

farther-flung Niuatoputapu and even 'Uvea. Archaeological remains on Niuatoputapu and 'Uvea (Frimigacci and Hardy 1997; Kirch 1988a; Sand 1993c, 1998b; Sand and Valentin 1991) reveal extensive evidence of a Tongan intrusion around A.D. 1500–1600, in the form of elaborate Tongan-style burial mounds, pigeon-snaring mounds, and fortifications. To return to the oral histories, Kauulufonuafeikai implemented a significant structural change in the chiefship, reserving for himself (and subsequent Tu'i Tonga titleholders) the sacred authority of the kingship, but simultaneously creating the office of the *bau*, or secular paramount, who became known as the Tu'i Ha'a Takalaua. The first titleholder of the *bau*-ship was Kauulufonuafeikai's younger brother Moungamotu'a. This diarchy of sacred and secular leaders came to an end with the 39th and final Tu'i Tonga, Laufilitonga, who passed away in A.D. 1865.

The residential and ritual center of these political elites was at Mu'a, fronting the Tongatapu lagoon. There the dual paramounts occupied separate residential compounds, and successive generations of Tu'i Tonga and their kinfolk were interred in massive burial mounds (*langi*) faced with slabs hewn from coral limestone. At Mu'a, a stone pier or dock projects 200 meters into the lagoon, a material symbol of the external power base that the Tongan elite had achieved through their wars of interisland conquest. Each year double-hulled canoes brought tribute to Mu'a from these outlying islands, to be offered up to the Tu'i Tonga at the *'inasi* ceremony on his ceremonial plaza (see Figs. 7.10 and 7.11).

The proto-historic Tongan chiefdom had evolved into a kind of "maritime empire," maintained by emplacing junior-ranking members of the Tongatapu elite on outlying, conquered islands. These junior chiefs, removed from Mu'a where they might potentially threaten or subvert the

power of the Tu'i Tonga or of the *bau*, married local chiefly women of the islands they governed and enforced the authority of Tongatapu. This elite system established connections ranging beyond the Tongan archipelago, into Fiji to the west and Samoa to the east. Regular long-distance voyaging to these foreign islands—along with carefully arranged chiefly marriages—assured a flow of prestige goods (fine mats, feathers, sandalwood, barkcloth, canoes, pottery) into Tongatapu. These goods provided "wealth finance" that underwrote the political strategies of the Tongan elite (see Earle 1997:73). Thus while the makatea environment of Tonga might seem insufficient to underwrite a strongly hierarchic, centralized polity, through the integration of an entire archipelago (along with external sources of prestige goods)—initially through military conquest—the Tongan chiefs transformed their social formation into one of the most highly stratified in Polynesia.

Hawai'i: An "Archaic State"? Anthropologists have long regarded proto-historic Hawai'i as the most highly stratified of all Polynesian chiefdoms, a stage in cultural evolution approaching the formative levels of such "archaic states" as the old Fertile Crescent civilizations or of the Olmec of Mesoamerica. Summarizing his lengthy research into Hawaiian society and economy at the period of initial European contact, Marshall Sahlins writes:

Everything looks as if Hawaiian society had been through a history in which the concepts of lineage—of a classic Polynesian sort, organizing the relations of persons and tenure of land by seniority of descent—had latterly been eroded by the development of chiefship. Intruding on the land and people from outside, like a foreign element, the chiefship usurps the collective rights of land control and in the process reduces the lineage order in scale, function, and coherence. Of course, no one knows

when, how, or if such a thing ever happened.
(Sahlins in Kirch and Sahlins 1992, 1:192)

Sahlins points to a fundamental distinction between Hawai'i and most other Polynesian societies, in which land and resources were controlled by structures of *kinship*. In Hawai'i a structure of *kingship* had emerged in late prehistory (although some would argue that this was not fully developed until the early postcontact period). In an earlier work, Sahlins had put the matter this way: "The threshold which [Hawaiian society] had reached but could not cross was the boundary of primitive society itself" (1972:148). Restricted to the evidence of comparative ethnography, historical anthropologists such as Sahlins inevitably confront the problem of knowing "when, how, or if" such a transformation from kinship to kingship occurred. Rich oral traditions of chiefly marriages and alliances, wars and conquests, and other political events add much information (Kamakau 1961). But only archaeology provides direct historical evidence to track such fundamental changes through time, even though the processes underlying change must be inferred from material correlates of social action.

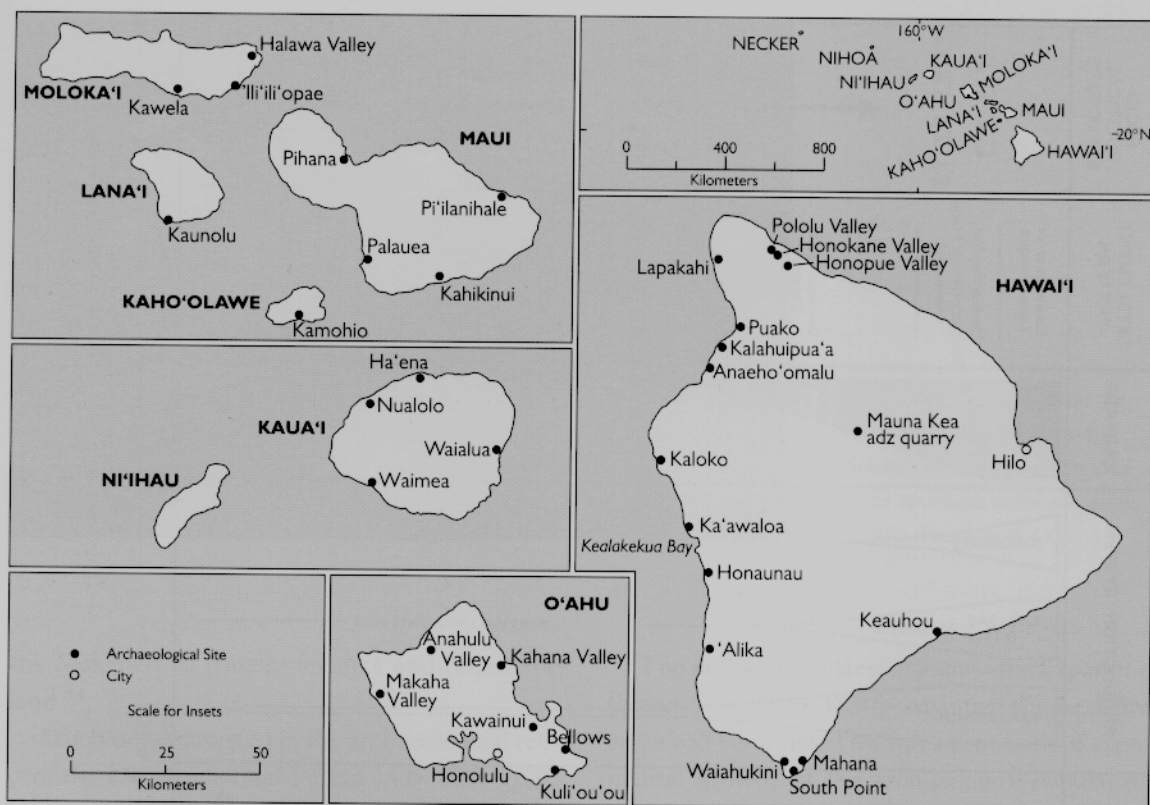
Hawai'i boasts the richest archaeological record for any Pacific archipelago.⁴⁴ Pre-World War II surface surveys defined the range of variation in monumental stone architecture, especially the numerous and structurally varied *heiau* or temple sites.⁴⁵ During the 1950s and 1960s, major excavation programs of the Bishop Museum and the University of Hawai'i outlined a material-culture sequence,⁴⁶ later augmented by settlement-pattern studies and increased attention to socio-political, economic, and demographic changes.⁴⁷ Aggressive economic development in Hawai'i, spurred by statehood in 1959, led to hundreds of CRM projects; while variable in quality and research orientation, these have created masses of

new data, such as extensive suites of radiocarbon dates.⁴⁸ The archaeological record from Hawai'i is so extensive that, as with New Zealand, an entire book-length treatment is required to do it justice (see Kirch 1985a); the following overview merely touches on a few highlights.

Excepting temperate New Zealand, the Hawaiian Islands, with 16,692 square kilometers of land area, constitute the largest archipelago in Polynesia (Map 15). Hawai'i enjoys a subtropical climate and fertile volcanic soils, making the islands ideal for the transference of the Oceanic root, tuber, and tree crops. This environment posed none of the environmental constraints to the rise of large, complex societies that we see in other Polynesian islands. And the precontact population of Hawai'i correlates with such environmental possibilities, for even by the most conservative estimates there were at least 250,000 indigenous Hawaiians when Cook arrived in 1778-79, and quite likely a good many more.⁴⁹

Individual Hawaiian islands vary greatly in their environmental characteristics, influencing cultural developments in important ways. Because the archipelago has a linear age progression (owing to its hot-spot origin; see Chapter 2), the older islands of Kaua'i, O'ahu, and Moloka'i, along with the western half of Maui, display deeply weathered and dissected landforms, with valleys and permanent streams well suited to irrigated terrace agriculture. These older islands have more developed coastal reefs, with better fishing and the potential to construct large fishponds for aquaculture. In striking contrast, geologically younger East Maui and Hawai'i—while they account for 74 percent of the total land area—mostly lack permanent streams and have large tracts of young lava flows (e.g., Kirch, ed., 1997). I will return to the significance of these environmental contrasts later.

Several archaeologists have synthesized the Hawaiian cultural sequence, and despite minor dif-



MAP 15 The Hawaiian Islands, showing the location of key archaeological sites.

ferences in terminology or periodization, they mostly concur.⁵⁰ Here I use my own formulation (Kirch 1985a:298–308), depicted in Figure 8.28. The Colonization Period (A.D. 300–600) remains controversial, for it is not well attested by direct archaeological evidence. Some archaeologists put the date of initial settlement of the archipelago as late as A.D. 750–800, although there are sufficient indications of earlier human presence that I would withhold judgment.⁵¹ Whatever the date of first settlement, the Marquesas Islands are the posited immediate source for the first Hawaiian colonizers, both on the evidence of material culture (fishhooks, adz forms) and on linguistic grounds (Green 1966; Marck 1999). However, Hawai'i did not

become immediately isolated from central Eastern Polynesia, and Hawaiian oral traditions speak of a "voyaging period" in which great navigator-chiefs such as Moikeha and Pa'ao made return voyages to "Kahiki" and back.⁵² The appearance of new fishhook styles in Hawaiian sites around A.D. 1200 may indicate contact between Hawai'i and the Society Islands, and there is linguistic evidence for Tahitic borrowings into Hawaiian language.⁵³ While long-distance voyaging certainly took place, it ceased after about A.D. 1300, after which the Hawaiian Islands became completely isolated from the rest of Polynesia. "Kahiki" became a mythic homeland from which the great anthropomorphic god Lono returned each year during

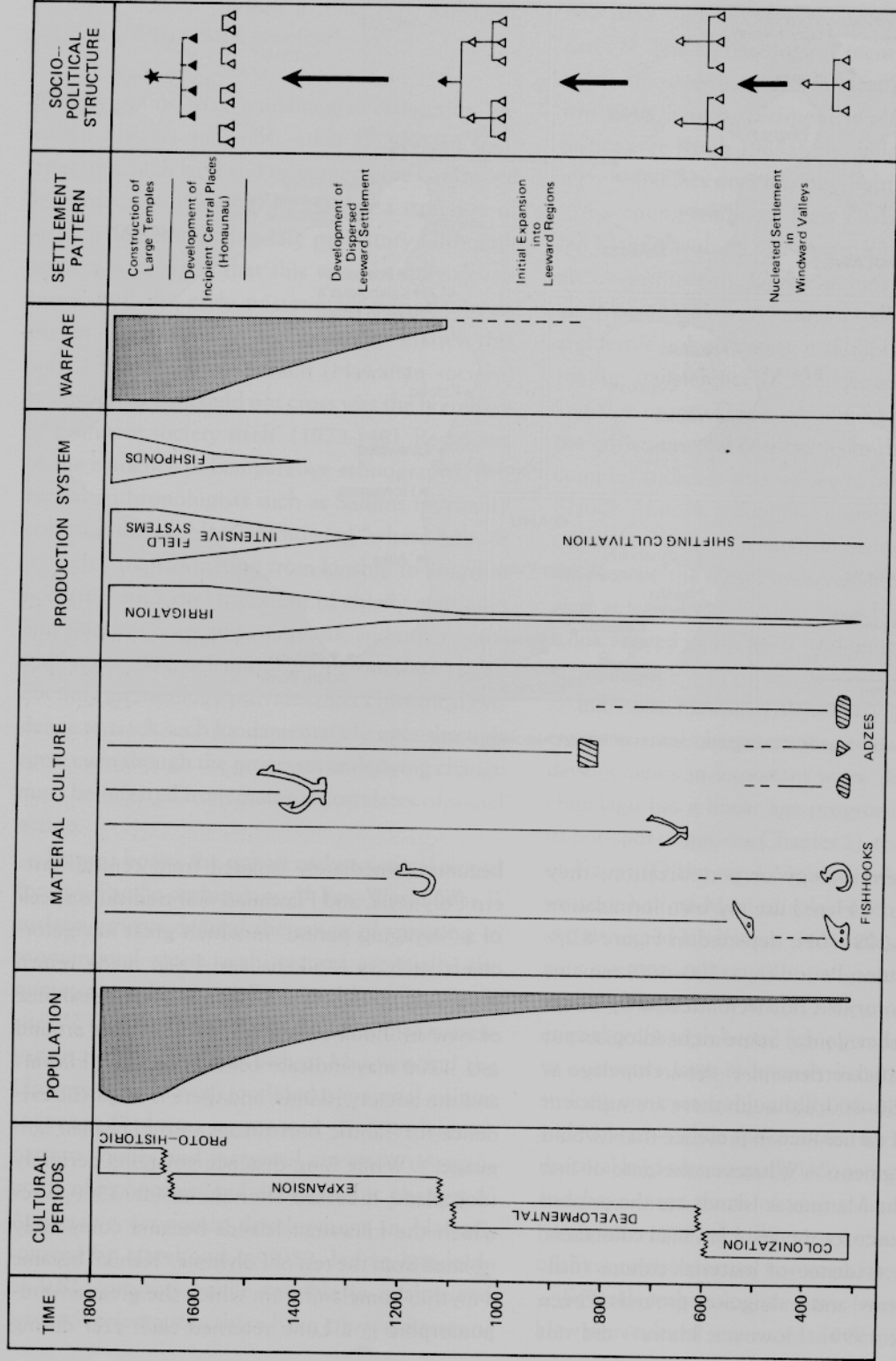


FIGURE 8.28 The Hawaiian cultural sequence. (After Kirch 1985a.)



FIGURE 8.29 The A1-3 dune site at the mouth of Halawa Valley, Moloka'i, with small round-ended house structures under excavation in 1970. (Photo by P. V. Kirch.)

the Makahiki to ritually fertilize and renew the land.⁵⁴

Much better attested in the archaeological record, the Developmental Period (A.D. 600–1100) is represented by sites such as the A1-3 sand dune at the mouth of Halawa Valley, Moloka'i (Fig. 8.29), the upper levels in the Waimanalo dune (site O18), and sites at Waiahukini, Hawai'i Island.⁵⁵ Fishhooks, basalt adzes, ornaments, and other artifacts (Fig. 8.30) exhibit local stylistic elements, differentiating them from styles in central Eastern Polynesia. Settlements were nucleated hamlets in coastal settings, and domestic architecture differed somewhat from that of later periods. In the Halawa dune site, round-ended house foundations were preserved (whereas later prehistoric Hawaiian dwellings were characteristically rectangular in form), and at Waimanalo the dead were interred under house pavements (a practice that ceased in later times). Pigs, dogs, and chickens were all present, and pollen and microcharcoal evidence from sediment cores on O'ahu indicates that forest clearance for agriculture was under way as early as A.D. 800.⁵⁶

The period of greatest change—the Expansion Period (A.D. 1100–1650)—spanned the next five and a half centuries. This was a time both of exponential growth of the archipelago's population and of its expansion out of the most ecologically favorable areas (what Rob Hommon has termed the "salubrious cores") into more marginal regions. During this dynamic period, production systems were intensified, ritual architecture was elaborated, and a system of hierarchical territorial land units was formalized. All of these changes—in tandem—radically transformed Hawaiian society.

The demographic transition of the Expansion Period is better attested in Hawai'i than for almost any other Polynesian group, thanks to a large sample of dated sites. Initial modeling of this demographic transition, based on sites in west Hawai'i Island, suggested a sigmoidal or logistic growth curve, generated from the kind of data plotted in Figure 8.31.⁵⁷ In such a logistic growth pattern, population at first increased at an exponential rate but later began to slow as density-dependent factors, such as the occupation of all arable lands, took effect. Cumulative radiocarbon



FIGURE 8.30 Artifacts from the early Bellows sand dune site (O18) at Waimanalo, O'ahu Island, included pearl-shell fish-hooks, coral and sea urchin-spine abraders, ornaments, a coconut grater, a bracelet of pig tusks, basalt adzes, and a basalt awl. (Photo by P. V. Kirch.)

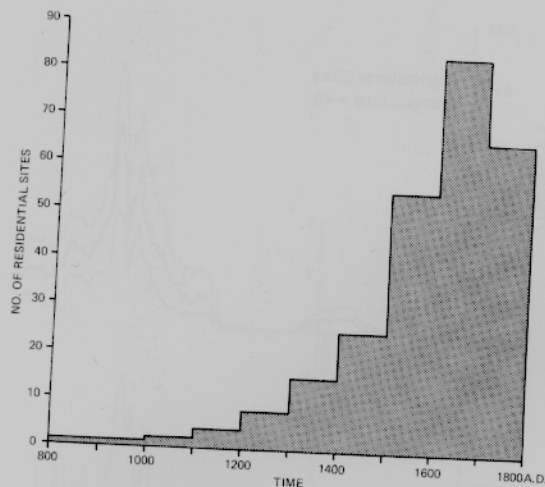


FIGURE 8.31 Hawaiian population growth as reflected in numbers of dated habitation sites. (After Kirch 1985a.)

date curves have recently been used as proxy records of the intensity of human activities on a landscape (and hence of population numbers), and they also display this kind of S-shaped sequence.⁵⁸ Figure 8.32 shows such curves for samples of agricultural and habitation sites. While it is difficult to convert these curves into actual population estimates (cf. Dye and Komori 1992), it is nonetheless evident that after about A.D. 1200, and continuing until at least A.D. 1600, the Hawaiian population expanded at a remarkable pace. Doubling times were probably on the order of a century or less. Such rapid demographic change inevitably spurred sociopolitical transformation.

Intensification of production went hand in glove with this demographic transition during the Expansion Period; indeed, these were arguably interlinked processes (see Kirch 1994:310–12). In the western islands—where topography and hydrology permitted—valley floors and lower hillsides were converted to terraced pondfields, irrigated by diverting streamflow into stone-lined canals (Fig. 8.33). In the geologically younger eastern

islands, irrigation was feasible only in limited areas, but vast volcanic flowslopes were in places gradually developed into intensive agricultural landscapes dominated by reticulate grids of stone walls, field systems that broke up the terrain into individual garden plots. In the Kohala region of Hawai'i Island, initial stages of field systems are recognizable by A.D. 1300, and they became increasingly intensified after A.D. 1450.⁵⁹ The later Expansion Period also witnessed the construction of large fishponds for aquacultural production of mullet and milkfish (Kikuchi 1976; Summers 1964) wherever coastal conditions permitted (Fig. 8.34).

Irrigation works in the western isles, and dryland field systems in the eastern group, both constitute forms of landesque capital intensification, but with rather different socioeconomic outcomes due to their differential labor input-to-yield ratios and their abilities to produce a surplus above individual household requirements. With irrigation, higher yields could be produced per unit of labor and greater surpluses extracted by the chiefs. In the dryland regions, greater labor inputs were required and the limits to intensification were more quickly approached, making the extraction of a surplus that could be put to political purposes more contentious. Two contrastive pathways to political (and ideological) transformation emerged.⁶⁰ The chiefly elite of the western islands invested heavily in irrigation works, while their religious system emphasized Kane, god of flowing waters and procreation. On Maui and Hawai'i Island, in contrast, the chiefs exercised a cycle of territorial conquest, promulgating a legitimating ideology based on the cult of Ku, a human sacrifice-demanding god of war, who seasonally alternated with Lono, god of rain and thunder (Valeri 1985).

Increased hierarchization of the Hawaiian chiefly class, and the use of religious ideology to legitimate chiefly dominance over the common

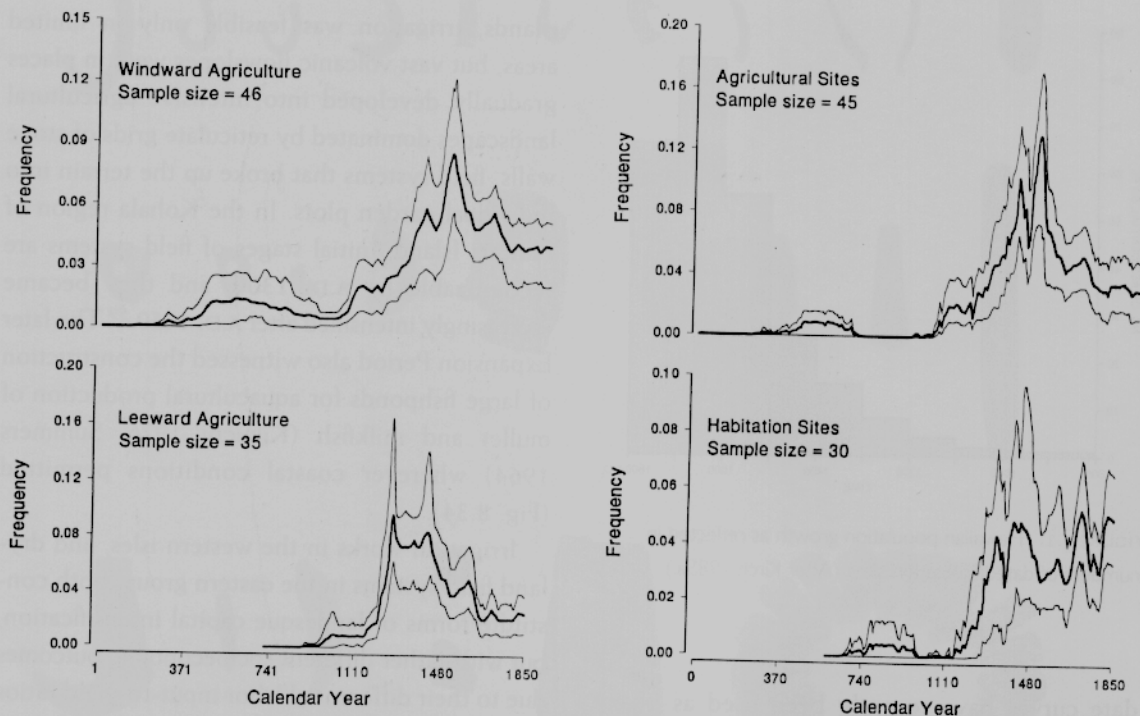


FIGURE 8.32 Radiocarbon date curves from Hawai'i have also been used as proxy indications of population growth. The two left-hand diagrams are for samples of radiocarbon dates from windward and leeward agricultural sites on Kaua'i, O'ahu, Moloka'i, and Hawai'i Islands. The right-hand diagrams are for agricultural and habitation sites on O'ahu Island. (After Jane Allen 1992 and Williams 1992.)

people (the *maka'ainana*), is best reflected in the archaeological record through the temple (*beiau*) system, which became more and more elaborated during the later Expansion Period (Kolb 1991, 1992, 1994). Diachronic studies of *beiau* are less common than surface surveys, but recent excavations document successive rebuildings of *beiau* over time, incorporating successively more elaborate architecture and greater size (both area and volume of stone).⁶¹ Michael Kolb's study of *beiau* on Maui Island suggests that temples with stone terraces or enclosures of significant size first began to be constructed during the early Expansion Period. Major phases of *beiau* building or rebuilding on Maui took place from the late Expansion to

early Proto-Historic Periods. The largest chiefly *beiau*, such as Pi'ilanihale in the Hana District, eventually covered as much as 12,126 square meters, incorporating massive volumes of stone fill. *Heiau* became functionally differentiated, with local agricultural temples (*beiau ho'oulu'ai*) marking individual land units (Fig. 8.35) and much larger *luakini* temples associated with paramount chiefs and the cult of war.

It was presumably in the late Expansion Period that the proto-historic Hawaiian system of land tenure—the so-called *abupua'a* system—developed. *Abupua'a* (literally "pig altar") were territorial units that ran from the mountain ridges down to the sea, cross-cutting the ecological grain of an island

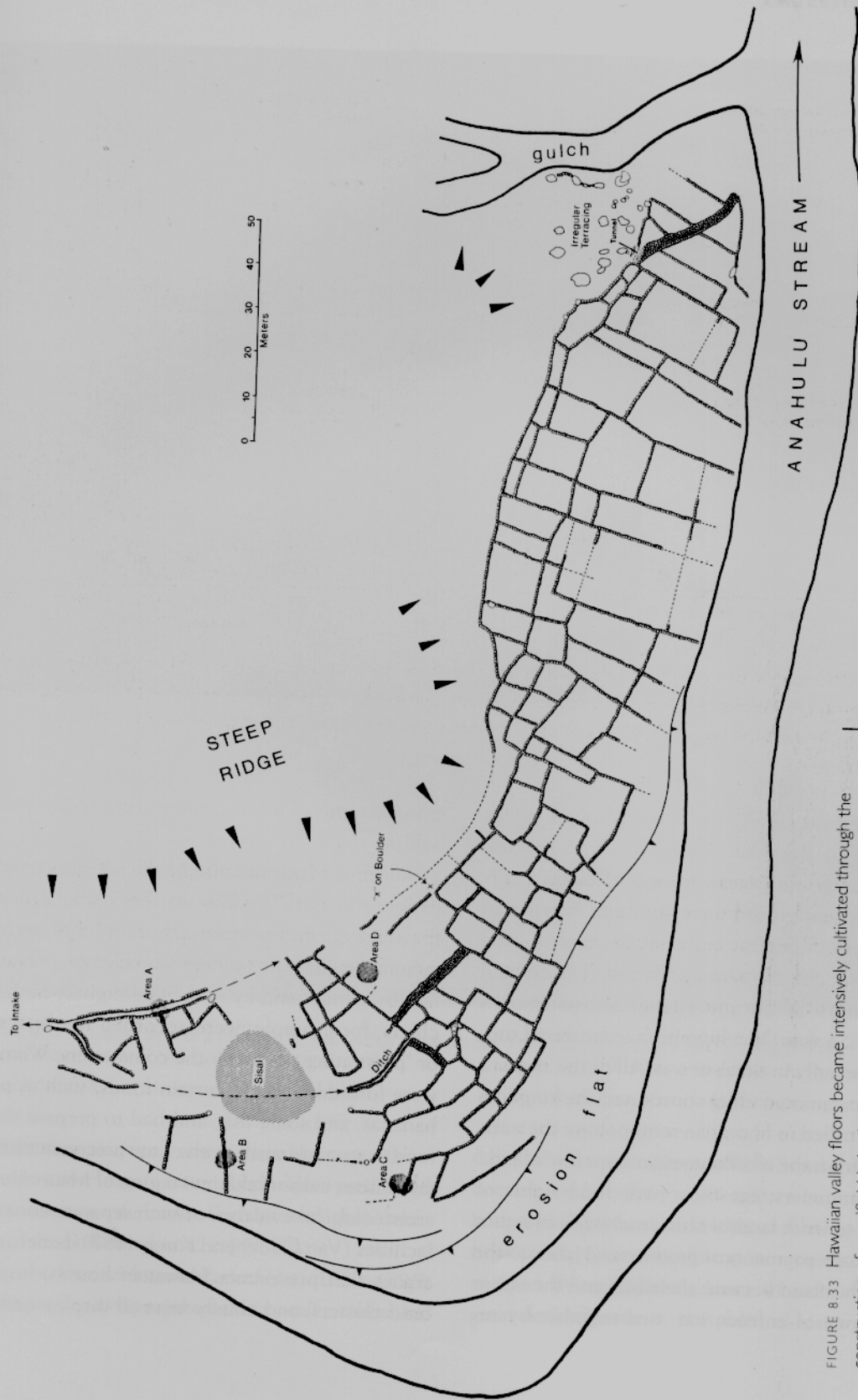


FIGURE 8.33 Hawaiian valley floors became intensively cultivated through the construction of pondfield irrigation systems, such as the one depicted in this archaeological plan from the Anahulu Valley, O'ahu. (After Kirch and Sahlins 1992.)

FIGURE 8.34 Another form of landesque capital intensification in later Hawaiian prehistory was the construction of large fishponds on reef flats, such as this pond on the southern shore of Moloka'i Island. (Photo by Thérèse Babineau.)



and incorporating all of its main resource zones (Cordy and Kaschko 1980). In proto-historic Hawai'i, such units were not the territory of a corporate descent group as in most other Polynesian systems but were each under the control of a lesser chief (the *ali'i 'ai abupua'a*), who in turn held this territory at the pleasure of the paramount chief (*ali'i 'ai moku*) to whom he owed material support, especially in times of war. All of the *abupua'a* under a paramount chief constituted the kingdom at large, called in Hawaiian terminology the *moku*, derived from the old Polynesian term for "island." The commoners, for their part, held rights of usufruct to work lands within an *abupua'a* in return for tributary payments of produce and labor to the chief. Thus land became alienable, and the entire system one of enfeudation, tied together by re-

ciprocal rights of tribute and protection (Kirch and Sahlins 1992).

Another transformation of the later Expansion to Proto-Historic Periods was the elaboration of the *kapu* system, a complex set of prohibitions and cultural practices that differentiated among Hawaiians by gender and by rank. The highest-ranking chiefs, for example, were accorded the *kapu moe* or "prostrating taboo" by the commoners. Women were forbidden to eat certain foods, such as pig, bananas, and some fish, and had to prepare their food in separate earth ovens. Late precontact habitation sites in the Kahikinui region of Maui exhibit archaeological evidence of such separate cooking facilities (Van Gilder and Kirch 1997). Ladefoged argues that precontact Hawaiian houses, household clusters, and chiefly *heiau* all display certain

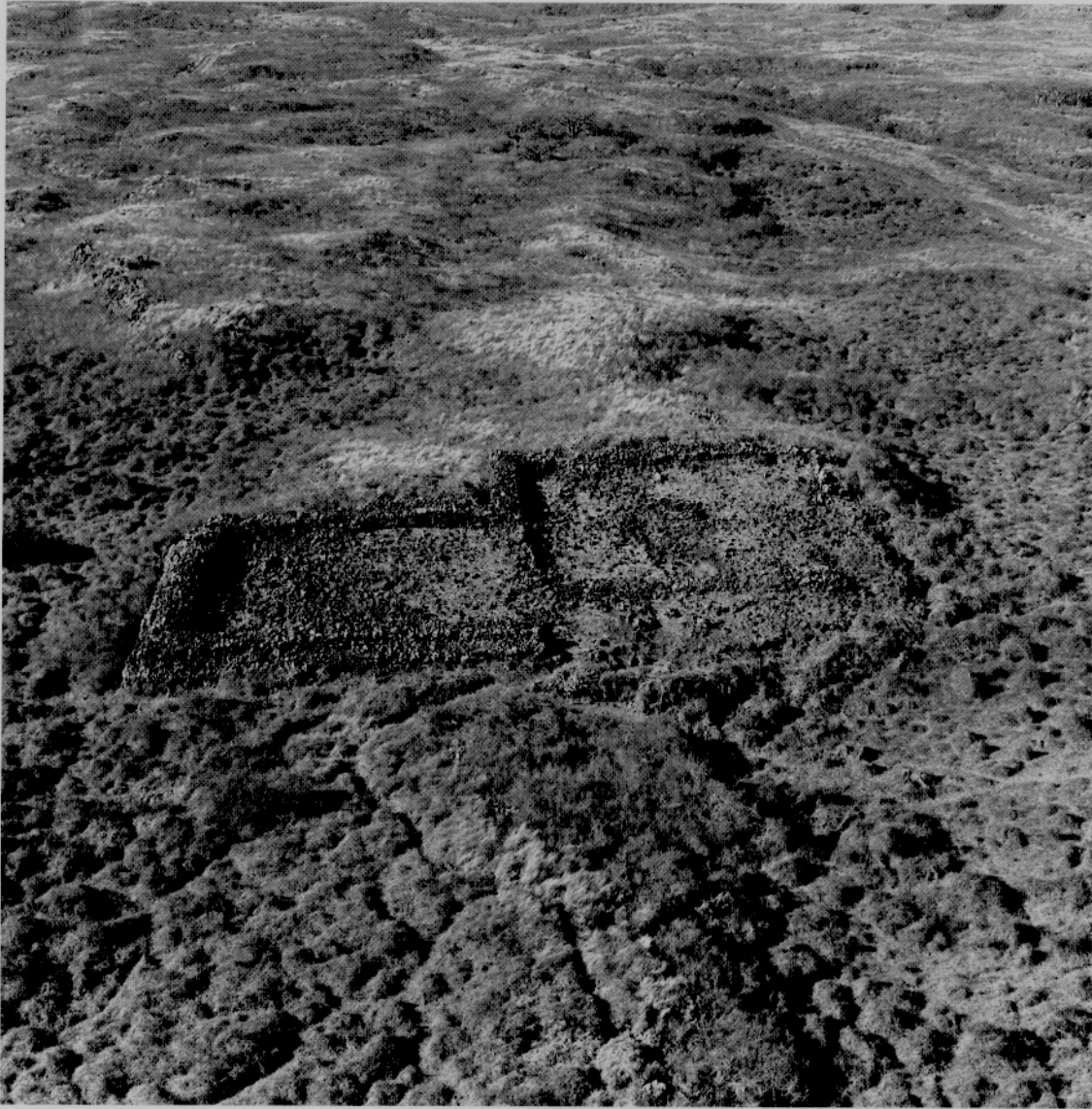


FIGURE 8.35 An aerial view of a mid-sized temple (*heiau*) in the *ahupua'a* of Kipapa, Kahikinui, Maui. (Photo by P. V. Kirch.)

structural similarities in their spatial layout, reflecting pervasive “organizational principles predicated upon notions of ritual offerings and the observance of the *kapu* system” (1998:70).

By the Proto-Historic Period (A.D. 1650–1795) the *ahupua'a* and *kapu* systems were well established,

to become increasingly entrenched and elaborated. Because we are able to draw upon a large and rich body of indigenous oral traditions relating to these final centuries prior to European contact, as well as upon the material evidence of archaeology, a great deal is known of the political history of this

period, including the economic, military, and religious forms of power employed by the chiefly class. Social stratification had reached a level at which the chiefs (*ali'i*) distinguished themselves as a class from the commoners (*maka'ainana*), and although endogamy was not absolute, it was strongly encouraged. Chiefs claimed descent from the gods and internally differentiated among themselves through elaborate genealogies and a ranked gradation of levels. Not only did the chiefly class control the land and material apparatus of production, they encouraged and supported craft specialists who produced sumptuary items that visually reinforced their status. Most remarkable among these material symbols were finely executed feathered girdles, helmets, capes, and cloaks.

Increasing wars of territorial aggression between competing chiefdoms and a progressive amalgamation of formerly independent polities into ever-larger chiefdoms dominate the political history of the Proto-Historic Period (e.g., Cordy 1996). By the late seventeenth century, four main polities had emerged, focused on the main islands of Kaua'i, O'ahu, Maui, and Hawai'i, with the fought-over smaller islands being incorporated into one or another of the main units. However, the political dynamism of Hawai'i in late prehistoric and early historic times emanated primarily from the two largest and youngest islands, Maui and Hawai'i. Sahlins put this in social terms in *Islands of History*, when he observed that "the oldest and most senior [chiefly] lines are in the western islands, Kaua'i and O'ahu, whence originate also the highest tabus. But then, the historical dynamism of the system is in the east, among Maui and Hawai'i chiefs, who are able to differentiate themselves from local competitors, or even from their own dynastic predecessors, by appropriating ancestry from the ancient western sources of legitimacy" (1985:20). The Maui and Hawai'i chiefs coveted the generously endowed production systems based on irri-

gation that these western islands offered. Not long before Cook's fateful visit in 1778–79, the Maui paramount Kahekili expanded his polity to encompass all of the islands to the west and was engaged in a fierce succession of wars with his arch-rival Kalaniopu'u of Hawai'i. After the fateful encounter with the West, Kalaniopu'u's successor—the famous Kamehameha I—made shrewd use of Western arms to incorporate the entire archipelago under his hegemony.


After Kamehameha's consolidation of the Hawaiian Kingdom in the first decades of the eighteenth century, this Polynesian society could only be classified as a "state." Did it take the impetus of an engagement with the expanding world system of the West to make the fundamental transition from a complex chiefdom to a state, to cross the "boundary of primitive society itself"? The question may be more rhetorical than theoretically informative, a matter of semantic categories. From a generalizing evolutionary perspective, however, it is worth asking. My own opinion has changed subtly over the years and increasingly weighs in on the side of those such as Hommon (1976) who have argued that even prior to Cook, Hawaiian society constituted an "archaic state." The development of class stratification, as well as the alienation of land rights from the producers, not to mention the forms of absolutizing religious ideology (including the war cult of human sacrifice) and the regular exercise of military force, are all typical of state-level social formations. Some will demur, pointing to the absence of incipient urbanism or of a writing system. The debate will continue, and because its terms cannot be fixed, it will have no final conclusion. But one thing is clear: in late precontact Hawai'i, Oceanic society at large—which had commenced with the Lapita expansion into Remote Oceania—witnessed its most far-reaching transformation.

Summary

In the quotation that heads this chapter R. E. Williamson—a pioneer in the comparative study of Polynesian societies—regrets that it would not be possible to ever trace out “what actually had been the history” of these Polynesian societies. Writing in an era when archaeology had scarcely commenced in the Pacific—restricted in its methods to surface surveys with no temporal controls—Williamson believed that it would be impossible to obtain direct evidence of the history of Polynesian social transformations. He was wrong. Williamson could not envisage that the material remains of those societies themselves encapsulated a historical “text,” which in time would be accessible with improved methods and with more sophisticated theoretical paradigms enabling its interpretation. We still have much to learn of the sociopolitical histories of the Polynesian chiefdoms, but we have traveled a great distance from Williamson’s speculative “history” based solely on comparative ethnography.

What makes the historical study of the Polynesian chiefdoms so intellectually engaging, in part, is the opportunity to compare both the varied

outcomes—the specific social formations, whether Traditional, Open, or Stratified—as well as the underlying processes and trajectories responsible for those outcomes, all of which derived from a common Ancestral Polynesian culture over the course of two and a half millennia. Because Polynesia constitutes a well-defined phyletic unit (see Chapter 7), it offers possibilities of comparative analysis not often found elsewhere. I have sketched some of the historical sequences of sociopolitical transformation that archaeology has begun to reveal and pointed out a few of the fundamental contexts, constraints, and processes that have influenced such changes. Some might prefer a greater emphasis on social agency to the focus I have given to environmental, demographic, and economic factors. However, I have also endeavored to show how specific elite social groups used alternative forms of power—economic, military, and ideological—in their attempts to exercise authority and control over society at large. There is much scope for alternative—one hopes mutually enlightening, rather than competitive—models of social change in Polynesia. After a half-century of study, the search is becoming truly exciting.



*On the
Road
of the
Winds*

AN ARCHAEOLOGICAL HISTORY
OF THE PACIFIC ISLANDS
BEFORE EUROPEAN CONTACT

Patrick Vinton Kirch

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