Tales of Two Cultures: Traditional Historical and Archaeological Interpretations of Hawaiian Prehistory

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ABSTRACT

The relationships of archaeological and traditional historical evidence to accounts of Hawaiian prehistory are explored. The history of archaeological research in Hawai'i is divided into 4 periods: the Traditional Survey period (1900–20); the Empirical Survey period (1920–50); the Traditional Excavation period (1950–66); and the Empirical Excavation period (1966–present). Periods are defined by the dominant type of archaeological data collected and the accepted source, either archaeological or traditional historical, for the prehistoric sequence. Sources of tension between archaeological and traditional historical approaches to reconstructing Hawaiian prehistory in the Empirical Excavation period are traced to methodological problems that archaeologists of the Traditional Excavation period were unable to solve. It is concluded that there is no scientific reason to reject the use of traditional historical evidence in either the formation of archaeological hypotheses or accounts of Hawaiian prehistory.

INTRODUCTION

Questions concerning the proper relationships of archaeology[2] and traditional history[3] to prehistory[4] divide the community of scholars who study the past of Hawai'i. This division—expressed most clearly in opinions on the importance of culture contact in social and cultural change—is greatest between traditional historical and recent archaeological interpretations of Hawaiian prehistory, but splits the archaeological community as well.

The traditional historical case for the importance of culture contact revolves around a period of 2-way voyaging between Hawai'i and Kahiki in the early centuries of this millennium and the arrival in Hawai'i of Pa'ao, a priest, chief, navigator, and magician from the Society Islands, who became the progenitor of the priestly line that presided over Hawaiian religion until 1819 (Stokes 1928). Though Pa'ao's accomplishments in Hawai'i are variously interpreted, he is generally credited with establishing, through Pili Ka'ai'ea, the line of chiefs that ruled the island of Hawai'i until 1893, and with introducing a new religion, thus altering the evolution of social and political institutions in a decisive and revolutionary way.

The positions of contemporary archaeologists on the nature and effects of culture contact

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2. *Archaeology* refers to the study of human and cultural material remains, excluding written records (cf. Rouse 1972; Dunnell 1971).

3. *Traditional history* refers to the culture-bound oral record of earlier generations. In Hawai'i, as in much of the rest of the world, traditional historical records are set in a genealogical framework. The challenges faced by scholars who attempt to interpret traditional historical materials in a chronological framework are detailed by Vansina (1965).

4. *Prehistory* refers to the study of social and cultural change before the advent of written records.

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Table 1. Periods of archaeological research in Hawai'i.

Period	Sequence Source	Data Collection	Dates
Traditional Survey	Tradition	Site survey	1900–20*
Empirical Survey	Archaeology	Site survey	1920–50**
Traditional Excavation	Tradition	Excavation	1950–66***
Empirical Excavation	Archaeology	Excavation	1966–present†

* Major sources for this period include Stokes (in press) and Thrum (1906–08).

** Results of the Empirical Survey period are published in Emory (1921, 1924, 1928), Bennett (1931) and McAllister (1933a, b).

*** The primary published works from this period are Emory and Sinoto (1961), Emory, Bonk and Sinoto (1968 [1959]), and Wallace and Wallace (1969).

† Most of the information yielded by research during the Empirical Excavation period is contained in unpublished reports prepared under contract to private and public land developers (see Spriggs & Tanaka 1988). The best review of this research is Kirch (1985).

run the gamut. At one extreme are archaeologists who reject the idea that culture contact took place in Hawai'i's past (Tuggle 1979, Cordy 1974a, 1981: 206). In this view, the "theme of Hawaiian prehistory [is] the human use of an *isolated* and bounded environment, which resulted in the culture encountered by Europeans in 1778" (Tuggle 1979: 167, italics mine). Hawaiian traditions, with their claims for significant change resulting from culture contact, are not historical records at all, but "external justification for internal consolidation of elite power" (Tuggle 1979: 189). The major changes in Hawaiian prehistory are "viewed as adaptation in *isolation*, an elaboration of a cultural pattern through *local* social group interaction within a particular environment" (Tuggle 1979: 195, italics mine). A somewhat more moderate position accepts linguistic, archaeological, and traditional historical data for culture contact, but discounts the influence that Pa'ao and other southern immigrants may have had on Hawaiian culture. Acknowledging that "the new arrivals might have been well received by the local population, and even accorded the status of chiefs," this position concludes that "their influence on the course of Hawaiian cultural development was unlikely to have been great" (Kirch 1985: 305). At the other extreme, the paucity of archaeological data that bear on the problem of culture contact and its effects on Hawaiian culture is acknowledged, and the traditional historical record is accepted as a hypothesis to guide future archaeological research (Hommon, ms.).

This paper presents a short history of the relationship between traditional history—especially accounts of 2-way voyaging and its effects on Hawaiian society—and archaeological practice in Hawai'i. Its goal is to outline the historical background for a possible synthesis, in which archaeological research and traditional historical interpretations of prehistoric social change would ask questions of and enrich each other. Four periods of archaeological research in Hawai'i are distinguished on the basis of the dominant type of archaeological data collected and the accepted or prescribed source for the prehistoric sequence (Table 1).

The Traditional Survey Period

A research design for Hawaiian archaeology was first formulated at Bishop Museum near the end of the 19th century. William T. Brigham, Bishop Museum's first director, and Thomas G. Thrum, a Honolulu publisher with a strong interest in Hawai'i's past, were convinced by the accounts of Hawaiian traditional historians that Hawaiian prehistory could be divided into 2 great epochs, each characterized by its own peculiar form of temple foundation. The primary source for this sequence was Abraham Fornander's *An account of the Polynesian race*, published

in 3 volumes between 1878 and 1885.[5] Fornander, who had been a resident of the Hawaiian Islands since 1847 and was married to Pinao Alanakapu, an *ali'i* of Moloka'i Island, spoke the Hawaiian language fluently and was a forceful spokesman for native rights throughout his life. He wrote the *Polynesian Race* to show "that the Hawaiians had a history of their past, and a history worth preserving," for he believed that "no nation can go forward that has no past at its back" (1969 [1878–85], II: 349).

In the 1st and 3rd volumes of *The Polynesian Race* Fornander explores the backdrop to Hawaiian history by using ethnographic and linguistic data to reconstruct the history of the Polynesian peoples. Rife with speculation and modeled on Old Testament historiography, the conclusions offered in the 2 volumes are mostly of no more than passing historical interest.

The 2nd volume presents a detailed history of the Hawaiian Islands from the time of their first settlement, during the 5th century A.D., to Kamehameha's victory at Nu'uanu in 1795. It was based on an extensive collection of oral historical material[6] and is altogether different from the 1st and 3rd volumes. Since Hawaiian traditions were kept by "five or more equally independent rival factions," Fornander reasoned that sufficient cross-checking would ensure reliability (cf. Vansina 1965: 114ff.). In his view, the "critical canon which refuses to build up history from tradition, and receives nothing but contemporary writers or monumental records as evidences of fact seems . . . more nice than wise under certain circumstances." (Fornander 1919–20: 239)

Fornander could learn little of Hawai'i's first settlers, whose works Fornander referred to the Nanaulu period of Hawaiian history (Fig. 1). The "din and stir" of the 2-way voyaging period, when the traditions and genealogies of Hawai'i's first settlers were supplanted by those of the southern immigrants, left Fornander with little to study from the Nanaulu period. From scattered references he concluded that Nanaulu period society was fairly simple, with a system of government that "was more of a patriarchal than of a royal nature." The people were not burdened by excessive *kapu*, and religious activities centered on worship of the god Kane at various *pohaku a Kane* and in relatively "easy" ceremonies at a "truncated pyramidal form" of temple. Human sacrifice was unknown.

The 11th century[7] saw the start of a period of intensive 2-way voyaging between Hawai'i and Polynesian island groups to the south. The southern immigrants worshipped an expanded pantheon of deities (1969 [1878–85], II: 59ff.) and sacrificed humans inside walled temples where complex ceremonies were shielded from public view. Society became divided into classes whose genealogical bonds were ruptured through endogamy of the chiefly class. Fornander believed that the idea of an island sovereign, or *mo'i*, grew up at this time, and that as the body of the chief became increasingly sacred the *kapu* multiplied and transgressions against them were punished with increasing severity.

Brigham's and Thrum's archaeological research program was designed to gather data on the history of the transition from the Nanaulu-period "truncated pyramidal" temple form to the walled temple form introduced by Pa'ao, and thus to gain perspective on the social change that swept through the islands many centuries ago and to add detail to the traditional historical record. At the turn of the century Brigham took Bishop Museum assistant John F.G. Stokes to Wahaula Heiau at Puna on Hawai'i Island, the traditional site of the first walled temple established in Hawai'i by Pa'ao. In one of the first detailed archaeological investigations in Hawai'i, they measured the ruins, recorded construction techniques, and collected pebbles from the site with which to build a scale model of the *heiau* for display in Hawaiian Hall at Bishop Museum.

In 1906 Hawai'i's first major archaeological project began when Brigham sent Stokes to Hawai'i Island in search of temple remains from the Nanaulu period. Stokes's task was to make

5. Fornander's *An account of the Polynesian race* was reprinted in a single volume by Tuttle in 1969. References here are to this widely available edition.

6. This material was eventually published by Brigham and Thrum (see Fornander 1916–17, 1918–19, 1919–20).

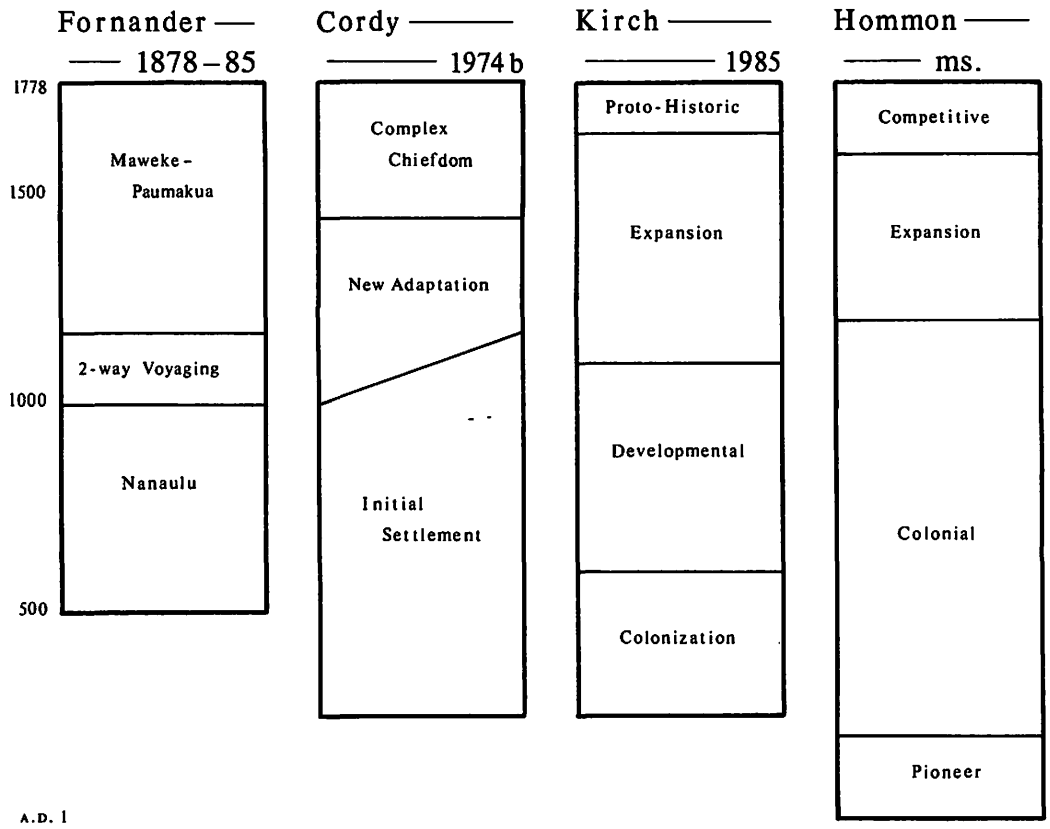

Fig. 1. Some important sequences of prehistoric Hawaiian social and cultural change. Refer to the original sources for full descriptions of periods and their precise chronological implications.

plans of extant temple foundations and collect information on their construction history from elderly Hawaiians (Stokes in press). Brigham, Thrum, and Stokes apparently reasoned that, with traditional historical data on temple construction and a reasonably accurate series of genealogies, they could trace the spread of Pa'ao's new religion through the islands. Stokes spent 5 months in the field on Hawai'i Island, recording 150 temple foundations and making plan drawings of over 40 of those best preserved. In 1909 and 1910 he travelled to Moloka'i to record temple foundations and the reportedly Nanaulu-period fish ponds along the island's southern coast. In 1912 he sailed to Ni'ihau to record temple foundations there.

By 1912 Stokes, along with Thrum (1906–08), had compiled a large catalogue of Hawai'i's temple foundations and had amassed sufficient descriptive detail to begin the task of historical interpretation of the evidence. Fornander's description of Nanaulu-period temples led others to see pyramidal forms in the ruins of Hawaiian temple foundations (e.g., Smith 1898: 163). But Stokes found no evidence in his extensive surveys to support the idea that Hawaiians had ever attempted to build pyramids. Instead, he found that Hawaiian temples ranged in form from an open platform to the enclosed, walled form supposedly introduced to the islands by Pa'ao. In Stokes's view the so-called "truncated pyramidal" temple form was actually a raised platform, whose heavily battered walls were a response to the need to produce a stable face with rounded waterworn boulders.

If they were not truncated pyramids, were Nanaulu-period temple foundations constructed

as open platforms? This idea followed logically enough from Stokes's revision of Fornander's classification, and it left room for the traditionally recorded transition to walled forms introduced by Pa'ao. But Stokes found that the great diversity of temple foundation plans made it impossible to distinguish clearly between walled and platform types. The pure walled enclosure or open platform was a rare specimen. Instead, temple foundations incorporated features of enclosures and platforms in a bewildering variety of combinations. Stokes attributed this state of affairs to the creativity of the Hawaiian *kuhikuhipu'uone*, a class of *kahuna* responsible for temple design, whose task it was to study ancient temple architecture to design efficacious structures for their *ali'i*. This practice produced such a profusion of temple foundation designs that Stokes gave up hope of being able to use archaeological data to refine traditional accounts of the 2-way voyaging period and its effects on early Hawaiian society.

These negative results were a meager harvest for more than a decade of investigation. Stokes and Brigham had little with which to defend themselves when, in 1920, Herbert E. Gregory, Brigham's successor as director of Bishop Museum, began to reorganize the priorities of Hawaiian archaeology. In 1920 the Museum hosted Gerard Fowke of the Federal Bureau of Ethnology for 4 months as he toured the islands to survey existing Hawaiian ruins. This brief acquaintance with the Hawaiian archaeological landscape and a quick review of published and manuscript material were all that Fowke needed to condemn the current state of Hawaiian archaeology. In his Annual Report of the Director for 1920 Gregory wrote that

> Mr. Fowke's large experience as an archaeologist enables him to speak with authority, and for this reason his report to the Museum is somewhat discouraging. He recommends detailed mapping and description of all ancient structures, including such features of their surroundings as may have influenced their location. In his opinion *none of the ruins in the islands has been surveyed and described with sufficient accuracy for scientific purposes.* (Gregory 1921: 11, emphasis added)

With Fowke's counsel, Gregory apparently concluded that Brigham's and Stokes's search for data relating archaeological remains to traditional histories blinded them to the need for collecting a body of sound scientific data. Gregory began to bring in young scholars with solid training in scientific methods of data collection and analysis but—much to Brigham's dismay (Bryan 1980: xiv)—with little or no knowledge of Hawai'i, its people, and its traditions.

The Empirical Survey Period

Ironically, the first archaeological results that could be related to Pa'ao and the spread of the new religion through the Hawaiian Islands were the product of the ambitious archaeological survey program initiated by Gregory. This program had its official origin in 1920 at the 1st Pan-Pacific Scientific Conference in Honolulu. Presided over by Gregory, the conference was attended by a wide range of local and U.S. mainland scholars. The anthropology section, chaired by Clark Wissler of New York's American Museum of Natural History, included Brigham, Thrum, and Fowke; Kenneth Emory, fresh out of college and just beginning his long career at Bishop Museum; the famous Berkeley anthropologist A.L. Kroeber; R.T. Aitken, an archaeologist with the Milwaukee Public Museum; and Harvard University's Mayanist Alfred Tozzer, among others. Stokes was named secretary of the section. The anthropologists were charged with designing a program for research in the entire Pacific that would encompass all branches of anthropology. Competing as this task did with automobile tours of O'ahu, a trip to Hawai'i Island to see Kilauea crater, and the numerous social functions that go

7. Traditional historians often disagreed in the dates assigned to past events. This variability derives from the difficulties of translating from a genealogical to a chronological framework.

with meetings of this type, it is not surprising that the anthropologists' work was incomplete when the conference came to a close. The partial research design was passed on for completion to the National Research Council, which included Fowke, Kroeber, Thrum, Tozzer, and several other well-known scholars but excluded Brigham and Stokes. The Research Council concluded that the central problems for archaeological research in the Pacific were "the origins, migrations, and external contacts" of the Polynesian peoples, and that "the fundamental objective of this research is chronology, or relative time-relations," whose "ultimate proof" was evidence of superposition in archaeological features. On a practical level the council recommended that "since Polynesian archaeology is in most respects a virgin field, the first problem is to make island surveys" (National Research Council 1921: 117).

This stress on survey work rather than excavations was the result of a widely held belief, based partially on Fowke's testimony, that excavation in Hawai'i's tropical soils would yield little information. Fowke claimed that there were no "indications whatever of underground remains" and that "so far as can be ascertained, excavations would not result in the discovery of any prehistoric objects or of anything essentially different from what can be seen on the surface or found slightly covered by very recent natural accumulation" (Fowke 1922). This rather grim assessment of Hawai'i's archaeological record was based on Fowke's assumption that Hawaiian prehistory had seen no major changes, so that the best course of action was to suspend further research and "take measures for the restoration and care of the principal structures" (ibid.). The National Research Council was more cautious, adopting Fowke's assumption of no change as a working hypothesis to be accepted or rejected on the basis of further survey work.

The first data that could call into question Fowke's assertion that Hawai'i's past was free of major change surfaced in 1923 and 1924, when Emory and Bruce Cartwright explored the remote and uninhabited leeward islands of Nihoa and Necker. There they were amazed to find numerous terraces and platforms studded with upright stones that looked little like any other Hawaiian architectural form. Instead, they resembled temple foundations from the Society and Tuamotu islands. The similarities were so strong that Emory and Cartwright referred to the Necker Island structures and 2 of the Nihoa Island structures by the Tahitian name, *marae*. Had Hawaiians built these shrines? Or were they the work of Tahitians and Tuamotuans who had shipwrecked there in the distant past? If Hawaiians had built them, why weren't similar structures found elsewhere in the islands?

Emory published a full report on the Nihoa and Necker findings in 1928 (Emory 1928). On the basis of artifact forms, especially the stone adzes and cowrie shell octopus lures found on the islands, Emory concluded that the Nihoa Island remains and the Necker Island *marae* had been built by Hawaiians. He explained the presence of *marae* in Hawai'i by postulating that they were erected in the era before Pa'ao had arrived, when Hawaiian temple foundations were more modest in scale and would have shown a greater resemblance to those of the East Polynesian homeland. This evidence seemed to support the traditional historical account of 2 separate migrations to Hawai'i, bolstered Stokes's rejection of a posited truncated pyramidal form for Nanaulu-period religious temples, and apparently solved the problem of discriminating Nanaulu-period temple forms. The crux of the problem now was the "relative time-relations" (National Research Council 1921: 117) of the different kinds of temple foundations. How could the *marae* be dated? Traditional histories were silent on the ruins of Nihoa and Necker, and the islands lacked typical Hawaiian temple foundations, so it was impossible to test for superposition.

The only hope was to search for survivals of the *marae* temple form on other islands where evidence of superposition could be collected, or to argue that the distribution of the *marae* type of temple foundation throughout the Hawaiian Islands corresponded to what might be expected if it were indeed an early temple form that subsequently was replaced by a new design.

These types of data proved hard to come by. The only other trace of the tantalizing *marae* was recognized on Maui Island by Winslow Walker, who noted that his site 230 at Hanakauhi, which had been recorded previously by Aitken (Emory 1921: 246, Plate XXIII A), was the only shrine on Maui that resembled the Necker Island type (Walker n.d.: 294). This was meager evidence, and Walker did not attempt to explain the distribution of such *marae* in cultural or historical terms.

Wendell Bennett, while a graduate student at the University of Chicago, tried to relate the unique cultural features of Kaua'i to the Nihoa and Necker remains. He cited the dressed stone of the Menehune Ditch, an upright stone at Poliahu Heiau near the Waialua River, stirrup pounders, and block rubbers as unusual features of the island's archaeological landscape, but he couldn't reject the possibility that these were "purely local developments of no great significance" (Bennett 1931: 96). Bennett, who later gained an international reputation for his archaeological work in Peru, was chary of arguing from negative data. He concluded that

> improbable as it may seem that such a standard form [of temple foundation] as that represented on the Nihoa and Necker islands if once established on the Hawaiian islands could have completely disappeared, it is not impossible. At a later time the Hawaiians so completely destroyed their thousands of idols that to-day scarcely a dozen are to be found. It is conceivable that the old temple form may have been destroyed under some similar stimulus. (Bennett 1931: 53)

J. Gilbert McAllister, who surveyed for sites on both O'ahu and Kaho'olawe islands, did not share Bennett's reluctance to argue from negative data; he took a position against the idea that there had been 2 separate migrations to the Hawaiian Islands and for the hypothesis that the unusual archaeological features of Kaua'i, Nihoa, and Necker islands were purely local developments. He argued that the lack of the *marae* type of temple platform on Kaho'olawe indicated that the early culture posited by Emory on archaeological grounds and recorded in traditional histories had not been widely distributed in Hawai'i. If it had been, he reasoned, "it should have been found on Kahoolawe, for the desolation and isolation [of the island] would have been important factors tending toward the preservation of materials." (McAllister 1933b: 60)

Bishop Museum's scientific archaeological surveys in the 1920s and 1930s failed to turn up any substantial archaeological evidence for change in Hawai'i's prehistoric past. The ultimate proof of relative time-relations provided by superposition of archaeological features was difficult, if not impossible, to recover with survey techniques. Only the enigmatic and isolated *marae* seemed likely to prove chronologically important, but these could not be dated. Thus, the scientific data needed to replace traditional historical materials as the main source of evidence for a sequence of prehistoric change could not be found. Instead, the discovery of the *marae* type of temple foundation fueled speculation about the course of Polynesian prehistory in Hawai'i.

Speculative history gained popularity in the late 1920s through the publications of E.S.C. Handy, a Harvard-trained anthropologist and proponent of an ethnographic theory known as *kulturkreis*. The central tenet of this theory held that present day cultures were derived from a very limited number of hypothetical cultural hearths through a process of culture trait mixing brought on by diffusion of peoples and ideas. The central problem in *kulturkreis* analyses was to determine which of the original cultural hearths had contributed to the formation of a contemporary culture and to establish the order of their influence. The usual method involved drawing up a list of traits from the culture under consideration and then searching for analogous traits in one or more of the hypothetical cultural hearths. Based on the correspondences between traits of the extant culture and those of the cultural hearths, proponents of the

kulturkreis theory drew up quasi-historical scenarios, largely dominated by migrations of peoples, to account for the genesis of modern cultures. In Handy's (1930: 7) scheme the Nihoa Island shrines and the Necker Island *marae*, referred to as "temples with terrace," are classified as traits of "Old Tahitian worship."

Using traditional Tahitian history as a model, Handy proposed that the original Hawaiian people were the *menehune* of Hawaiian legends, since the cognate Tahitian term, *manahune*, referred to the commoner class of Tahitian society. Handy believed that the Hawaiian *menehune* and the Old Tahitian *manahune* both derived from a Brahmanistic cultural hearth in Southeast Asia and that during the course of their migration through Melanesia they had been influenced by what he termed a "barbaric neolithic phase of culture" (Handy 1930: 13). The Tahitian *manahune* and the Hawaiian *menehune* were later overrun by an *ali'i* cultural group that had also migrated out of Southeast Asia and had been influenced by a later Buddhistic cultural tradition. Thus, in Handy's view, there were 2 radically different cultures in prehistoric Hawai'i, whose differing cultural traits, mostly acquired in the Southeast Asian homeland, explained many features of the stratified contact-era Hawaiian social structure.

Handy's influence on later generations of scholars is slight compared to that of Peter H. Buck. His popular book, *Vikings of the Sunrise*, published 2 years after he had taken over from Gregory as director of Bishop Museum, told Polynesian history from the perspective of a half-Maori scholar whose breadth of experience as a Polynesian ethnographer was second to none. Like Handy, Buck believed that the differences between Hawaiian chiefs and commoners did not develop locally, but resulted from the immigration to Hawai'i of 2 culturally distinct peoples. But unlike Handy, Buck believed that the short, dark-skinned, curly-haired peoples of Melanesia were so different from the Polynesians in their physical features that they surely would have left their mark on the Polynesian peoples had the Polynesians' route of migration out of island Southeast Asia taken them through Melanesia. Therefore, he argued that the ancestors of the Polynesian peoples had migrated through the atolls of Micronesia, whose tall, fair-skinned, straight-haired peoples more closely resembled Polynesians.

This northern route, with its few high islands and ubiquitous atolls, also helped explain the motive behind the Polynesian peoples' journeys to the most remote corners of Oceania. Buck surmised that Hawai'i's first settlers were a weak, socially inferior group of Micronesians who had been driven from their atoll home during a period of famine and social strife. In their haste to flee, they brought no food plants or animals with them, and after landfall in Hawai'i they managed to eke out a rude existence by fishing and foraging. Several centuries later they were followed into Polynesia by the descendants of their socially superior kinsfolk, who landed first at Tahiti and then, as traditional historians implied, voyaged north to Hawai'i. There the new immigrants quickly and easily subjugated the first settlers, establishing themselves as a ruling class.

The proposed migration route through Micronesia had its weak points, and Buck was fully aware of at least one of these. Buck followed Emory and Handy in assigning the *marae* type of temple platform to Hawai'i's initial immigrants. The marginal distribution of this temple type in the Hawaiian Islands was due to the fact that

> the later invaders pushed Hawai'i's first settlers gradually out of the other islands so that they congregated in Kauai, the last of the large islands, at the northwest end of the chain. From there they apparently withdrew to the barren and rocky islets of Nihoa and Necker, as evidenced by numerous terraces, stone implements and stone images. (Buck 1938: 250)

The absence of fully developed *marae* in Micronesia meant either that the temple form was developed independently in Hawai'i and the Society Islands—an unlikely possibility given the close similarities in the forms of *marae* from the 2 island groups—or that Hawai'i's first settlers

had both the means and the motivation to voyage between Tahiti and Hawai'i—another unlikely possibility given the few positive cultural traits that Buck assigned them. Of the 2 possibilities, Buck favored the idea that Hawai'i's first settlers arrived from Micronesia after stopping first in the Society Islands.

Through the period of Handy's grandiose theorizing and Buck's forceful summary of Polynesian prehistory, Kenneth Emory attempted no synthesis of his own. But as his familiarity with Polynesian archaeology grew, he found little need to look beyond Polynesia to explain the features of Hawaiian culture. In the tradition of Stokes, Emory set out to use archaeological data to debunk speculative histories of Hawai'i's past.

In a paper on Polynesian stone remains, Emory (1943) summarized archaeological data to refute the diffusionist theories promulgated by Handy (cf. Piddington 1939; Burrows 1938). He wrote that archaeologists

> do not find ruins or artifacts which represent a true break with the historic Polynesian cultures. No Melanesian culture underlying the Polynesian has yet been unearthed. It is unlikely that a dominant group of migrants of different culture would everywhere have taken over bodily a previous culture. . . . Changes we do find, but in the important things they are changes away from widespread and typical Polynesian features toward some local development which often can be laid to a peculiarity of the physical environment. (Emory 1943: 9)

Emory also took up the loose threads of Buck's argument, using the evidence of the distribution of stone back-rest slabs to argue that the first Polynesian settlers out of Micronesia established themselves in Tahiti and later migrated to Hawai'i:

> The use of [back-rest slabs] was evidently carried across Polynesia to the eastern Tuamotus, up to Hawaii, and down to New Zealand. I say up to Hawaii and not from Micronesia to Hawaii because what Hawaii and [the other island groups of Eastern Polynesia] shared in common . . . developed in the Marquesas and Tahiti, and not in Hawaii. (Emory 1943: 20)

At Yale University, where he used the evidence of Polynesian language vocabularies to investigate the relationships of Eastern Polynesian cultures, Emory (1946b) developed his thesis on the unity of Polynesian culture. Though his analyses do not conform to modern linguistic procedures, they led Emory to the conclusion that Polynesian culture had developed in Western Polynesia and had spread east from there to the other Polynesian island groups.[8]

However, for all the progress Emory was making toward working out the archaeological implications of an *in situ* development of Polynesian culture, the problems of origins, migrations, and external contacts that had been identified as important areas of archaeological research by the National Research Council, as well as the diffusionist doctrines of Handy and Buck, were still powerful forces that guided prehistoric investigation. The lack of any explicitly chronological archaeological data meant that the theoretical apparatus needed to build a sequence from archaeological materials was not developed in Hawai'i. When physicists in Chicago figured out a way to determine the age of ancient organic matter, precipitating a revolution in the interpretation of archaeological materials, Hawaiian archaeology was ill prepared to interpret the flood of new data that resulted.

8. This account of Emory's arguments against a diffusionist approach to Polynesian prehistory should be contrasted with Cordy (1974a), who claims that Emory subscribed to a diffusionism based on traditional historical sources.

The Traditional Excavation Period

In the spring of 1950 Kenneth Emory was preparing to teach a course in archaeological field methods at the University of Hawaii. He wasn't expecting a particularly exciting field season. Scholars had long assumed that conditions for artifact preservation were poor in tropical soils and that Hawai'i lacked stratified cultural deposits that were both deep and old. Aside from Emory's and Aitken's shovel excavations of 18 sites in Haleakala in 1920, and Emory's and Cartwright's shovel excavations of sites on Nihoa and Necker in 1923, only Stokes had attempted serious excavations; the deposits at Kamohio shelter on Kaho'olawe, though deep, were so filled with organic material that it seemed they could not have been ancient.

A cave site in Kuli'ou'ou valley, conveniently close to the University of Hawaii Manoa campus and not too far off the road, had been partially excavated by an amateur archaeologist in 1938, and was known to contain cultural deposits of sufficient extent for Emory's class to work on. Between 25 February and 19 May 1950, Emory, 11 students, and 2 volunteers excavated just over 30 m^2 of the cave floor in arbitrary 6-inch levels. On the advice of 1 of the volunteers, a series of charcoal samples was collected from the many firepits unearthed, and 1, from the deepest portion of the cave's cultural deposit, was sent to W. F. Libby in Chicago for age determination by the newly invented radiocarbon method. The result was published the following year in *Science*, as follows:

> 540 *Hawaii*: Charcoal from earliest Polynesian culture in Hawaii. 946 +/− 180 Found in Kiliouou Bluff Shelter, Kuliauaw, Oahu Island, by Kenneth P. Emory, Bernice P. Bishop Museum, Honolulu. Submitted by K.P. Emory. (Libby 1951: 295)

No one seems to have minded the misspellings of Hawaiian names; the results were revolutionary! The idea that archaeological excavations in the islands would yield little of interest was clearly mistaken. Not only were there deep deposits to be found, but scientific age determination techniques proved that the deepest of these dated back to a distant era whose history was only lightly touched upon by traditional data. Suddenly, it looked as though the origins and external contacts of Hawai'i's earliest settlers could be investigated with precision, fulfilling one of the National Research Council's research goals and putting Handy's and Buck's diffusionist theories to a scientific test.

The possibility that the new age determination techniques could provide data that would help solve the mystery of Hawai'i's supposedly Nanaulu-period temples was quickly appreciated, and Ivan Rainwater, an archaeology enthusiast with the U.S. Department of Agriculture in Hawai'i, was dispatched to Nihoa and Necker islands to collect charcoal from cave deposits for dating. Despite its great potential, the radiocarbon dating technique quickly proved difficult to use. Portions of a single sample (HRC-42) from a hearth on Nihoa were sent to the University of Michigan and Gakshuin University for independent age determinations. Michigan (M-480) returned an age estimate of 520 +/− 200 years before 1950, while Gakshuin (GaK-754) reported one twice as old (1060 +/− 90 B.P.). Two samples from a cave on Necker Island both returned estimates of modern age and were thought to have been somehow contaminated.

Emory continued to excavate caves on O'ahu's south coast with the University of Hawaii field school (Emory & Sinoto 1961). Kuli'ou'ou, Makani'olu, and Kawekiu shelters were all dry enough to preserve perishable organic materials in their upper layers, and the artifact yield was exceptional. Among the organic finds were fire sticks; a *kapa* cloth wick; fragments of gourd and coconut containers; fishing nets of *olona* cord; wooden net floats; netting needles; mesh gauges; javelin and arrow heads; *kapa* stamps and beaters; *hau*, *olona*, and coconut fiber cordage; and a fragment of what Emory believed to be the leg of a wooden image. More

important, though, was the discovery of bone tattooing needles, wood and bone fish gorges, and bone toggles from cowrie shell octopus lures that were either rare or nonexistent in Bishop Museum and private collections. Were these remnants of Hawai'i's earliest culture? Unfortunately, the unusual artifact types were not numerous enough to rule out the possibility that they merely represented some rare types that had been manufactured in small numbers. In fact, Emory had good reason to suspect that this was the case, at least with the tattooing needles, since a few years before he had investigated a dry cave burial on Hawai'i Island in which clear traces of tattoo marks were preserved on pieces of desiccated skin (Emory 1946a).

Early in 1953 Emory's attention was drawn to 2 sites: an open sand dune and a cave at Ka Lae, Hawai'i Island. Miss Amy Greenwell had recovered several fishhooks of previously unknown forms from the eroding face of the dune, and the large cave appeared to offer the same preservation conditions as did the O'ahu cave sites. The proficiency of Hawaiian fishermen was well known, and it seemed likely to Emory that the two sites might yield enough fishhooks and other types of artifact to prove the existence of an early Hawaiian culture that could be dated with the radiocarbon method. With the aid of a generous grant from the McInerny Foundation and active support from Bishop Museum's new director, Alexander Spoehr, Emory put his student William Bonk in charge of work at the 2 Ka Lae sites. Excavations by a team of volunteers, many of them trained by Emory at the University of Hawaii, began in August and continued throughout the year with breaks for artifact analysis.

The large number and varied forms of fishhooks obtained in the 1st season's excavations convinced Emory that Hawai'i's early culture was well represented at the South Point sites. The 1953 field season, which Emory (Emory et al. 1968 [1959]: vii) referred to as a period of "experimental excavation," had yielded the most encouraging results, and the prospects for further excavation were bright. In 1954, with the financial backing of the McInerny Foundation, the Charles M. and Anna Cooke Trust, and the Wenner-Gren Foundation for Anthropological Research, Emory announced the beginning of a 5-year program in Hawaiian archaeology designed to collect "a body of data adequate for a reliable reconstruction of the pre-history of Hawaiian culture in the Hawaiian Islands." (Emory n.d.)

Additional surveys of the Ka Lae area by Bonk and Ivan Rainwater in 1954 resulted in the discovery of a cave site rich in artifacts near the base of the Pali-o-Kulani at Waiahukini, thus filling out the roster of sites to be excavated at Ka Lae.[9] The field team was joined in December by Yosihiko Sinoto, then a young archaeology student from Japan. Sinoto recognized that the wide variety of fishhooks recovered from the Ka Lae sites might make it possible to establish an artifact sequence—thus, change could be measured by archaeological, rather than traditional historical, criteria. To accomplish this task it was necessary to excavate within cultural stratigraphic layers rather than digging in arbitrary 6-inch levels, and Sinoto set about instituting the new procedures. The following 2 field seasons at Ka Lae were directed jointly by Emory, Bonk, and Sinoto.

The 3 Ka Lae sites yielded more than 3,000 fishhooks (Sinoto 1967: 342) from deposits that initial radiocarbon age estimates dated to the 1st millennium A.D. Sinoto's careful analyses of fishhook forms and statistical tests of the distribution of fishhook types through the layers of the 3 sites proved that the lashing devices at the base of early 2-piece fishhook points were formed by a series of notches, while those of later 2-piece hooks were formed by a single knob (Emory et al. 1968 [1959]). At the urging of Green (1961), Sinoto was able to demonstrate that a similar evolution had affected the heads of 1-piece fishhooks (Sinoto 1962). After nearly 50

9. Through the years these sites have received several names and are referred to in the literature in a variety of ways. The sand dune site was originally designated H1, but was often called Pu'u Ali'i. Today the site is designated 50-Ha-B20-1. The cave site immediately inland of the sand dune, known as Lua Makalei, was originally designated site H2, and is now designated 50-Ha-B20-2. The cave at Waiahukini, often referred to as Waiahukini shelter, was originally designated site H8, and is now known as 50-Ha-B21-6.

years of effort, beginning with Brigham, Thrum, and Stokes's attempt to chart changes in the form of temple foundations, archaeologists were able to demonstrate a prehistoric Hawaiian cultural change.

These new chronologically ordered data soon spurred efforts to rewrite the prehistory of Hawai'i. The sparseness of excavation data, along with considerable uncertainty as to how various kinds of data, especially radiocarbon dates, should be interpreted, led to a rapid succession of ideas about Hawai'i's past. The first of these was published by Emory (1959) in a short paper that—true to the National Research Council's research design—was entitled "Origin of the Hawaiians." The paper's goal was to re-explore the implications of the idea that internal developments, and not a series of migrations from outside Polynesia, could account for the characteristics of modern Polynesian cultures and societies. Emory began by suggesting that the Hawaiian chiefly genealogies that Fornander had cited as evidence for a 2nd period of migration to Hawai'i actually referred to the initial colonization of the islands. He placed this event at about A.D. 900, citing as evidence a recalculated genealogical dating of the Hawaiian chiefly lineages; lexicostatistical analyses of the Eastern Polynesian languages by University of Hawaii linguist Samuel Elbert (1953); and 2 radiocarbon dates—the initial date of A.D. 1004 from the Kuli'ou'ou shelter, and, from the bottom layer of the Waiahukini shelter, the date of A.D. 957 +/− 200. To support this shift from a 2-migration sequence to a single migration, Emory argued against the idea, popularized in the anthropological literature by Handy, that a race of *menehune* was established in the islands before the arrival of the *ali'i*. He traced the origin of the *menehune* idea to writings of the Hawaiian historian Samuel Kamakau that blended Hawaiian legends with biblical accounts of the Deluge. To prove that Kamakau's "neo-myth" was not a widely held Hawaiian tradition, Emory cited Malo (1951) as a Hawaiian authority who considered Kahiki to have been the homeland of the Hawaiian peoples.

This bold reinterpretation of Hawaiian prehistory soon had competition from Robert C. Suggs (1960), an ambitious young Ph.D. out of Columbia University who had just completed a pioneering series of excavations in the Marquesas Islands. Many of Suggs's ideas had their genesis in a selective list of 12 "important" radiocarbon dates that Emory presented in his introduction to *Hawaiian Archaeology: Fishhooks* (Emory, Bonk & Sinoto 1968 [1959]). Two features of the list stood out. First, the estimated age of a campfire under the earliest house-yard floor of the Ka Lae sand dune site was given as A.D. 124, more than 800 years older than any previous estimate. Second, there was a clear geographic pattern to the age estimates, with the oldest dated sites confined to Hawai'i Island in the south, followed by progressively younger dates as one moved north through the archipelago.

Suggs agreed with Emory that the islands were first settled by Tahitians and pointed to the presence of the *marae* form of temple foundation in Hawai'i as proof. On the basis of the earliest Ka Lae radiocarbon date, Suggs reckoned that initial colonization took place sometime in the 1st century A.D.; the new immigrants landed at Ka Lae, where they established successful colonies. Over the course of many generations, he believed, they founded new settlements, first in other areas of Hawai'i Island and then on the other major islands, reaching Nihoa at the extreme northern end of the chain sometime in the 15th century A.D. Suggs followed Emory (1928) in interpreting the *marae* type of temple as evidence of Hawai'i's early culture, and he used the archaeological remains from Nihoa and Necker islands to draw a portrait of early Hawaiian life.

The 15th century, according to Suggs, was a time of great change in Hawai'i, during which an elaboration of religious temples led to the development of large *heiau*, similar to those in use at the time of European contact. These architectural developments indicated to Suggs that Hawaiians of the time were able to produce a substantial food surplus and to organize large groups of workers for communal tasks. Social stratification brought on by population growth

and expansion of food production capabilities was a theme that Suggs saw repeated in the prehistoric sequences of nearly all the major Polynesian islands.

Having accepted the earliest date from Ka Lae, Suggs was undecided about following Emory's suggestion that Hawai'i had been settled only once. He thought that traditional histories offered evidence for contact between Tahiti and Hawai'i in the 15th century and that such contact, if it did indeed occur, might have influenced change. Unable to cite persuasive archaeological evidence for the proposed 2nd migration, and influenced by the ethnological writings of Sahlins (1958), he noted the possibility that purely internal developments could account for change as well.

The ink was barely dry on Suggs's book when Emory and Sinoto found a distinctly Hawaiian-looking fishhook on the sandy surface of a site on Maupiti at the western end of the Society Islands. This hook, and the fact that some early Hawaiian hooks with strongly curved shanks resembled specimens recovered by Suggs from early sites in the Marquesas Islands, led Emory to reject his earlier notion of a single settlement of Hawai'i. Instead, he and Sinoto argued that Hawai'i's first settlers had arrived from the Marquesas Islands around the middle of the 1st millennium A.D. and that traditional historical accounts of a subsequent migration from Tahiti were historically correct (Emory & Sinoto 1964: 148–49). Using yet another recalculated genealogical date, Emory placed the migration period at A.D. 1200–1400, some 200 years later than Fornander's estimate but more closely approximating the age estimates for changes in Hawaiian fishhook lashing devices. A spate of comparative studies of other artifact types followed (e.g., Sinoto 1967, 1968; Emory 1968), designed to explore the prehistoric ties between Hawai'i, the Society Islands, and the Marquesas Islands.

The successful establishment of a sequence of prehistoric change based on archaeological materials led Emory, in 1964, to seek funds from the U.S. National Science Foundation (NSF) for a 3-year program of research in Hawaiian archaeology. The primary goal of Emory's research was to excavate additional deep, stratified sites to uncover more evidence of Hawai'i's most ancient culture. Excavations once again centered on the southern part of Hawai'i Island, where Hawai'i's original settlers were believed to have established their first colonies. In 1964 the Wallaces excavated a small coastal site at Pinao Bay within view of the sand dune site, but the site proved to be relatively young and yielded no early artifact types (Wallace & Wallace 1969). The following year Lloyd Soehren excavated 6 cave sites in the South Kona and Ka'u districts of Hawai'i Island, including the artifact-rich H66 site in Ka'u, but none of the sites were particularly old and added little to the artifact inventory of early Hawaiian culture (Soehren 1966). When no other promising coastal or cave sites could be located, the project sputtered to a halt. Emory's focus on the issues of origins and migrations, a legacy of the National Research Council's research design and the diffusionist theories of Handy and Buck, left him without a theoretical framework that could be used to generate hypotheses to test with the NSF-funded excavations. With no new early artifacts the project ended as a failure in the eyes of its investigators.

The Empirical Excavation Period

Emory's Hawaiian archaeology project reached its dead end just as the discipline of archaeology entered the throes of a long and critical self-examination. The body of method and theory developed by culture historians to work out the spatio-temporal patterning of the prehistoric record had been partially eclipsed by the emergence of radiocarbon dating (Renfrew 1979). The intricate webs of hypotheses and tests based on superposition and intersite comparison once necessary to determine the relative age of a site could seemingly be replaced by an absolute age estimate worked out with scientific precision in a laboratory. Freed from the difficult and time-consuming comparative work required by the old culture historical techniques, archaeol-

ogists turned their attention to the archaeological site, to see if it could yield anthropological as well as historical information.

A new approach was formally introduced to Pacific archaeologists by Roger Green in a paper delivered to the Divisional Meeting on Ethnology at the 11th Pacific Science Congress in Tokyo (Green 1967). Green's classification and review of previous archaeological work in the Pacific made clear the ways in which the modern approach differed from its predecessors. Large-scale island surveys of the kind undertaken in Hawai'i during the Traditional and Empirical Survey periods (1900–50) were characterized as *extensive* in nature, with a pronounced tendency to concentrate on the larger, more impressive field monuments. In contrast, modern surveys would be *intensive*, their goal to record all material traces of past human activity within circumscribed local areas. No site would be considered insignificant, no matter how small and informal. Archaeological excavation projects carried out in the Traditional Excavation period (1950–66) were criticized for regarding the site as merely a container for portable artifacts, with most analyses limited to the portable artifacts alone. Green proposed that archaeologists treat sites as artifacts whose types and distribution on the landscape could be analyzed: ecologically, in relation to features of the natural environment; functionally, in relation to the activities that were carried out in them; and socially, in relation to one another.

Green brought the settlement pattern approach to Hawai'i through his participation in 3 major projects: the Makaha Valley Historical Project on O'ahu, carried out by Bishop Museum under contract to the Makaha Historical Society; the Halawa Valley Project on Moloka'i, a cooperative research venture sponsored jointly by Bishop Museum, University of Hawaii, and Harvard University; and the Lapakahi project on Hawai'i Island, a University of Hawaii project co-directed by Green and Richard Pearson. The new directions that archaeologists would follow all show up clearly in the publications resulting from the Makaha Valley project (Green 1969, 1970; Ladd & Yen 1972; Ladd 1973; Green 1980).

The techniques and goals of an ecological approach were clearly set out by Doug Yen (Yen et al. 1972), an ethnobotanist at Bishop Museum, who assembled an interdisciplinary team to investigate the history of irrigated agricultural terracing in the back of Makaha Valley. With the assistance of Patrick Kirch, Thomas Riley, and Paul Rosendahl, 3 students in a graduate course in Oceanic prehistory that Yen taught at the University of Hawaii, Yen dug several trenches. With their total yield of 5 unimpressive portable artifacts, these trenches would have been considered a waste of time a few years earlier. But the sequence of construction, flooding, erosion, and destruction documented in the walls of the pits made possible a detailed look at the way Hawaiian planters had exploited the agricultural opportunities of the wet upper-valleys in the 14th and 15th centuries, and how, when flooding and landslides destroyed the gardens in the early 16th century, field and ditch designs were modified. This convincing demonstration that the interplay of prehistoric man and the Hawaiian environment could be investigated with archaeological techniques spawned a large literature. Today, the ecological approach is the most popular interpretive framework for archaeological data in Hawai'i (Kirch 1985: 17ff.).

Investigations of site function centered on several feature types that had been ignored by previous researchers. The most gratifying results came from the excavation of rude C-shaped structures in the *kula* lands of the middle valley (Takayama 1969, Takayama & Green 1970). The association of formal fireplaces and stone tools that would have been useful for garden work led to the conclusion that the C-shaped structures had served as temporary field shelters, occupied during breaks in the work day and for extended periods during the heavy labor of the planting season.

Once the functions of C-shaped shelters and other site types had been reliably inferred from excavation data, the stage was set for a social interpretation of the survey data. Green's (1980) summary of the Makaha Valley Historical Project culminates in a detailed 3-stage culture history that traces Hawaiian use of the valley from the initial coastal settlement documented

by traditional historians, through the emergence of the valley as a separate *ahupua'a* with regular inland expansion of agriculture and settlement in the 12th to 17th centuries, to its contact-era endpoint as a somewhat marginal, but internally stratified, unit within a larger politically stratified society.

The wealth of evidential detail required by the new approach effectively limited the geographical scope of archaeological interpretation. Emory's goal in excavating the 3 Ka Lae sites was to recover data that would allow him to reconstruct the prehistoric cultural sequence of the Hawaiian archipelago. The project yielded 3 slim reports. The interpretive goal of the entire Makaha Valley Historical Project, which excavated 30 sites and produced nearly 500 pages of reports, was the detailed history of a single, rather marginal, *ahupua'a*. Hawaiian archaeology had clearly been rescued from the interpretive impasse of the Traditional Excavation period.

In the decade and a half since the Makaha Valley Historical Project the great bulk of archaeological work has been directed at the solution of local problems; only scattered consideration has been given to the larger issues that once dominated the field. Much of the impetus for this has come from the growing field of *cultural resources management*, or *contract archaeology*, which draws on private and public funds to produce studies that satisfy technical laws governing the protection of ancient sites in areas proposed for development (Rosendahl 1976). Since the land parcels chosen for development often bear no logical relation to prehistoric political, social, or cultural land divisions, the task of comparing and interpreting data yielded by these projects is enormously complicated. In addition, the competitive world of cultural resources management, in which independent archaeological consulting firms vie for a limited number of contracts, tends to discount the value of prehistoric interpretation in favor of a no-frills report that meets legal requirements at minimum cost.

The amount of data collection funded by public and private contract sources is staggering (Kirch 1985). The last 20 years of field research have given Hawaiian archaeologists a data base rivalled in the Pacific only by New Zealand, where archaeological excavations began in the mid-19th century (Davidson 1984). Despite this surge in available data, archaeological remains that can be confidently dated to the traditional Nanaulu and migration periods of Hawaiian prehistory are relatively rare. However, in the last 5 years, sufficient evidence has accumulated to convince most scholars that settlement began in the 3rd to 4th centuries A.D.

The first result of the realization that the early portion of the Hawaiian sequence was not well represented in the archaeological record was a demonstration of the fragile evidential basis for Emory and Sinoto's theory of Hawaiian origins and external contacts. Cordy (1974a) and Green (1971, 1974) both reanalyzed the Ka Lae excavations to develop arguments,—based on the limited occurrence of HT4 hooks in the lowest layers of Waiahukini shelter (H8)—against Emory and Sinoto's claims for archaeological evidence of contact between the Society Islands and Hawai'i. Yet none of these authors considered the possibility that the Hawaiian-style hook found in Maupiti might be a tangible result of voyages south to the Society Islands from Hawai'i during a period of 2-way voyaging. Similarly, Kirch (1986) argues that Hawai'i may have been settled initially from central East Polynesia before distinctive Tahitian and Marquesan cultures developed there, thus making a moot point of claims for an initial settlement of Hawai'i from the Marquesas Islands rather than the Society Islands. Because of the nascent state of archaeology in the Society Islands, firm conclusions on either of these issues would be premature, though the absence of Hawaiian-style fishhooks in Society Islands sites earlier than the traditional period of 2-way voyaging (Y.H. Sinoto, pers. comm. 1986) keeps alive the possibility that the design of the Maupiti hook is a product of prehistoric culture contact with Hawai'i.

The paucity of evidence from the early portion of Hawaiian prehistory has also influenced archaeologically formulated sequences of prehistoric social change—an effect that shows in the length of, and largely theoretical justifications for, early periods (Fig. 1). Hommon (ms.) presents a theoretically sophisticated and well-documented 4-stage sequence for the rise of

social complexity in prehistoric Hawai'i. Hommon's early Pioneer phase is not supported by archaeological data, but is based on the theoretical proposition that the "lives of the first successful settlers were substantially different from those of their descendants" (Hommon ms.). This is followed by the millennium-long Colonial phase, during which 37 coastal communities were founded near the "salubrious cores" of the contact era island districts (*moku* or *kalana*). Only with the onset of the Expansion phase in the 13th century do archaeological data, in this case a rise in the number of inland sites, begin to play a dominant role in the sequence. Cordy (1974b) proposed a 3-stage adaptational sequence based on the spread of settlement through the islands and estimates of the degree of social stratification (Fig. 1). His first 2 periods were distinguished on the basis of the expansion of settlement into dry leeward areas, a trend to which he assigned no great sociological import. Given the variety of environmental conditions present in Hawai'i, Cordy argued that the transition from the Initial Settlement to the New Adaptation period would have taken place at different times in different regions. Cordy's (1981) most recent research along these lines failed to yield further evidence for this early transition. Kirch (1985) draws explicitly on comparative linguistics and ethnology, in addition to archaeological data, to outline a detailed prehistoric sequence (Fig. 1). As with Hommon's Pioneer phase, Kirch's Colonization period is largely a theoretical construct with tentative chronological boundaries (Kirch 1985: 298). The transition from the Developmental to the Expansion period, which dates to the traditional 2-way voyaging era, introduces a time when "social and political organization was radically altered," "new forms of religious belief and ritual" arose, and "more changes occurred . . . than throughout any other time in Hawaiian prehistory" (Kirch 1985: 303). Aside from the expansion of settlement into leeward areas first noted by Cordy (1974b) and the later inland expansion documented by Hommon (1976, 1986), the archaeological evidence for such radical changes is surprisingly slim. One is left to wonder at Kirch's assertion that the influence of southern immigrants "on the course of Hawaiian cultural development was unlikely to have been great" (Kirch 1985: 305).

DISCUSSION

Much of the tension between traditional history and archaeology expressed by Tuggle (1979), Kirch (1985), and Cordy (1974a, 1981) results from confusing archaeological sequences with prehistories. This confusion began in the Traditional Excavation period with Emory's theoretically uninformed efforts to wring the traditional historical sequence from archaeological data using the new and largely unexplored techniques of archaeological excavation. The shifting interpretations of archaeological and traditional historical data during this period are legion and generally unsupported by careful arguments, since the tacit assumption was that the 2 data sources ought to be congruent. Archaeologists of the Empirical Excavation period correctly insist that formation of archaeological sequences should be a scientific enterprise in which hypotheses about material variation through time or across space are tested against patterns of temporal and spatial variability yielded by the archaeological record. They err, however, when they insist that hypotheses about material variation must be derived from scientific investigation and not from sources such as traditional history.

The archaeological research program designed by Brigham, Thrum, and Stokes is a fine example of how traditional history can contribute to the process of establishing an archaeological sequence. The traditional historical claim that the form of temple foundations changed significantly during the period of 2-way voyaging is directly testable with the tools of modern archaeology. That Brigham's, Thrum's, and Stokes's archaeological labors failed to establish chronologically significant temple platform types was the fault of neither the hypotheses that guided them nor the source from which they drew their ideas about Hawai'i's past. Instead, their failure may be traced to the loss of detailed knowledge about the ancient works of Hawai'i's Polynesian people during a century of rapid social change and to the lack of a reliable

means of dating archaeological remains. There is no scientific reason to reject the use of traditional historical accounts in the formation of archaeological hypotheses.

The question, then, is whether hypotheses drawn from traditional history are worthy of investigation. A common criticism of traditional historical accounts of migrations is that their poetic presentation makes it seem as if immigrants came in numbers great enough to swamp earlier populations, when no evidence exists of such a mass spectacle. Current archaeological techniques may be useful in establishing the historical reality behind the poetry. Irving Rouse (1986) recently distinguished 2 types of migration on archaeological grounds. The 1st, which he calls "population movements," involves the spread of peoples into areas where they manage, through successful colonization or conquest, to establish the culture of their homeland. This type of migration leads eventually to cultural differentiation, as the new daughter communities grow apart from communities in the homeland. A 2nd process, called "immigration," involves the movement of people into already populated areas, where they eventually adopt most features of their host culture. This type of migration leads to the emergence of similarities in specific aspects of culture between the parent communities of the immigrants and their new hosts. Could Rouse's immigration process help prehistorians explain the restricted distribution in Polynesia of feather girdles (Stokes 1928, Rose 1978), the term *heiau* and its cognates (Emory 1943), or the Maupiti fishhook?

Another criticism of traditional accounts is that they attribute an incredible amount of influence to one or a few individuals. Pa'ao's Hawaiian exploits are a prime example, and modern sensibilities resist the thought that a single individual could have so radically altered the developmental course of an entire society (e.g. Kirch 1985: 305). Yet Sahlins's (1985) structural analyses of the histories of "heroic" societies point to 2 contingencies that temper conclusions based solely on common sense. The 1st he terms the "heroic I" (Sahlins 1985: 47ff.). Here the accumulated accomplishments of some long-term corporate group are attributed to an individual, thus confounding Western notions of history by expressing processes in terms of events. In other words, the many influences attributed to Pa'ao by traditional historians may record the accumulated accomplishments of the line of priests that he founded. The 2nd is simply that massive changes in heroic society are often predicated on the decision of a single powerful individual and occur relatively rapidly as the members of a society follow the direction of their leader (Sahlins 1985: 37ff.). This may have been the case with Pa'ao the "stranger king." Archaeology's real challenge is to develop a research program that is able to discriminate between these 2 hypothetical processes of change (see Hommon ms.).

One unexpected effect of archaeologists' concentration in the last 20 years on the scientific interpretation of archaeological data is that questions of potential importance to Hawaiian prehistory have quietly slipped out of focus. Nearly a century after Brigham, Thrum, and Stokes founded modern Hawaiian archaeology by investigating temple foundations, the problem of a change in the form of Hawaiian religious temples remains unsolved. There is no dated archaeological evidence for the temples built by Nanaulu-period Hawaiians. Could it be that the Hawaiian form of *marae* is the key to learning about the spread of a new religion through the islands? The technical means to date with precision the small amounts of charcoal that one might expect to find among the stones and soil at the base of a *marae* are now widely available at a moderate cost. Enough is now known of variations in form between individual *marae* and of their distribution over the landscape to begin the process of sharpening chronological hypotheses for a meaningful test. Yet, this mystery of the Hawaiian form of *marae*, tainted by its association with traditional history and the diffusionist theories of Handy and Buck, generates little interest among modern archaeologists.

The wealth of archaeological detail now available gives the prehistorian of Hawai'i a rich resource on which to draw. To describe the past in terms of everyday life relieves the mythlike quality of much traditional history. The past is more than the heroic deeds of priests and kings.

The genius of a craftsman who looks at an outcrop of blue-gray rock and sees there the raw material for a finished adze, of a farmer who recognizes in a patch of alluvium next to a mountain stream a place to grow food for an extended family, or of a community elder who sees in the well-being of kin a reason to maintain the local agricultural shrine—archaeological analyses assure all of these a place in Hawaiian prehistory.

Archaeologists and anthropologists long ago laid to rest the notion that 2 different cultural migrations were sufficient to explain Hawai'i's contact-era social organization. The importance of *in situ* development is fully appreciated, and the archaeological techniques with which to explore it have been well developed. The time has now come to renew analyses of traditional history with the sophisticated tools at hand and to synthesize the results with the scientific data of archaeology, linguistics, and ethnography. The product will be enriched by exposure to the full diversity of views on Hawai'i's distant past, and will be meaningful to the various cultural traditions that now draw inspiration from an understanding of that past.

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