

Our main source of archaeological information about the past comes from artifacts and other materials recovered through excavation. Archaeological investigations in Hawai`i have come to rely on artifact names and descriptions provided by European visitors and native historians of the late 18<sup>th</sup> or early 19<sup>th</sup> centuries. In doing so, these studies assume that Hawaiian culture was homogeneous throughout the islands and the early postcontact period was similar to earlier times. As a result, these ethnographically-derived classifications limit our ability to examine artifact variability across time and space. If we are interested in increasing the potential of archaeological investigations to examine cultural variability, we must develop systematic classifications using stylistic and functional attributes capable of measuring variability at various scales of analysis. This will be the focus of my graduate research.

Systematic classification may be used as a tool in archaeology to generate and sort cultural variability based on artifact analyses. Being able to measure variability in the analysis and classification of artifacts will enhance our understanding of the archaeological record in areas such as cultural interaction, adaptation to the environment, and spatial and temporal changes.

Efforts in Hawai`i to apply systematic classifications to specific artifact classes remain inchoate. Two significant approaches are (1) the use of stylistic attributes to track change through time and (2) the use of functional attributes to examine variability. Of these, the first approach has the longest history of use, though both remain poorly developed in this region.

The use of stylistic attributes (approach 1) has been most widely applied to develop fishhook chronologies (Sinoto 1962, Allen 1996). This approach has also been utilized to develop a chronology for *heiau* (a class of religious structures) (Graves and Abad 1996), but not for the numerous other artifact (e.g., bone, shell, and coral tools, textiles, matting) or architectural sets (e.g., residences, fishponds). Recent studies (Graves and Erkelens 1991, Allen 1996, Graves and Abad 1996, Field 1997) indicate that such an approach provides a promising, but poorly realized, approach for analyzing a wide range of artifact classes (at different scales).

The use of functional attributes in classification and artifact analysis (approach 2) provides a means for examining variability associated with technology, manufacture, and use of items within and

among artifact assemblages or sites. This approach is based on identifying empirical attributes tied to specific research questions and theoretical models. This differs significantly from the traditional approach in which the artifact classes are tied to ethnographic descriptions of their (presumed) use.

Given our interest in examining artifact variability, I plan to re-examine several artifact collections in order to date the assemblages they are from and to examine variability within and among several artifact classes. I would utilize the theoretical methods and results of previous research (Sinoto 1962, Allen 1996, Graves and Abad 1996, Field 1997) and develop systematic classifications for several previously ignored artifact classes—e.g., coral and bone tools, textiles and matting. These artifact classes, which have received little attention in the past, may yield new information about how these materials were utilized by ancient Hawaiians.

For the stylistic classes, I would employ the seriation method (Dunnell 1971), the most widely accepted approach for dating artifact assemblages, which can measure change over time and human interaction across space. These chronological results will be compared with results from radiocarbon and stratigraphic analyses, or other dating methods. The spatial results would be used to document changes in the scale of inter-group interaction. Functional classes will focus on manufacture and/or use. Two possible functional variables would be shape, resulting from the production of an object suitable for a particular set of activities, and wear, the direct result of human interaction with the environment. I will examine functional variation to identify possible environmental associations and I will undertake limited performance analyses.

My use of both stylistic and functional classes allows me to (1) effectively identify a wide range of variability, (2) verify these classes against known standards (e.g., seriation method), (3) document and account for functional change and adaptation, and (4) examine interaction within and among groups. This research should be of interest to other researchers, as I will provide a baseline for those approaches that work or do not work when looking at artifact variability. This will be of significance to all archaeologists interested in documenting and explaining change and diversity, whether in Hawai'i or elsewhere.

With rapidly increasing land development in Hawai`i, more archaeology is being done than ever before. As archaeological work increases, the rate and scale at which these non-renewable resources are being destroyed is magnified. By examining previously recovered artifacts, we can acquire significant new knowledge without excavating new sites. This time- and cost-efficient strategy to studying the past will enhance my graduate education while contributing to the preservation of the archaeological record.

I selected the University of Hawai`i for my graduate schooling because it directly fits my research goals-in the regional, theoretical, and methodological focus of its faculty, and the availability of artifact assemblages on which I will conduct my research. Affiliate faculty and artifact collections from the Bishop Museum are valuable resources which are available to University of Hawai`i students as well.

My research will contribute to our knowledge of Hawaiian and Pacific prehistory, which represents a vast research frontier not well reflected in current archaeological literature. Particularly, artifact analysis in Hawai`i has not been developed to its full potential, with hypotheses concerning cultural interaction and change remaining poorly documented. Systematic classification will provide a means of looking at variability in Hawaiian material culture both across time and space. My research will generate meaningful structure from our observations of the archaeological record, thereby helping us to better understand the prehistory of these islands.

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