



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION MONOGRAPH 19:
Michael W. Graves and Roger C. Green (eds), *The Evolution and Organisation of Prehistoric Society in Polynesia*



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OF PREHISTORIC SOCIETY IN
POLYNESIA

Edited by Michael W. Graves and Roger C. Green

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION
MONOGRAPH

THE STUDY OF ARCHAEOLOGICAL VARIABILITY IN POLYNESIA

Michael W. Graves and Roger C. Green

Archaeologists in Polynesia have made considerable progress over the past 30 years in the study of ancient or traditional cultural formations and processes. They have achieved this, we suggest, because they have focussed their efforts on describing and measuring variation in the archaeological record of the region. Much of this work, like the papers in this volume, has emphasised those parts of the archaeological record that lend themselves well to this kind of conceptualisation, including stone-working, architecture and settlement patterns. Still, the considerable accomplishments of Polynesian archaeology must be viewed within the context of the relative youth of the discipline in the Pacific, its recent and rapid growth, and the relatively small number of researchers who work here. We contend that in the last decade archaeologists in Polynesia have been reasonably successful in achieving levels of archaeological interpretation and synthesis which rival those produced elsewhere in the world.

Several factors help us to understand this success. First, despite its popularised use, the 'islands as natural laboratories' concept (Clark and Terrell 1978:293; Kirch 1986:2; Suggs 1961:194) has considerable utility for archaeological research in this region. Polynesian terrestrial landscapes are generally small scale and always bounded by water and this has made the delineation of social boundaries and environmental parameters somewhat easier for archaeologists (although not without some problems). At the same time, because these islands at first lacked human populations, it is possible to document their colonisation by humans and then monitor the success of these groups as they developed. Moreover, the time scales are of limited length - within the last 3300 years or less. Finally, the distance between island archipelagos in the eastern Pacific has also provided an isolating mechanism for Polynesian populations, although we should note that the extent to which Polynesians were ever isolated from their collateral branches in other archipelagos has been simplified, overstated, or treated as uniformly the same through time. As Helen Leach suggests in her paper in this volume, in the late prehistory of three Polynesian island

groups (Hawaii, Samoa and New Zealand) archaeologists have found caches of unusually large basalt adzes which she interprets as ritual items and possibly markers of status. Their occurrence among widely separated Polynesian archipelagos is consistent with the diffusion of both the socio-political concept and the technology necessary to fabricate these objects.

In a different context, Christophe Sand makes much the same point by demonstrating the appearance of Tongan ritual attributes in archaeological mortuary settings on the island of 'Uvea. While one may not agree that Sand has provided sufficient evidence to support his inferences about extensive population transfers from Tonga to other Polynesian islands, we are struck by the match between ethnohistorical accounts from Tonga and 'Uvea and the correspondence in the late prehistoric period mortuary customs of these two Polynesian islands.

A second advantage we have gained in Polynesian archaeology derives from the numerous documentary, ethnohistorical and oral history accounts which are available for most islands and archipelagos. More importantly they frequently remain firmly embedded within the context of contemporary societies to whose past they refer. While such records constitute a significant domain for discovery and understanding of the past, it is necessary to keep them in proper perspective. The most effective use of such information is for comparison with archaeological variability and to help structure the expectations of archaeological analyses, much as Kēhaunani Cachola-Abad, Thegn Ladefoged and Sand do in their papers in this volume. Ladefoged, in particular, has compared lists of paramount chiefs and their natal districts from the island of Rotuma against measures of agricultural productivity, only to discover that far more chiefs derive from resource poor districts than from the optimal parts of the island. In his recently completed dissertation, Ladefoged (1993) extends this analysis by examining the archaeological record of large scale architecture on Rotuma. He finds that its distribution

corresponds with the districts from which paramount chiefs were selected, not with district agricultural productivity.

The paper by Abad in this volume employs the oral historical voyaging literature from Hawaii in addition to systematic inter-archipelago comparisons of artefact types as a means to evaluate the hypothesis that Hawaii was colonised during two brief intervals of voyaging, first from the Marquesas and secondarily from the Society Islands. This research is especially provocative, for its systematic comparison of individuals and islands named in Hawaiian voyaging accounts and the placement of these individuals within relatively ordered genealogical sequences. The implications of this study for Polynesian archaeology are that: 1. two-way voyaging to and from the Hawaiian islands occurred more than once or twice, and extended over some period of time; 2. Hawaiians could have originated at different times from several central Polynesian archipelagos stretching from Samoa in the west to the Marquesas in the east; and 3. the assumption of isolation after colonisation of distant islands is likely a mistaken one.

Polynesian archaeology has also benefitted from the advent of new technology and software, as well as more sensitive recovery and identification procedures which make it possible to discern both variability and patterning in the archaeological record. In this volume, geographic information systems (GIS), photogrammetry and computer-assisted drafting (CAD) are employed to describe environmental variability as well as produce realistic three-dimensional models of *moai* from Rapa Nui. Ladefoged was able to characterise variability in environmental and agricultural productivity on Rotuma using GIS and then to map those indices against the traditional political districts on the island. Jo Anne Van Tilburg demonstrates the utility of photogrammetry and CAD as a means to reconstruct a representative *moai* form and size in a three-dimensional drawing and from this to better estimate the mechanism and the overall parameters of transporting such sculptures from quarry to *ahu* sites on Rapa Nui.

This volume also illustrates the importance of recovery and identification in archaeological interpretation. Richard Walter has provided intriguing evidence for changes in the location and organisation of prehistoric settlements in the Cook Islands. Documenting these changes has meant opening larger areas for excavation and sampling different environmental zones where prehistoric sites are thought to exist. Additionally, his work shows how similar social phenomena (i.e., settlements or households) can take on substantially different archaeological expression due to post-depositional environmental variability, even within the confines of a single island. As Roger Green in this volume states, settlement pattern studies combined with

areal excavations are necessary in order to reliably construct temporal change in the organisation of prehistoric Polynesian societies.

The issue of functional identification is further examined in papers by David Herdrich and Jeffrey Clark and also by Michael Graves and Maria Sweeney. The star or cog mounds of Samoa have remained an enigmatic phenomenon whose field identification is compounded by problems of visibility and location. Herdrich and Clark provide us with a working archaeological definition for these features which should facilitate comparison and analysis. More generally, as Graves and Sweeney suggest, in East Polynesia the identification of religious sites or features has sometimes been problematic. Ironically, this can be traced to the application of a rather narrow architectural definition for these kinds of sites. This definition, in turn, is largely the product of normative accounts taken from historical or ethnohistorical records by archaeologists. The lesson we take from these papers is that regardless of the amount or quality of the documentary record, archaeological variability must be recognised and studied in its own terms and with its own units of analysis.

Perhaps the greatest strength of the papers in this volume is their contribution to archaeological method and theory, especially as they pertain to issues regarding archaeological variability, comparison and interpretation. Polynesian archaeology has for some time benefitted from a tacit agreement among researchers on what constitutes the significant variability in the archaeological record. This has given the field a focus in the region which has begun to produce internally consistent results. We continue that trend in this volume by delineating methods for analysing and comparing archaeological variability.

In particular, the papers in this volume make clear the importance in distinguishing homology (i.e., stylistic variation) from analogy (i.e., functional variation) in the archaeological record. Stylistic traits appear to be more widely diffused and incorporated into artefact and feature production, especially since (by definition) they do not impinge on the functional role of the object. Functional traits can also be widely diffused, but their persistence is not simply a matter of choice (or a population's history) since they can affect subsequent developments for individuals and groups. Accordingly, spatial and temporal variation in each of these forms of variability are likely to be different. The kinds of phenomena (or the attributes thereof) that each approach will account for are going to be different as well. Given this, interpretations of stylistic and functional traits will involve distinct approaches. Finally, there are likely to be different models even within a given approach, as Graves and Sweeney illustrate for evolutionary accounts of prehistoric change.

The archaeology of Polynesia as illustrated by the papers in this volume is representative of the major analytical and interpretive trends witnessed in the discipline worldwide. At the same time, we are fortunate to share a tolerant environment in which to pursue our intellectual discoveries and argue over our disagreements. This is too often missing in other areas of the world. Such is possible because as archaeologists we acknowledge our need to contribute both to local and regional history, as well as to our discipline's body of knowledge.

Increasingly results from archaeology are of interest to native Polynesians, and Polynesians participate, not only in studying them but in their interpretation. Thus, it is especially rewarding that a paper in the symposium and one in this volume were prepared by native Polynesians. This volume, then, includes several different permutations for the articulation of archaeology to local and indigenous interests. The use of ethnohistory and oral histories, the concern with suitable recovery and identification procedures, the use of non-invasive techniques, and the heightened sensitivity to different kinds of interpretation and comparison all bode well for the future of Polynesian archaeology.

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