

# Review Article

*Received 27 March 1980*

ALAN HOWARD

*The Prehistory of Polynesia.* Jesse D. Jennings, editor. Cambridge, Mass.: Harvard University Press, 1979. 399 pp., plates, figures, glossary, contributors, index. U.S. \$35.00.

AS A "STATE OF THE ART" volume, *The Prehistory of Polynesia* represents a significant achievement. It brings together summary articles by 13 of the most accomplished researchers into Oceanic prehistory and does an excellent job of describing achievements to date, as well as assessing the current state of knowledge. It is rare to find a volume of papers of such generally high quality. Each substantive chapter is both comprehensive and well written, and will therefore serve to inform both students and laymen as well as other Oceanic scholars.

The book is introduced with a brief preview by the editor outlining the basic chronology involved; the arrangement of chapters is a partial reflection of the presumed time sequence of settlement. Thus, following a general chapter by Peter Bellwood on "The Oceanic Context" that outlines the geographic, linguistic, and archaeological considerations relevant to the problems of Polynesian prehistory are chapters on the Lapita pottery complex, which is associated with the earliest proto-Polynesian cultures (Roger Green); Fiji (Everett Frost); Samoa and Tonga (Janet Davidson); the Marquesas (Yosihiko Sinoto); Easter Island (Patrick McCoy); Hawaii (H. David Tuggle); the Societies (Kenneth Emory); and New Zealand (Janet Davidson).

Following these regional surveys are a cluster of topical treatments, "in no particular order," of language (Ross Clark); physical anthropology (William Howells); subsistence and ecology (Patrick Kirch); settlement patterns (Peter Bellwood); and voyaging (Ben Finney). A final chapter on the state of archaeological research in Melanesia (J. Peter White), the homeland of populations ancestral to contemporary Polynesians, helps to provide a broader perspective for the preceding reports. In a short epilogue, Jennings alludes to plans for additional research on a variety of special topics by the scholars involved. The message is that much remains to be done, that recent archaeological work has done as much to raise new theoretical issues as to solve old ones. Indeed, this is the case, and the serious reader is likely to find in the book a sense of excitement. The field is not merely alive and well; it is thoroughly energized and bursting with anticipation of new directions.

Alan Howard is professor of anthropology at the University of Hawaii.

The one disappointment I experienced in reading the volume was that the editor did not see fit to explore these directions and their implications. One is left to construct shifts in perspective for oneself, to infer them from the various chapters. I found this a stimulating exercise, but the book's value as a documentation of the state of the art is somewhat diminished because of it. In the remainder of this review, I would like to present my own perception of trends and, as a deeply interested nonarchaeologist, to speculate about future directions that might prove fruitful.

Let me begin by characterizing what I will call the prearchaeological period, which extends from the time of European discovery to the decade of the 1950s, when stratigraphic archaeological research was begun in earnest within Polynesia. This period was dominated by speculative scenarios (Clark and Terrell 1978) aimed at constructing historical narratives to answer such questions as: Where did the Polynesians come from? When did they settle the islands, and by what routes? The preoccupation was with identifying the "ultimate" homeland from which the founding populations had come, the assumption being either that Polynesians had the same distinguishable physical and cultural characteristics indefinitely before they settled the islands, or that these characteristics were the consequence of a mixture brought about by various waves of migrants, each of whom brought with them some of the observed traits. The first assumption led to answers such as Malaya, Indonesia, India, or even Palestine (from whence one of the "lost tribes" was thought to have eventually found its way into the Pacific). The second assumption generated multiple answers. The Polynesians were thought to have received certain traits from an early negroid population, other traits from subsequent mongoloid migrants, and still other traits from later migrations. All kinds of traits were accounted for within the context of this diffusionist frame: physical type, technologies and material culture, social organization, and various customs. A few lexical similarities were also generally thrown in as supportive evidence. Both of these perspectives shared the supposition that physical and cultural characteristics are essentially static, that they change little or not at all in isolation. They therefore generate scenarios of long migrations of a distinctly Polynesian people from remote homelands under arduous conditions, or of several migrations of people who mixed like paints to produce the final product. Dates of settlement were generally inferred from legends and genealogies, with varying assumptions about the time span of generations or chiefly reigns.

The game of reconstructing migration scenarios has continued into the modern era and is of central concern to the authors of several chapters in *The Prehistory of Polynesia*. But the rules have been modified to reflect current thinking in a number of ways. For example, as we have learned more about the nature of genetic, linguistic, and cultural change, the implausibility of assuming trait stability over long periods of time has become apparent. Particularly in isolated populations, we now know, the effects of drift and the selective impact of ecological conditions tend to produce significant changes over relatively short periods of time. Thus, the two or three thousand years that Polynesian islands have been inhabited is quite sufficient to allow a marked divergence from the characteristics of initial settlers. Contemporary theorists differ in the extent to which they assume such change to have occurred *in situ*. J. Peter White, in his concluding chapter on Melanesian prehistory, nicely summarizes this dimension of current debate. One view holds that the Polynesians were mongoloid Austronesian speakers, derivative from neolithic ancestors in the Philippines and eastern Indonesia. In the extreme version of this argument, a direct, fairly rapid series of migrations into Melanesia is postulated, bringing new economies,

technologies, languages, and racial types into the area. A less extreme version points to similarities between Indonesia and East Melanesia in physical type, languages, and pottery, but is vague about how these features diffused. The alternative argument rejects the notion of long-range migrations originating outside Melanesia. Scholars advocating this position point out that there is no genetic evidence that Polynesians cannot be derived from East Melanesian peoples. They also interpret linguistic data, and that derived from Lapita sites, as favoring the development of proto-Polynesian culture within geographical Melanesia, and suggest trade networks as the mechanisms by which key characteristics spread eastward. In its more extreme form, this argument denies the necessity of any but minimal distance migrations to account for the genesis of Polynesian populations.

In contrast to Bellwood, whose introductory chapter reflects a position more closely aligned with diffusionism, White comes down squarely in favor of a perspective deriving key characteristics from local developments:

This, it seems to me, is the most satisfactory of current possible arguments. It derives Polynesians as a people, their language, and their material culture, from East Melanesia. It derives the makers of Lapita ware, Polynesian precursors, from Melanesia also, and makes minimal use of large-scale, long-distance migrations, for which there is currently no archaeological evidence. It allows the derivation of some aspects of prehistoric Melanesian society from eastern Indonesia, but suggests that a two-way interchange is likely. The model is also testable: further archaeological data will show whether it should be supported, modified, or replaced. (p. 374)

Four of the topical chapters have a particular bearing on this issue: Green's on Lapita, Clark's on language, Howells' on physical anthropology, and Finney's on voyaging. Green provides a splendidly comprehensive review of the Lapita complex, including a summary of site locations, radiocarbon dates, and assemblages found in association with the pottery that serves as a marker for the Lapita cultural complex. An appendix describing known Lapita sites is a particularly useful body of information to have available in print at this time. Green informs us that answering the question of the ultimate origins of the Lapita complex is beyond the scope of current archaeological evidence, but asserts that data support the view "that the original Lapita adaptation was to an area with a complex continental island environment, which possessed a wide range of resources that related communities could assemble through exchange" (p. 45). This he places in the New Britain-New Ireland area. Green has Lapita populations expanding eastward through island chains in Melanesia while maintaining trade relations with previous settlements, thus perpetuating cultural continuity. Once the water gap to Fiji (954 km) was bridged, however, the difficulties of maintaining contact resulted in a significant break in the exchange network, with the result that events in the eastern Lapita area of Fiji, Tonga, and Samoa "proceeded in their own fashion more or less in isolation from events in Lapita communities farther west" (p. 47). From this premise, Green concludes that it is reasonable to suppose:

. . . that one group of eastern Lapita became Polynesian in Polynesia . . . and another played a leading role among the founding populations of Fiji. Moreover, it was the Lapita ancestors who developed many of the preadaptations in voyaging and navigation, who established viable populations with their plants and animals on the less well

endowed islands of Melanesia, and who pursued . . . a Viking-like quest to continue exploration ever into the sunrise that allowed their Polynesian descendants to fill the remaining empty zone of the Pacific in something like a thousand years. (p. 49)

Green thus models his assumptions on the premise that adaptive change played an important part in shaping the final products.

The underlying logic of trait modification through time, as it applies to language, is spelled out clearly by Clark (incidentally making the article an excellent selection for courses dealing with Oceanic prehistory). Regarding the relationship of Polynesian with external languages, Clark asserts that the hypothesis postulating direct migrations from areas like Indonesia into the Polynesian triangle, bypassing established Melanesian populations, is not supported by the linguistic evidence. Using current subgroupings as a guide, he locates the homeland of Proto-Oceanic on the northeastern coast of New Guinea or nearby islands; a likely homeland for Proto-Eastern Oceanic (a subgroup of Proto-Oceanic) is the northern New Hebrides, whereas all evidence points to Fiji as the homeland of Proto-Central Pacific (a subgroup of Proto-Eastern Oceanic), which splits into Proto-Fijian and Proto-Polynesian. Thus, the linguistic evidence clearly points to Fiji as the immediate homeland of founding populations within the Polynesian triangle. Clark also considers subgroupings within Polynesia and discusses their implications for the sequence of settlement within the area.

The evidence from physical anthropology is much more ambiguous (and much less adequate). Anthropometric measurements and blood group frequencies from living populations, and cranial measurements from unearched burials, constitute the bulk of the data, replacing the purely phenotypic observations of hair form, skin color, and general body size that preoccupied early theorists. Interestingly enough, whereas these latter characteristics were a prominent basis for categorizing the dark-skinned Fijians with Melanesians, in contrast with the light-skinned Polynesians, Howells asserts that the modern Fijians share so much of the Polynesian pattern, which is itself genetically uniform (and definitely contrastive with the Melanesian pattern), "that they can only be understood when thought of as Polynesians, secondarily admixed with later Melanesian colonists of Fiji" (p. 283). Curiously, Howells pays very little attention to the possibility (if not likelihood) of genetic drift and ecological pressures on gene pools through time. His speculations thus fall well toward the diffusionist end of the spectrum. He does not seriously consider, for example, the possibility that a genetically heterogeneous population occupied eastern Melanesia prior to Polynesia's settlement, and that differences became more pronounced as a result of founder effects and differential selective factors. Such a model would be more consistent with linguistic and archaeological data. Beyond the association of Fijian and Polynesian physical types, the evidence remains too scanty and ambiguous to draw reasonable inferences. As Howells acknowledges in his concluding statement, "it is still possible to draw hypothetical arrows in too many directions" (p. 284).

Finney's article on voyaging focuses on another puzzle of migration and dispersal, namely: "How could a Stone Age people, without ships or navigation instruments, have crossed much of the world's greatest ocean to colonize these islands" (p. 323)? He bases his discussion on quasi-experimental studies of canoe capabilities and the effectiveness of indigenous navigational strategies, using the voyage of the reconstructed sailing canoe, the

*Hokule'a*, from Hawaii to Tahiti to support the view that Polynesians were capable of long-range planned voyages. The assumptions one makes about sailing capabilities are of profound significance for models of Polynesian dispersal, and Finney does an excellent job of spelling out the key considerations underlying such assumptions.

Whereas all of the chapters summarizing data on specific islands or island groups pay attention to the issue of probable homelands for founding populations, some are primarily oriented toward issues of migration, others are not. This reflects both the nature of available data and the interests of the authors. Sinoto's review of the Marquesas and Emory's of the Societies most clearly show diffusionist concerns. They are primarily concerned with locating artifacts in time and space, and with constructing typologies to be used as a basis for comparison. The goal is to find correspondences in artifact assemblages between early settlement sites on a given island with assemblages in the same time horizons of potential homelands. Sinoto and Emory pay little attention to the role of ecological factors in shaping technology, which places them nearer the diffusionist end of the spectrum than the other authors (compare, for example, Sinoto's treatment of Marquesan fishhook sequences with that of Kirch [1980]).

Frost, in his overview of Fiji's prehistory, is likewise concerned with the archipelago's cultural affinities, but he also discusses the implications of fortified sites for prehistoric sociopolitical developments, although in a rather precursory and programmatic vein. A diffusionist orientation is reflected in his presentation of ceramic sequences and, most especially, in the conclusions he reaches concerning Fiji's prehistoric affiliations. He, like Howells, sees Fijians as predominantly Polynesian, with later intrusions of Melanesian influence. Still, Frost's final remark is an expression of hope "that future research will be able to delve into the processes of ecological adaptation and sociocultural development that led to the unique aspects of Fijian prehistory" (p. 80).

The remainder of the area reviews and the substantive chapters on settlement patterns (Bellwood) and subsistence and ecology (Kirch) reflect the growing concern Oceanic prehistorians have displayed for sociopolitical developments within island environments. Janet Davidson's articles, the first on Samoa and Tonga, the second on New Zealand, both reflect a concern for indigenous developments in response to ecological conditions. The data for Samoa and Tonga are still quite meager, with huge gaps in the developmental sequences. Nevertheless, Davidson discusses the possible implications of settlement patterns, mound sites, and fortifications, providing an outline to guide future research. Evidence from New Zealand is much richer, allowing Davidson to discuss developmental changes in material culture, subsistence patterns, settlements and house types, ritual, warfare, trade, and communication. Earlier generations of scholars attempted to explain the development of Classic Maori culture as "something imposed by victorious migrants who defeated earlier inhabitants" (p. 245), but more recently, Davidson reports, scholars have sought to relate those developments to the success of *kumara* (sweet potato) horticulture. The shift involves more than a simple substitution of one explanatory model for another, however. The ecological-adaptive-developmental perspective generates a different order of question for archaeologists, and requires different sorts of data. For example, in her conclusion Davidson writes:

The development of pā [fortress] warfare poses perhaps the most vexing problems in New Zealand prehistory. If it could be correlated with developments in art styles and

certain elements of ritual and belief, then perhaps the essence of the development of Classic Maori culture could be captured archaeologically; such correlation is not yet within the reach of the archaeological method. (p. 245)

One hopes that the pursuit of such questions will fire the imaginations of future archaeologists and social anthropologists alike.

The articles by McCoy on Easter Island and Tuggle on Hawaii perhaps best exemplify the adaptational perspective as applied to specific societies. Ironically, it was the ultradiffusionist Heyerdahl's sponsorship of archaeological research on Easter that led to the rich record from which the island's developmental prehistory has been reconstructed. McCoy sets the context of archaeological materials in Easter's biogeoclimatic characteristics and consistently relates these materials to ecological factors. Following an excellent discussion of the architectural efflorescence which climaxed in the world-famous stone imagery, McCoy provides compelling evidence for environmental, and subsequently cultural, degradation resulting from overpopulation and chronic warfare. Rather than positing discontinuous cultural sequences, which Heyerdahl has interpreted as indicative of successive waves of migrants, McCoy concludes that the evidence points to an uninterrupted cultural sequence and "the existence of a single, coherent, but changing, cultural tradition" (p. 163).

In the introduction of his article on Hawaii, Tuggle succinctly states the goals of adaptational archaeology:

Hawaiian archaeology is, in part, concerned with the problems of how the people who settled a group of islands in the North Pacific came to be "Hawaiian"—that is, certainly Polynesian, but nonetheless unique. The answer involves determining the origin and culture of the first settlers. It involves exploring the way in which these settlers and their descendants met the possibilities and limitations of an island environment over a period of some 1,500 years. And it involves understanding the consequences of isolation from the rest of the Polynesian world. The theme of Hawaiian prehistory thus becomes the human use of an isolated and bounded environment, which resulted in the culture encountered by Europeans in 1778. (p. 167)

That Tuggle is far removed from the diffusionist perspective is clearly evidenced by the fact that he pays only the most cursory attention to assemblage typologies and their implications for intercultural connections. The result is an entirely different kind of archaeological profile than that projected by Sinoto and Emory for the Marquesas and Societies. For social anthropologists like me, Tuggle's brand of archaeology is enormously stimulating (perhaps because it allows us to participate in the game of interpretation to a much greater extent than diffusionist archaeology does).

Bellwood's chapter on settlement pattern archaeology is based on his conception of four levels of analysis: "primary settlement units," combined settlement units, geographical spacing, and "overall settlement patterns to support ecological and social generalizations" (p. 310). Settlement pattern archaeology is critical for identifying structural arrangements from which inferences can be made concerning social stratification (the differentiation of structures associated with chieftainship) and population dispersal or nucleation. Both types of inferences are vital to an improved understanding of social evolution within Polynesia (see Howard 1974). Bellwood asserts that the evidence refutes Sahlins' explana-

tion of the genesis of Polynesian chiefdoms (Sahlins 1958). He is probably justified in doing so, but his glib assertion that "the Polynesian chiefdoms probably developed prior to the settlement of Polynesia itself" (p. 317) is hardly adequate as an alternate hypothesis (it reflects, by the way, Bellwood's essentially diffusionist bias in matters of theory). Nor is there much utility in his assertion that "Polynesian settlements by and large . . . occur along ecotones" (p. 317), that is, in environmental transition zones, thereby maximizing access to diverse resources, for it ignores the alterations that result from population and ecological changes. In fact, it is apparent from Bellwood's review that an adequate comparative study of settlement patterns in Polynesia remains to be done. Such a study will have to await both better data from a more representative range of localities and a more sophisticated conceptual framework for relating archaeological remains (including stratigraphic changes) to the evolution of social systems.

In my view, the chapter by Kirch is the most visionary and exciting one in the entire volume. It was in reading this chapter that I gained a real appreciation of the potential contributions of archaeology to solving problems of social evolution in Oceania. Kirch labels himself an ethnoarchaeologist; his viewpoint integrates ethnographic, ecological, and archaeological perspectives. He is concerned with such issues as the dynamics of human adaptation to the variety of insular environments, including the transformations of baseline subsistence patterns, the role of subsistence activities in overall adaptive strategies, the implications of periodic natural disasters for resource management, and the implications these processes have for social development. The focus on adaptive patterns does not lead Kirch to ignore issues of prime significance to diffusionists, however. In fact, he demonstrates quite clearly the importance of taking ecological factors into account when assessing the significance of material assemblages for dispersal patterns. But for Kirch the dispersal of founding populations is only the beginning of the story. The real task for archaeologists is to contribute to the comparative study of human adaptation to Oceanic environments. Thus he writes:

To appreciate the tremendous range of Polynesian adaptations to the environment, it is necessary to look beyond descriptive analyses of individual societies. Polynesian archaeology has matured to the point where the essential culture-historical sequences for the major archipelagoes and islands are known to some degree, as this volume testifies. Furthermore, the extensive literature of Oceanic anthropology has documented the structural bases of these societies. What is possible now is to search out and explain the consistencies and repeated patterns of cultural adaptation to environmental challenges. There are certain directions that might prove productive in the study of adaptation as process. (pp. 303-304)

In calling for a *comparative* program of research, Kirch echos the lament of Davidson, who concludes her chapter on New Zealand by pointing out that the prehistory of Maori culture has been dealt with as a "thing apart." It appears that it is time for Oceanic prehistorians to reassess their goals and premises in the light of what has been learned so far, so that the vitality of the field can be maintained. Kirch has pointed the way, but the rules of the game remain to be refined. Ethnohistory, including reanalyses of oral traditions; ecological analyses; an assessment of ethnographic data, linguistic data (including semantic analysis of relevant domains), and archaeological data all have a role to play in this quest, but in a different way than in the game played by classical diffusionists.

I would like to go beyond Kirch, however, in one important respect. Although comparative research *within* Polynesia is an ideal way of pursuing an understanding of ecological impact on social evolution (because the culture is relatively homogenous, whereas the environments vary significantly), a more complete program for comprehending social evolution would involve significant variation in both environment *and* culture. Thus, a comparative program ought to be planned that is pan-Oceanic, so that the relative contributions of cultural templates and ecological constraints to various social developments can be assessed. The task is enormous—it could doubtlessly occupy innumerable scholars of varying disciplinary backgrounds for decades—but then the game is so damn much fun, why not let lots of folks play?

#### REFERENCES

CLARK, J. T., and J. TERRELL

1978 Archaeology in Oceania. *Annual Review of Anthropology* 7: 293–319.

HOWARD, A.

1974 Polynesian social stratification revisited: reflections on castles built of sand (and a few bits of coral). *AA* 74: 811–823.

KIRCH, P. V.

1980 Polynesian prehistory: cultural adaptation in island ecosystems. *American Scientist* 68: 39–48.

SAHLINS, M.

1958 *Social Stratification in Polynesia*. American Ethnological Monograph. Seattle: University of Washington Press.