AN ALTERNATIVE VIEW OF CALIFORNIA ARCHAEOLOGY[1]

Eugene M. Hattori
Nevada Division of Historic Preservation and Archeology
Capitol Complex
Carson City, NV 89710

and

Allen G. Pastron
Archeo-Tec
5283 Broadway
Oakland, CA 94618

ABSTRACT

Northern California archaeology has justly and unjustly been accused of too narrowly focusing upon culture history to the near exclusion of other research domains. Some recent studies, however, have adopted alternative approaches to the data, stressing investigations of paleoenvironments, settlement patterns, and subsistence. One such project is the study of the Yerba Buena site in San Francisco. This site yielded stone, bone, and shell artifact styles indicative of "late-Middle" to "early-Late" period occupations. Beyond that, however, associated research reveals a wealth of information including evidence of climatic change, shifting utilization of San Francisco Bay resources, and settlement patterns. It is within these other areas of inquiry that the full potential of California's archaeological record can be realized.

INTRODUCTION

Between 1985 and 1991, the senior author (EMH) relocated from western Nevada to the San Francisco Bay area where he worked with Allen Pastron on a variety of historic and prehistoric archaeological investigations. One project in particular emphasized the differences in perspectives between current archaeological research in the San Francisco Bay area and the Great Basin. A prehistoric shell midden, the Yerba Buena site (SFR-114), was discovered during construction of the Moscone Center expansion in San Francisco's "South of Market (Street)" district. During the course of our research, we had occasion to reference a variety of published and unpublished investigations into California prehistory dating from the early 1900s to the present. Some of the work spawned in California has constituted a genuine contribution to the discipline as a whole, and, likewise, some of the current work is seemingly stuck on paradigms introduced in the 1930s. Precisely because we are working with California data, any potential criticisms of California archaeology are double-edged. We would anticipate the question ... "So what have you done about it?"... by presenting some of the, as yet, unpublished data from the Yerba Buena site.

BACKGROUND SURVEY

Many western prehistorians recognize that Nels Nelson (1907) and Max Uhle (1907) applied detailed recordation and interpretation of site stratigraphy to help answer research questions about San Francisco Bay shellmounds in the first decade of the 20th century. At a time when archaeologists elsewhere in the U.S. were mining sites for museum specimens or architectural features, these archaeologists were addressing rudimentary questions about estuarine ecology, lifeways of the sites' inhabitants,

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and site formation, including taphonomy (Nelson 1907:374-380, 401; Uhle 1907:14-17). The intricacies of Bay shellmound formation and its cryptic stratigraphy were, indeed, a challenge to both Nelson and Uhle. Their methodological contributions, however, are more widely recognized from their American Southwest and South American work (Nelson 1916; Uhle 1903). In the 1920s, Egbert Schenck (1926:168-170, 174; Schenck and Dawson 1929:323-327) was critical of the earlier stratigraphic models. Schenck, possibly influenced by Kroeber (1925:927), further addressed the complexities of shellmound formation and, though offering alternative hypotheses, was unable to adequately test these notions in his own Bay Area and Delta research. He recognized that site accretion often occurred as localized episodes represented by lenticular deposits, possibly seasonal, that were spread out across the mound (Schenck 1926:277-279). Discrete, continuous layers of planar cultural deposits were not present at most of the sites he studied, and, of course, bioturbation was also a major factor in disturbing deposits at these and other sites.

Then, beginning in the late 1930s, California archaeology was in line with other regions of the country by establishing regional cultural-historical frameworks (e.g., Lillard et al. 1939; Heizer and Fenenga 1939). In central California this has come to be known as the Central California Taxonomic System or CCTS (Moratto 1984:181). With its emphasis on burial practices, shell bead and ornament styles, and other distinctive artifact types, such as charmstones, the CCTS remains the dominant focus in the presentation of Central California and Bay Area data for most archaeologists (Beardsley 1954). At times, the arguments as to placement of a particular bead style into the late-Middle vs. early-Late vs. Transitional Middle-Late period seem trivial to someone (EMH) from the Great Basin who would, instead, rather argue about the inane minutiae associated with projectile point types and ages.

The placement of a cultural component or even an artifact into a culture-historical model, however, remains a legitimate research goal. Of course the data do not neatly fit into a convenient, tripartite system because of conflicting chronologies and from prehistoric cultural variation (Elsasser 1978). Yet, despite calls from researchers in the 1970s and 1980s for California archaeologists to pursue additional research goals, much of the emphasis for San Francisco Bay area archaeology still remains on culture-history. Again, we stress that this is not necessarily bad, except when it forms the focus and end point of project write-up, to the near virtual exclusion of other productive avenues of research. Most of the publications that we're critical of are unpublished and a few published "Cultural Resource Management" (CRM) reports from the 1980s to the present. Incidentally, the Great Basin CRM gray literature likewise suffers from a lack of theoretical underpinnings. There are, however, exceptions in both regions. A few archaeologists or agencies have assumed the added responsibility to publish their findings and incur expenses in time and money beyond what is required for basic compliance with historic preservation legislation. One notable California example is the central coast work at Elkhorn Slough by Stephen Dietz, William Hildebrandt, and Terry Jones (Dietz et al. 1988). This published CRM report stresses human ecology, absolute dating, settlement patterns, and other current research domains, while underplaying issues related to various cultural-historical models within the CCTS, despite the presence of distinctive bead types and burials. We've adopted some of the research goals from the Elkhorn Slough report in our analysis of the Yerba Buena site.

OTHER CONTRIBUTIONS

California has made a number of major contributions to the discipline by developing or refining investigative technologies with widespread applications. These include past and on-going work on radiocarbon dating of archaeological materials by Rainer Berger; obsidian studies by Richard A. Hughes, Thomas L. Jackson, Thomas O. Origer, Matthew C. Hall, and Jonathon E. Ericson; and shell midden studies by Nelson, Uhle, Schenck, Robert Greengo, and more recently Michael A. Glassow and Larry R. Wilcoxon (e.g., Berger 1975; Hughes 1984, 1986; Jackson and Schulz 1975; Glassow and Wilcoxon

1988).

California has also spawned some controversial research that has precipitated a closer look at certain data, techniques, and models outside the state. Chief among these are the 19th century discovery of the Calaveras skull, Ruth Simpson and Clay Singer's research at Calico Hills, George Carter's studies in San Diego, and amino acid racemization dates by Jeffrey Bada and James L. Bischoff (e.g., Ayres 1882; Bada et al. 1974; Bischoff et al. 1976; Carter 1957; Simpson 1960).

One of the more positive aspects, in recent years, is the presence of Coyote Press in Salinas. Reprinting classic, out-of-print publications is most appreciated. Perhaps more importantly, however, is Coyote Press' dissemination of CRM reports to a broader audience beyond the agency, regional clearinghouse, and the California SHPO. Finally, we applaud the efforts of Phil Wilke and his associates for maintaining the Journal of California and Great Basin Anthropology all these years. It's a respected regional journal with a readership extending beyond the region.

Now, we'd like to briefly present the viewpoint that we are following in our analysis and write-up for the Yerba Buena site.

THE YERBA BUENA SITE (SFR-114)

The Yerba Buena site was discovered during auger testing prior to construction of the Moscone Center Expansion in the "South of Market" (Street) district of San Francisco. During subsurface augering to locate California Gold Rush era deposits buried by subsequent urban development, shell midden and flaked stone tools were encountered some 3.5 m below the modern street level.

Site studies occurred in 2 phases. In Phase 1 about 40 m^3 of fill was hand excavated and yielded about 400 artifacts. Phase 2 consisted of monitoring the removal of a 6 m wide balk supporting Howard Street after structural sheeting had been installed. During the first day of site monitoring the sides of 2 human crania were scraped by the blade of a D-9 Caterpillar bulldozer. An additional 30 m^3 of fill were excavated exposing 11 human burials that yielded a total of about 24,000 artifacts, mostly Olivella sp. shell beads.

Among the research questions that were formulated and modified during the course of our investigations were:

(1) When did site occupation occur?

(2) What was the site and its environment like when the site was occupied?

(3) Why inhabit that locale?

A variety of carbonaceous materials occurred at the site and included charcoal, peat, bone, and shell. Our preference was toward charcoal occurring in hearths or in unit-levels with high concentrations of charcoal. Ages conformed well with their relative positions and ranged from about 1000 B.P. near the top of the deposits to 1950 B.P. near the bottom of the deposits. A date on peat from a ramp-cut adjacent to the site and some 8 m below it yielded an age of 1910 B.P., while in situ wood also exposed in the ramp but in cross bedded sands about 3 m below the site yielded an age of 1040 B.P. This seemingly anomalous juxtaposition of contemporary and younger deposits well below the site is explained by a landscape, some 1900 years ago, with the site situated atop a semi-stabilized sand dune adjacent to a marsh at the base of the dune. Diatom data from the peat indicate brackish water. An interduneal marsh channel drained freshwater from the hills to the north and emptied into a then expanded Mission Bay to the south. Site abandonment was probably the result of the filling of the marsh by dune sands drifting into the channel from the west and burying both drainage channel and shrubs some 1000 years ago.

Terrestrial pollen data from Pearson's Pond on the southern end of the San Francisco Peninsula were provided by the research of Dave Adam (1975) and reworked to provide a climatic reconstruction for the occupation interval. These data indicate that initial site occupation occurred during an in-

terval of lowering temperatures and reduced effective precipitation following a significant mesic period. The earliest site occupation is dated to 1950 B.P. from a living surface with a central fire hearth. This occupation coincided with the blossoming of the Coyote Hills sites and expansion of nearby, south San Francisco Bay oyster beds from about 2300 B.P. At the Yerba Buena site, initial occupation was limited in intensity and in areal extent to the northern portion of the site. Site use may have lasted less than 200 years.

The major occupation of the site began after a minor drought and during an interval of increasing effective precipitation and cooler temperatures from about 1600 B.P. Six dates from near the bottom of the site range between 1600 and 1450 B.P. The cemetery probably dates from the beginning of this interval and marks a different kind of use for the site. The culture represented by the burials was probably using the site as a seasonal residential base. Freshwater was probably a limiting factor for occupying this site during the summer and early fall. The economy most likely involved participation in a trade network. All of the graves, including that of an infant, contained several categories of exotic grave goods. Among the offerings from the 11 graves are over 5 lbs of perforated mica plates, over 17,500 Olivella sp. sequins, 160 Olivella sp. spire lopped beads, 90 Haliotis sp. ornaments, 35 bird and mammal bone tubes and whistles (deer, wolf, condor, albatross, and eagle), and 16 quartz cobbles and crystals. Utilitarian objects from the graves were uncommon and consisted of 2 obsidian bifaces, an elk-scapula strigil, a pressure flaker, an awl, and a net weight or crude charmstone. As for what these people could trade in return for these exotic items, the dominant animal from throughout site occupation was sea otter. Although the evidence for skinning marks on the sea otter bones is equivocal, sea otter pelts are a different and desirable mammal fur because of the hairs' soft texture, high loft, and high density per square cm.

The lifeway for the remainder of site occupation appears to have been oriented toward using the site on an even more limited, seasonal basis and oriented toward collecting bay resources including sea otters, small mammals, and shellfish. Only 5 ground stone tools or tool fragments (1.25% of non-grave artifacts) were mortar and pestles or mano and metates, possible plant processing tools. Quantities of shell were analyzed for a single column from the central part of the site with a basal age of about 1450 B.P. and an upper date of about 1000 B.P. The 2 principal mollusc species are bent-nose clam (Macoma nasuta) and bay mussel (Mytilis edulis). Mussel frequencies exhibited a distinct increase largely at the expense of oyster (Ostrea lurida) and frilled dogwinkle (Nucella lamellosa). Mussels may have increased in numbers as sea otter populations declined from predation. The predatory dogwinkle is never present in large numbers, and populations of this shellfish would be sensitive to predation by humans. The Rincon Point and Mission Bay areas, where the site is located, were not favorable oyster habitat. Any stress on their small population could result in noticeable population decline.

Although sea otter continued in importance there is little evidence for wealth or status in the few additional artifacts recovered from the midden deposits. The sparse artifact yield from the later occupations was typical for Bay Area shell mounds. Debitage analysis indicates that local cherts were reduced from cores to produce flakes as implements and were rarely fashioned into bifacial tools. Parallel oblique flaked obsidian bifaces made from Napa and Annadel glass were imported as completed tools, and then resharpened by the site's residents who were apparently more familiar with working tougher, less brittle tool-stones. The debitage from their attempts at resharpening these obsidian bifaces is characterized by steep angled flakes exhibiting faceted platforms and minimal carry toward the midline. The resharpened obsidian bifaces are crude with steep edge angles, uneven, random collateral flake scars, and very small size.

Only 1 other human remain was recovered from elsewhere in the site. A fragment of a mandible was found at the bottom of a trash filled, lined well dating from the late 1850s. The dental wear and discoloration of

the bone indicate that it was probably prehistoric and associated with the Yerba Buena site occupations.

In summary, the Yerba Buena site was occupied between about 1950 and 1000 years B.P. during a period marked by climatic variation (Figure 1). Initial site occupation may have been brief and influenced by some major shifts in the availability of estuarine resources in San Francisco Bay. The principal site occupation probably dates from about 1600 B.P. and lasted until increasing aridity and subsequent burial of the fresh water channel below the site forced abandonment of that location. Although the material culture exhibited relatively little change through time, site utilization underwent some significant changes exemplified by the occupation associated with the 11 burials.

CONCLUSIONS

Finally, we conclude by mentioning 1 California prehistorian who has greatly influenced the direction of current archaeology on a national level; this individual is Thomas F. King. For better or for worse, depending upon whom you ask, Tom King has forged policies that have channeled our efforts, as archaeologists, on paths totally undreamt of beginning some 26 years ago. Largely though his efforts, government agencies and, indirectly, corporations have legal responsibilities to consider the effects of undertakings on historic properties. The details of these responsibilities are spelled out in the National Historic Preservation Act (NHPA) of 1966, as amended, and its regulations (36 CFR part 800). The archaeological sub-discipline of "cultural resource management" (a.k.a. CRM and contract archaeology) developed in response to agency obligations to the law. We believe that Tom was instrumental in putting the ball in our court, because, through this legislation, we have been presented with a vehicle to conduct applied archaeology. And just where have we gone with this opportunity?

In our survey of the Bay Area gray literature and, especially, in Hattori's current position in the Nevada SHPO office, our conclusion is that incentives to produce worthwhile contributions to the discipline are lacking. Agency review, a captive audience at best, appears geared toward criticism of minor details, with no mechanisms to reward exceptional work. Furthermore, most CRM archaeology is conducted by businesses whose primary objective is to support employees. Only a handful of these firms or departments make the commitment to publish findings in a form useful to peers or to the public.

NOTE

1. This paper is a modified version of A Sojourner's View of California Archaeology, presented by Eugene M. Hattori at the 26th Annual Meeting of the Society for California Archaeology, Pasadena.

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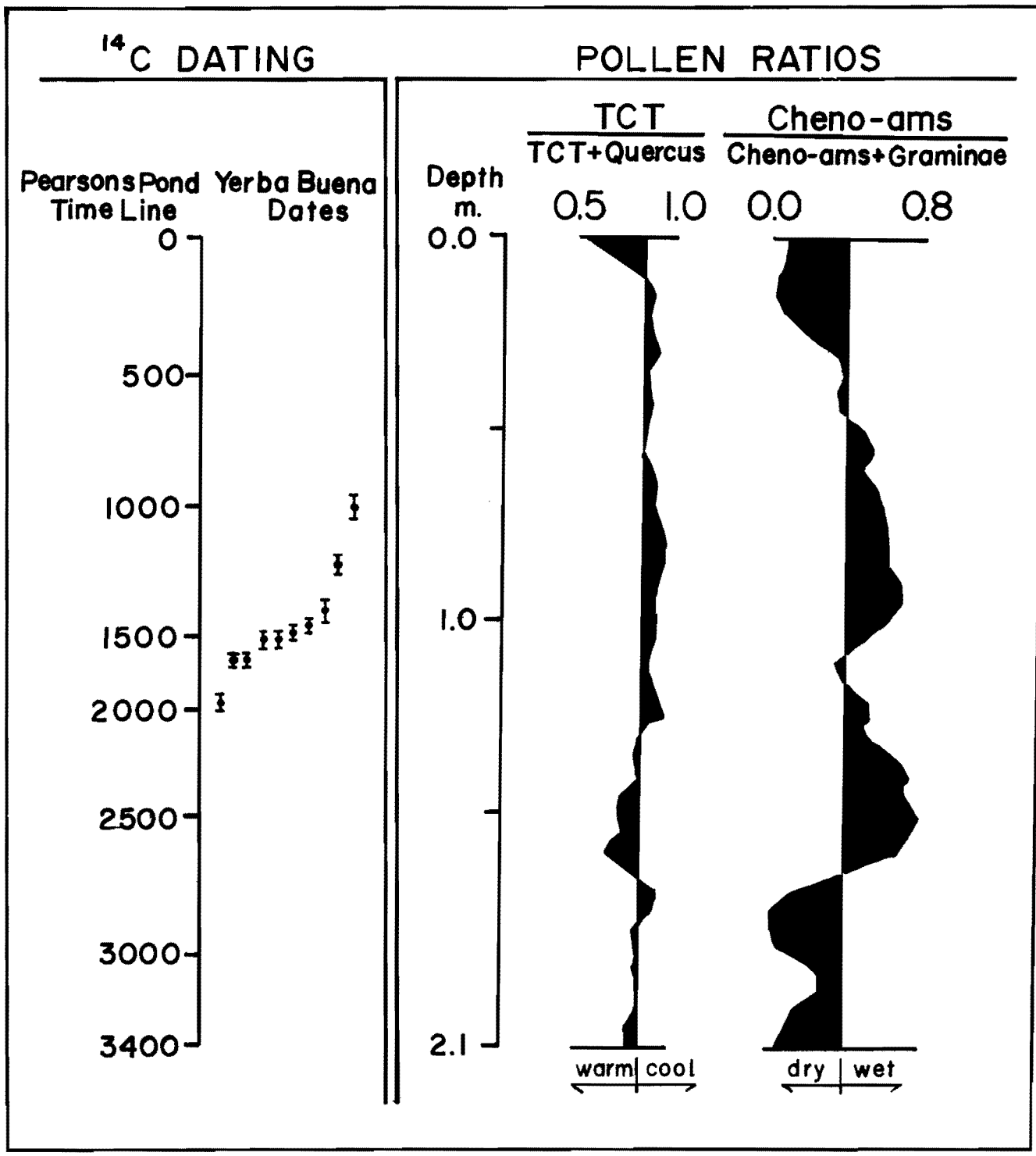

Figure 1. Yerba Buena site dates plotted against pollen ratios and time line for Pearson's Pond, California. All ages expressed in uncalibrated 14C years B.P. Pollen data adapted from Adam (1975).

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