

Coming from Where? An Introduction to Recent Advances in Micronesian Archaeology

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‘Coming from where’ in the title of this introductory paper is intended to convey the idea that the first international conference on Micronesian archaeology and physical anthropology, convened on Guam in September 1987, not only considered the geographic and racial origins of the indigenous peoples of this vast oceanic region, nor only the variations in cultural adaptations that have evolved in the Micronesian islands over the last three or four thousand years. In its topical and geographic breadth the conference also highlighted the variety of motivations, backgrounds, and agendas of the practitioners of the art, some would say science, some would say hobby, some would even say business, of prehistoric and historic archaeology in the western Pacific. Micronesian archaeology today is, indeed, coming from several places.

So did the conference participants, traveling from as far away as Australia, New Zealand, Papua New Guinea, and Japan, and from as close as Guam, the Commonwealth of the Northern Mariana Islands, the Republics of Belau and the Marshall Islands, and the Federated States of Micronesia. Most of the conference papers were presented by Americans or American-trained scholars, reflecting the main sources of funding for archaeological projects in Micronesia over the last decade and a half. This funding has come largely in the form of federal grants to Micronesian government historic preservation programs by the National Park Service, and from other government agency budgets, enabling compliance with federal historic preservation law. Less common have been grants from the traditional academic sources such as the National Science Foundation and the National Endowment for the Humanities, or private research support sources such as the National Geographic Society.

One outcome of this reliance on historic preservation funding has been a lack of systematic publication of research findings in peer-reviewed journals and books. Most of the information obtained by these projects is buried in obscure contract reports with limited circulation—the ‘gray literature’ associated with government and private contract research in many scientific fields today. The *Micronesian Archaeological Survey Reports*, first issued by the Trust Territory Historic Preservation Office and now by the Commonwealth of the Northern Marianas, are a major exception to this pattern. These reports have helped to disseminate descriptive findings and have provided a wealth of data which can be used to evaluate hypotheses about various aspects of the prehistoric societies in the Micronesian region.

This leads us to the major purposes for having convened the Micronesian Archaeological Conference, and why we believe it enjoyed so much support from local and regional governments and from federal and private funding sources, as well as the participation of many professionals and interested laypersons. First, we were convinced that archaeological research in Micronesia has an important role to play in building and elaborating the narrative of the cultural accomplishments of past generations of Micronesians. The adaptive achievements of these populations deserve our admiration, and they merit serious professional study in their own right. Similarly, for anthropologists and archaeologists, the prehistory of Micronesia is interesting in its temporal span, in the nature of its origins, and in the range of its variations. Second, the conference offered an opportunity for some of the unpublished findings of the last decade or so to be presented to and debated among the professional archaeological community. With the publication of this volume, although not a complete record of the conference, a nonetheless permanent record of some of the data upon which recent interpretations are based, has been established. For the advancement of knowledge, archaeological findings from one area need to be reviewed in the wider context provided by the field as a whole. We are pleased to see that this is increasingly the case for Oceanic archaeology (Jennings 1979, Kirch 1984, Terrell 1986), and that Micronesian studies are a significant part of this process.

Third, it was a conference open to all. With generous funding from two federal sources (the National Science Foundation and the National Endowment for the Humanities) and from one private foundation (the Wenner-Gren Foundation for Anthropological Research), as well as from the University of Guam, we were able to invite all those who have been doing archaeology and physical anthropology in Micronesia over the last fifteen years. We were also able to invite a variety of ethnologists and historians with converging interests in Micronesian prehistory. The conference participants included both junior and senior researchers. The audience was made up of a variety of professional Micronesianists, teachers, students, members of the armed forces, government workers, and 'just plain folks'—all of whom happen to be interested in this subject and enjoy participating in the excitement of discovery and understanding.

It is instructive to realize just how far we have come in the pursuit of archaeology in Micronesia. Prior to 1970, fewer than 30 archaeological projects had been undertaken in the entire region, and these were primarily exploratory. Attempts were made to locate the largest or the most obvious sites and from these to define the temporal limits of prehistoric occupation on the high islands of western Micronesia (see Gifford & Gifford 1959, Osborne 1966, Reinman 1977, Spoehr 1957), and to describe the material culture of particular islands (Osborne 1966, Reed 1952, Thompson 1932). Although these studies have contributed greatly to our understanding of the prehistory of western Micronesia, there was virtually no published work on the eastern Caroline Islands nor on the numerous atolls and low islands that comprise the majority of the region's islands. Moreover, until shortly after 1975, there had been little progress in the scientific interpretation of Micronesian prehistory. In the Mariana Islands, for instance, a series of archaeologists had conducted research at *latte* sites (prehistoric sites with megalithic house foundations) without, apparently, realizing that at least some of the questions associated with these structures had been previously resolved. This situation occurred because there was little continuity among archaeologists working in the region. Quite often, an archaeologist would under-

take field work on one of the islands, complete the project, and never return to Micronesia for additional studies. Specific parts of Micronesia did not enjoy continuous, intensive, and directed attention by archaeologists. As a result, prior to the 1970s, our familiarity with the prehistory of Micronesia was skewed geographically and temporally, and the patterns of prehistoric organization and change were still largely unknown.

Since about 1975, Micronesia has been a remarkably different place for archaeological research. Over 200 separate projects were started between 1977 and 1981 (Cordy 1982a), and probably another 100 have been undertaken within the last five years. This increase in research activity has been matched by a wider geographic distribution of projects throughout Micronesia, although the atolls continue to be under-represented in archaeological surveys and excavations. This, in turn, has led to a more accurate appreciation of the time span and nature of human occupation in various parts of the region, and to the conviction that such findings are of international significance (Craib 1983).

As a function of its federal sponsorship, and with the strong encouragement of historic preservation officials such as Tom King and Ross Cordy, much of the recent research has been overtly problem-oriented as opposed to general and exploratory. This reflects the recent Americanist emphasis in Micronesian archaeology today, and while the positivist aspects of this approach to research have been debated (Shanks & Tilley 1987), there is no question that we have seen an improvement in the way archaeology is conducted in Micronesia and that there has been an expansion of the empirical domains that archaeologists routinely investigate.

A brief overview of the topics which structured the conference and which have assumed prominence in Micronesian archaeology illustrates where we are coming from and where we are going. Perhaps the most intensely debated topic in Micronesia is about the origins and nature of early prehistoric populations in the region (Shutler & Marck 1975, Takayama 1981, and see several papers in this volume). Early reconstructions (e.g., Buck 1959) placed Micronesia firmly in the path of the Polynesian migrations. This model influenced botanists such as Barrau (1961) to suggest that one of the most important Micronesian cultigens, *Cyrtosperma chamissonis* (swamp taro), was a late introduction via these migrations. Subsequent work in linguistics and archaeology now suggests that Buck's hypothesis (and by implication Barrau's as well) is incorrect. The linguistic history of Micronesia is far more heterogeneous than first believed, and there were, apparently, at least two and probably more linguistic 'homelands.' Further, there is now evidence for a considerable human antiquity in the region, ca. three thousand years, not only in western Micronesia but also in the eastern Micronesian atolls (see Streck, this volume). These findings, in turn, have rendered inadequate the models which predicted that the high islands would be the first occupied, and then only much later would atolls be colonized. The processes of island colonization in Micronesia are more complex and more interesting than first anticipated.

Closely allied with the topic of the early settlement of Micronesia are studies of the biological affinities of the Micronesians (Howells 1973, Katayama 1985, Pietruszewsky 1984, Pietruszewsky & Douglas unpub., Turner 1986, and see several papers in this volume). Analyses of skeletal and dental remains from archaeological sites in Micronesia have been used to estimate the supra-regional affinities of Micronesians. These studies do not confirm any simple or singular connection with other Pacific Island populations but,

like the linguistic and archaeological data, point to the relative heterogeneity of Micronesians, especially when compared with Polynesians.

With the accumulation of radiocarbon dates from several Micronesian sites, archaeologists have learned that the prehistoric human occupation extended at minimum for several centuries on virtually every island studied. This finding has provided impetus for monitoring change and patterns of variability in prehistoric material culture assemblages and human organization (Graves & Moore 1985, 1986, 1989, King & Parker 1984, Moore 1983). One outcome of these studies is the recognition that Micronesian populations underwent significant changes in both behavior and technology between the time they first settled an island and the time they were first sighted by Europeans. There is evidence of increasing cultural diversification through prehistoric time as well (Graves *et al.* unpub.). In the Mariana Islands such studies allow us to firmly reject migrationist hypotheses to explain these changes (e.g., Thompson 1969), in which the transformation of late prehistoric Chamorro society was attributed to an influx of an ethnically distinct and socially superior group of people. Recent studies (Graves & Moore 1986, Moore 1983) have documented artifactual continuity, particularly in ceramics, through the archaeological sequence at two stratified beach sites on Guam. In Truk, the work of King and Parker (1984) suggests the opposite: that there was a major discontinuity in the archaeological record in the lagoon islands and this may be due to population displacement and recolonization. Clearly the archaeological record of Micronesia is not uniform, even within the high islands.

Archaeological field work in Polynesia (see Kirch 1982, 1983, Spriggs 1985, 1986) has documented considerable prehistoric environmental or landscape change. We are now in a position to suggest that such changes also occurred in Micronesia (Ayles & Haun 1978, Cordy & Allen 1986, Graves & Moore 1985, 1986, Kurashina & Clayshulte 1983, Dye & Cleghorn, this volume, Athens *et al.* unpub., Butler & De Fant 1989). Beach zones prograded due to local geomorphic processes, and episodes of terrigenous sedimentation created new coastal wetlands, both prior to and during prehistoric human occupation in various islands. The prehistoric transformation of native forest to agro-forest is evident in most islands (Fosberg 1960) but controversy surrounds explanations for the origins of the extensive grasslands or savannahs on islands such as Belau, Yap, and Guam (Dye & Cleghorn, this volume, Zan & Hunter-Anderson 1988, Hunter-Anderson & Khosrowpanah unpub.). Environmental changes are rarely neutral with respect to human populations; alterations in the productive capacity of certain landforms or vegetational communities are implied, and we are beginning to realize the remarkable capabilities of the prehistoric Micronesians to transform the island environments in which they lived, and to adjust to non-anthropogenic changes as well.

With a series of federally funded infrastructure construction projects, such as roads and utilities, has come a concomitant increase in the number of reconnaissance surveys to locate and inventory cultural resources within project areas. This in turn has stimulated research on Micronesian settlement patterns (Athens 1980, Ayles *et al.* 1979, Bath 1984a, Cordy 1983, 1986a, Craib 1980, Gumerman *et al.* 1980, Hunter-Anderson 1983, 1985, Moore *et al.* 1986). These studies suggest a varied array of habitation sites, ranging from nucleated settlements to dispersed hamlets. There is also increasing evidence for functional and structural variation between settlements, most dramatically in Pohnpei and

Kosrae where Nan Madol and Lelu, respectively, indicate a high level of ritual specialization and socio-political differentiation. Yet even on Guam where social differentiation apparently was less pronounced, there is evidence of structural variation between contemporaneous settlements in quite similar environmental settings (Graves & Moore 1985).

The influence of Americanist archaeology on the study of Micronesian prehistory is most visible in the search for archaeological correlates of social complexity (Ayres 1983, Bath 1984a, Cordy 1982a, 1982b, Graves 1986a) and for the processes leading to increased social complexity (Athens 1983, Bath 1984b, Cordy unpub., Cordy & Ueki unpub., Graves 1986b). The monumental basalt architecture of Nan Madol on Pohnpei and Lelu on Kosrae, the *latte* stones of the Marianas, the terraced hillsides of Belau, and the stone platforms of Yap all attest to the socio-political achievements of prehistoric populations in Micronesia. Yet we now recognize considerable variability across the region in the extent to which kin groups or social classes were hierarchically differentiated. Hypotheses that sought to correlate the degree of social complexity with gross physical measures such as island size or productivity have not been confirmed (Cordy 1986b). Explaining the emergence and persistence of social complexity will require more insightful models. The range of variation in Micronesian social complexity, coupled with the variety of organizational and productive systems associated with different islands, is tantalizing for the archaeologist interested in the origins, as well as the operational and evolutionary dynamics, of these systems.

As in Polynesia, in Micronesia archaeology has lagged behind ethnographic and ethnohistoric studies. The post-war ethnographic work in Micronesia of scholars such as Murdock, Goodenough, Barnett, and Schneider, and their students, established the ethnographic importance of the region in respect to theoretical issues in kinship, social organization, political relationships, and exchange systems. Archaeologists are just beginning to tap the historic and ethnographic records from Micronesia in an effort to reconstruct aspects of late prehistoric society (Cordy 1982c, Parmentier 1985, Mauricio 1987). Archaeologists realize the importance of the work among relatively contemporary Micronesian groups by our anthropological colleagues. However, the methodologies for fusing contemporary and archaeological accounts are still undeveloped. We are concerned about the appropriate use of each empirical domain as an independent set of evidence (Graves 1986b) and about the possibility that the archaeological record, which is usually less known, will simply be 'read' as a backward extension of the historic past. Archaeological data can do far more than this; they can provide a unique perspective in describing the past that is not subordinate to the documentary records of modern history and cultural anthropology. We should attend to the productive aspects of collaboration between the archaeological and historic records, in which hypotheses generated from one domain may be tested against the other. This collaboration has the potential to highlight aspects of variability which might not otherwise have been considered by either field as it studies Micronesian prehistory.

Cross-cutting all of the topical concerns of archaeologists working in Micronesia are differences in fundamental interpretive perspectives, or theories of culture. In her keynote address to the conference, Janet Davidson reviewed much of the recent Micronesian archaeological work and placed it well within the mainstream of Pacific archaeology. Her perspective is largely that of the culture historian.

Culture history as practiced in the Pacific is a distinctive mode of interpretation or paradigm for 'knowing' the archaeological record. In this paradigm, formal artifactual changes that can be demonstrated to have occurred through time, say, those which have been documented in the stratigraphic record of one island, are thought to represent changes in mental concepts drawn from the culture of the artifact makers and users. Paradigms help us to impart meaning or significance to what we observe. In the culture history paradigm, the archaeological record directly reflects shared attitudes, beliefs, and habits of a given group of people as an ethnic entity—the 'mindset' or mental template which people learn as members of their culture and use largely unconsciously in their daily lives. These shared mental traits are physically manifested in the archaeological record as characteristic, repetitively preferred, material forms, for example, certain shapes and designs of fish hooks or earthenware pots. These items become, for the culture historian, distinctive ethnic markers that signify or reveal the membership of the persons who made and used them. Other classes of archaeological facts (for example, patterns of co-association of functionally classified tools found by multivariate analysis) are not so interesting or useful, since they convey no information in this regard.

A frequently used interpretive convention under this paradigm is that similar forms in technology mean a common cultural (ethnic) heritage. If one island's fishing or ceramic technology resembles another island's, both are interpreted as having had a common origin in the past. Any divergence from the common base is interpreted as having been due to (1) innovation after the two populations were separated, (2) the acquisition of new ideas after being exposed to other cultures, or (3) external environmental influences forcing change. The environment conceived separately rather than as the selective milieu in which cultural systems are embedded, is generally the last thing to be considered as a source of variation in cultural historical explanations. More important are factors such as cultural drift (accidental isolation of just part of a cultural repertory), the weight of tradition on conserving choices, and the impact of direct or indirect contacts with other cultures.

Davidson's review of past achievements and future problems in Micronesian archaeology is a case in point. Acknowledging that much progress has been made in various areas of investigation by archaeologists, such as the documentation of settlement patterns and the inference of subsistence practice variations, exploration of archaeological manifestations of social complexity, the establishment of basic chronological sequences, and studies of pottery and other artifact classes, she concluded that more investigation into the origins of Micronesian peoples and cultures is necessary 'if the range in human adaptation in the region is to be fully understood.' By this she meant scholars still have not sorted out the several common cultural bases of the ancestors of the Micronesians. These bases—and archaeologists now suspect at least three different ancestral groupings in Micronesia—must be identified and described in order properly to interpret the variability of the subsequent, necessarily derivative, archaeological record. The search for meaning ultimately is reduced to a search for origins.

The other major paradigm or mode of interpretation of variability in the archaeological record represented in papers at the conference is the natural science-based adaptationist one. In contrast to the culture historians, the adaptationists tend to look at the environment, not as a backdrop against which the more important and interesting, essential mental, cultural processes occur, but as a combination of primary shaping forces for cul-

tural organization, as an adaptive means. The adaptationists' environment conceived broadly includes both physical and social domains. In this complex milieu lie the causes of cultural variations and, by implication, of many observed archaeological differences and similarities. This interpretive framework requires a systemic view of culture, in which both change and equilibrium are anticipated. In general, non-change in a cultural system is thought to be due to the operation of homeostatic mechanisms which promote stability in the system. Conversely, cultural change over time is thought to result from the failure of such mechanisms under changed or changing environmental conditions. Adaptationists look at many of the same objects as do the cultural historians but they see them differently. Such is the power of the paradigm.

For adaptationists the archaeological record of a given place is comprised of the static remnants of a once dynamic adaptive system, not unlike that of other animals, except that man's adaptive means are cultural rather than strictly biological (see Rappaport 1963: 168–169 for a similar view within ethnology). The precise origins of specific behaviors are of little concern, since cultural solutions to local adaptive problems can be invented, re-invented, modified, or discarded, given the appropriate conditions. In this view, there is no guarantee that specific cultural responses which occur in a given situation will ultimately persist, nor that a successful response to a new adaptive problem will always be made. If this were so there would be no extinctions! The adaptationist position is that of the natural scientists who subscribe to evolutionary principles. Natural selection operates in an opportunistic fashion but it must have variability to work on. In the human adaptive case, the variability is provided by cultural responses, and these originate in a number of ways. As in the rest of the world where only a portion of the species or a limited set of individuals survives, only a fraction of all human responses ultimately are successful.

At the conference Arthur Saxe presented a paper, co-authored with Susan Loughridge, along these lines. They suggested that the El Niño/Southern Oscillation (ENSO) phenomenon, a complex cycle of droughts associated with wind, ocean current, sea level, and temperature changes, had a causative role in the apparent decrease in prehistoric Pohnpeian social complexity. According to their argument, given the inherently unstable subsistence base of agriculture, one of these infrequent climatic events could severely destabilize the relatively centralized prehistoric Pohnpeian cultural system dating to the time of occupation of the large megalithic site at Nan Madol. Saxe and Loughridge proposed that the stressful conditions brought about by a severe ENSO favored a new social order, namely, one of hierarchical but de-centralized chiefly polities, as recorded by Europeans during the last century.

Under the adaptationist paradigm, Pohnpei's archaeological record should reflect this shift in social structure at the predicted time (when there is simultaneous evidence for a severe ENSO event). One of the difficulties in testing this hypothesis is the unspecified nature of the linkages between social organization and other components of the Pohnpeian adaptive system which have left physical traces.

Stephen Athens' theoretical work on Pohnpei social complexity (e.g., Athens unpub., and see this volume) contrasts with that of Saxe & Loughridge in emphasizing the processual effects of intra-group competition, regardless of rare severe drought and its related physical effects. Such differences in explaining the same case within the adaptationist paradigm reflect the need to develop decisive arguments of 'ecological relevance'

and to demonstrate the existence of predicted facts derived from these arguments. Neither unhealthy nor unexpected, within-paradigm disagreements force the adaptationist to specify the precise and at the same time generally true linkages between physical environmental factors, behavioral responses, and socio-political organization. Taking up this challenge requires creativity constrained by the complex nature of the archaeological record, not an easy combination to achieve. Yet there can be no scientific progress without it, no other way to eliminate erroneous ideas and false directions.

Archaeologists working in Micronesia today have an opportunity to contribute to the refinement of more than one interpretive framework, whether it be cultural historical or adaptationist, or derived from some other paradigmatic position. Although narrowly focused at times, regional research does not take place in a vacuum but rather is best understood within the context of these larger issues. We are thus challenged to examine both the substantive and the theoretical claims of archaeological knowledge in Micronesia but it is apparent that the directions our research takes in the future will always depend on where we have been.

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