawai‘i’s former hierarchical fabric was further weakened as the maka‘āinana cut and bargained sandalwood independently for foreign wares and money after 1827 to take care of material needs and pay the Kingdom’s taxes.

Exchanges of sandalwood and the consequential frayed social relations had a deleterious effect on Hawaiian forests in both the short and long run: erosion, stream, lagoon and reef silting, ecological succession by invasive species of flora and fauna,
reduced canopy coverage, decreased biodiversity, etc. Although sandalwood survived, the species, along with Hawaiian dry-land forests, became islands in and of themselves.

Due to both the forest privatization measures in 1839 and 1840 associated with sandalwood and the Great Mahele of 1848 which privatized all public lands, Hawaiian’s power over their environment began to weaken. American colonizers began to assert authority over the places where ‘iliahi grew and used these laws to legitimize their supposed “right” to do what they wanted with the land. For example, in 1848 Paul Kanoa wrote a worried letter to the governor of O‘ahu, Keoni Ana, about a haole logger on Kaua‘i. The letter serves as a metaphor for the ecological revolution that had occurred and the ensuing stages of deforestation and American hegemony in Hawai‘i. Kanoa wrote from Kaua‘i on September 23, 1848:

Here is this: About the sandal-wood, the bark has all been cut by the foreigner. I warned them [him?] not to cut the sandal-wood, and the foreigner said, this place is all mine, ‘all of the trees belong to me.’

---

266 Paul Kanoa to Keonia Ana, September 23, 1848. Kingdom of Hawaii, Department of the Interior, Archives of Hawaii, Honolulu.
Bibliography

Hawaii Mission Children’s Society Library, HMCS
Archives of Hawaii, AH
Foreign Office and Executive Files, Kingdom of Hawaii, F.O. and Ex.
Department of Interior, Kingdom of Hawaii, DI
University of Hawaii Microfilm, UHM
University of Hawaii, Manoa, Hawaii-Pacific Collection, UHMHPHPC

Letters

John Paalua to John Adam Kalua, Oahu, June 24, 1823. F.O. and Ex, AH
Paul Kanoa to G. Laanui, Honolulu, Oct. 27, 1838. F.O. and Ex, AH.
Paul Kanoa to G. Laanui Nov. 7, 1838. F.O. and Ex, AH
Paul Kanoa to Keonia Ana, September 23, 1848. DI, AH
Naukana to Paul Kanoa, Saturday Nov. 20, 1838. F.O. and Ex, AH

Newspaper Sources


“New Trail to the Volcano May Be Called the ‘Sandalwood Trail.’ ” Honolulu Advertiser, April 15, 1926. Page 3 C-1.


“To Cultivate Sandalwood: Valuable Trees Will be Grown Once More in Hawaii.” Honolulu Advertiser, August 22, 1900. Page 10, C-1

Missionary Herald, Vol. 27, 1831.


The Polynesian, David Malo, August 1, 1840. UHM
**Academic/Scientific Articles and Papers**


St. John, Harold and Margaret Titcomb. “The Vegetation of the Sandwich Islands as Seen by Charles Gaudichaud in 1819” in *Occasional Papers of Bernice P. Bishop Museum*, 1983


**Journals**

Bullard, Charles B. *Letterbook of Charles B. Bullard, supercargo for Bryant and Sturgis at the Hawaiian Islands and Canton, 20 March 1821-11 July 1823*. Typescript, HMCS.


Wilkes, Charles. U.S. Exploring Expedition, 1838 to 1842; 5 volumes, Philadelphia, 1845.

Books


**Monographs**
