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Erlandson: *Early Hunter-Gatherers of the California Coast*

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their tribal and personal existence against a frontier that was indifferent and sometimes downright hostile to the situations of indigenous peoples. Struggles over land in Ruby Valley, efforts to obtain economic assistance for families living in grinding poverty, controversies over claims strategies, and the complexities of tribal political leadership emerge as close and personal encounters, as well as general historical events. We not only learn what, where, and why; we also learn who was involved and how particular intra-tribal and inter-ethnic interactions took place. Crum does not have to press his point too finely; it is clear from the events themselves that Western Shoshones shaped the course of their history in a way that has few parallels.

Julian Steward, whose classic work on Basin-Plateau sociopolitical organization has shaped the anthropological image of the Western Shoshone, left them in 1937 with his final session of fieldwork completed. But what he completed was a partial, and as he put it himself, a gastronomically-oriented ethnographic reconstruction of Western Shoshone life and culture as it might have been around 1860 or 1870. At that time, Western Shoshones were already largely in full engagement with the demographic, economic, and political forces brought into their country by immigration, homesteading, mining, and railroads; some groups were entering their third decade of such engagements. Thus, Steward's reconstruction, although a fair approximation of aboriginal life, really left the Shoshone frozen in a sociopolitical time warp. He said little about what happened between the "aboriginal" period and his period of field work, the 1930s.

*The Road on Which We Came* tells us not only what was happening during the period that we all thought was "aboriginal," but also what happened following the "aboriginal" period and what was happening right under Steward's nose in the 1930s, but which he did not cover in the least in his monograph. Thus, this volume is a

welcome correction to the "ethnographic present" with which the Western Shoshone have been unfairly saddled for these many decades. It is highly readable and will provide an easily-digestible cornucopia of information for historians, anthropologists, and Western Shoshones themselves who are looking for a comprehensive history of a tribe that, despite being well-known in the anthropological literature, otherwise might have been in danger of being burdened with an ill-deserved historical obscurity.



*Early Hunter-Gatherers of the California Coast.* Jon M. Erlandson. New York and London: Plenum Press, 1994, 336 pp., 73 tables, 47 figs., bibliography, index (hard cover), \$45.00.

*Reviewed by:*

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This book is an expanded and updated version of Erlandson's 1988 Ph.D. dissertation. As outlined in the introductory chapter, the primary goals of the study are to: (1) reconstruct the paleogeography of the Santa Barbara coast during the early Holocene and determine how environmental changes may have affected early occupants of the region; (2) reconstruct subsistence economies through the analysis of archaeofaunal data; (3) compare these results to data from elsewhere to assess early Holocene adaptive variability along the California coast; and (4) evaluate the validity of various models that have been used to explain the evolution of coastal adaptations, particularly those dealing with the importance of marine versus terrestrial foods. To the extent possible, given the less-

than-perfect data base available from this early interval of time, Erlandson does an admirable job of achieving these goals in a clear and concise manner.

Chapter 2 provides a paleoenvironmental reconstruction of the Santa Barbara Channel region, relying largely on previous analyses of pollen spectra, the distribution of disjunct plant associations, and the complex evolution of coastal geomorphology and hydrology. Synthesizing these studies, Erlandson concludes that changes in terrestrial habitats, although present, were minor by comparison to the influence of Holocene sea level rise, which resulted in the development of estuaries in the lower reaches of several coastal canyons. The drowning of these canyons improved the overall productivity of the intertidal zone by increasing the length of the coastline and creating shallow, protected habitats conducive to high densities of both vertebrate and invertebrate subsistence resources. Many of these estuary habitats were relatively short-lived, however, as stream gradients adjusted in response to continued sea level rise with increased sedimentation, ultimately filling the lower reaches of many canyons.

Chapter 3 presents an informative review of previous archaeological research conducted in the region, including a synthesis of several chronological sequences proposed for the south coast. Although the archaeological data used to develop this summary are derived almost exclusively from southern California sites, the reader is given the impression that these chronological relationships apply to more extensive stretches of the California coast. The use of southern California data to infer developments that took place elsewhere is a subtle problem but one that is largely limited to the early chapters of the book, where section titles and summary statements often refer to California in general, as opposed to the more specific regions where such inferences are more appropriately applied.

Field and analytical methods are provided in

Chapter 4, followed by three detailed site reports documenting results of excavations conducted at SBA-1807, SBA-2061, and SBA-2057, all of which are located on or near the outer coast of western Santa Barbara County (Chapters 5, 6, and 7). Each site was extensively dated using calibrated radiocarbon dates obtained from shellfish. With the exception of a few artifact forms and obsidian hydration readings reflecting peripheral uses of the sites later in time, all three locations were predominantly occupied between 7,800 and 8,700 B.P. Excavations were quite limited at SBA-2061 and SBA-2057, resulting in rather small artifact assemblages. The more extensive excavations at SBA-1807 produced a robust assemblage of tools similar to those found at other early Millingstone Horizon sites along the south coast (e.g., manos, metates, core/cobble tools, and only limited frequencies of formal flaked stone tools). Archaeofaunal data from the three sites were generated through detailed analyses of 1/8-in. and 1/16-in. wet-screened samples. These data show a significant presence of estuary shellfish (reflecting exploitation of estuaries no longer present), and when converted to nutritional estimates, indicate that shellfish provided most of the animal protein consumed at the sites. As a result, Erlandson concludes that his findings support the traditional view that early Millingstone Horizon subsistence economies were largely based on shellfish and calorie-rich plant foods, the latter providing carbohydrates and fats not available from the lean meat of most invertebrate species.

After summarizing the most important findings from the three sites, Chapter 8 continues with an excellent review of other early sites on the Santa Barbara coast and northern Channel Islands. Each of these sites receives a relatively detailed analysis of chrono-stratigraphic relationships, as well as an accounting of associated artifacts and faunal remains. Where possible, the latter material is subjected to analytical procedures comparable to those applied to

Erlandson's primary samples from SBA-1807, SBA-2061, and SBA-2057; however, it is often the case that 1/4-in. screens were used, preventing comparative analyses to take place. Chapter 9 expands the review of early sites, moving into San Diego County, the southern Channel Islands, Orange County, Los Angeles County, Ventura County, central California and, finally, a few sites along the northern California coast. These two chapters represent an incredible amount of work (over 80 sites are reviewed), and Erlandson should be commended for this review, as it is an invaluable source of information on the early Holocene record of the California coast.

In the final chapter, Erlandson returns to the issues originally raised in Chapter 1. He begins with a consideration of whether his data base is representative of the early Holocene archaeological record, emphasizing problems associated with Holocene sea level rise, and how the focus of many researchers on shell midden sites overstates the importance of marine foods in the overall subsistence economy. Although Erlandson does an excellent job of accounting for changes in sea level, several problems remain unanswered regarding the degree to which shell midden sites represent the entire early Holocene record. Most early Holocene sites on the south coast lack diagnostic artifacts conducive to cross-dating, and do not have adequate amounts of charcoal for radiocarbon dating or obsidian samples for hydration rim measurement; consequently, the vast majority of early components can only be identified through radiocarbon dating of shellfish. Judging from the large number of early sites along the south coast containing shellfish, there is no doubt that shellfish played a major role in the early Holocene diet (particularly on the Channel Islands); however, the difficulty of identifying potential components of the settlement system that may not be related to shellfish processing remains a problem for future research to solve.

In his discussions of settlement patterns and subsistence economies, Erlandson concludes that the diet of early groups along much of California's coast was dominated by shellfish and plant foods. Within San Diego County, the archaeological record seems to reflect the presence of rather small, mobile populations, while the higher degree of inter-site variability observed on the Santa Barbara and San Luis Obispo coastal areas (including large sites with burials) is thought to represent a semisedentary settlement organization. Nevertheless, the simplicity of the tool assemblages (particularly the paucity of nonutilitarian items) and the lack of evidence for task specialization, leads Erlandson to conclude that social relations were probably egalitarian in nature.

The book concludes with a discussion of a series of alternative models for the origin of early coastal peoples (coastal versus interior migrations), and a review of the ongoing debate surrounding the importance of coastal resources (particularly shellfish) in hunter-gatherer economic systems. With respect to the latter issue, Erlandson argues convincingly against the perspective that marine foods are second-rate resources, based largely on the fact that they saw such early use. Although they require more processing time than larger animals (e.g., deer), they have low search time and can be obtained by practically all age and gender classes of the social group (see also Jones 1991). He also proposes that the importance of shellfish decreases relative to other sources of meat over time because as populations increased, shellfish had to be augmented to a greater degree by resources requiring more elaborate and costly techniques of procurement.

Erlandson's work represents an outstanding contribution to the study of early Holocene adaptations in California, and has several important implications for the investigation of coastal adaptations the world over. I do, however, have some reservations about Erland-

son's approach to sampling. In order to reconstruct the relative dietary contributions of shellfish, fish, mammals, and birds, he prefers to use 1/16-in. water-screened column samples. Due to the high costs associated with this kind of analysis, only a limited volume of archaeological deposit can be processed. These samples usually produce small fragments of mammal bone that cannot be identified with respect to species or skeletal element. The weight of the shell and bone are then converted to meat weights/nutritional values without considering inter-taxonomic differences in the way these animals were processed. While there is probably a strong correlation between the abundance of archaeological shell and the amount of shellfish meat consumed by past occupants at a site (i.e., off-site processing was probably minimal), this is probably not the case for large mammals. Perkins and Daly (1968) and several others since have shown that large game (e.g., deer, elk, sea lions) are usually disassembled prior to being transported to a residential base. Referred to as the "Schlepp Effect," Perkins and Daly (1968) found that meat of large ungulates is often cleaned from the bone, placed in the hide with the lower leg bones still attached to serve as handles, and carried back to the residential base. As a result, only a fraction of the skeleton enters the residential base. Over-representation of lower leg bones for large ungulates is common in California sites where faunal samples are large enough to conduct butchering pattern studies. Off-site butchering of pinnipeds, some weighing up to a ton, has also been documented in the archaeological record (Lyon 1937). Relying on small samples of 1/16-in. screenings, and assuming that large mammal bone is reaching the archaeological record at the same rate as invertebrate shell, present interpretive difficulties—difficulties which can only be addressed when large numbers of skeletal elements have been identified to a relatively specific taxonomic level.

The use of small samples lacking species identifications also limits the range of research issues that can be addressed. For example, in evaluating models of resource intensification, particularly those dealing with the overexploitation of now extinct pinniped rookeries (Hildebrandt and Jones 1992), it is not only necessary to generate large numbers of species identifications, but it is also useful to have age/sex profiles for each taxonomic group (Lyman 1989). While I am in agreement that 1/16-in. samples should be collected and analyzed using methods set forth by Erlandson, such samples should represent only a fraction of the total excavation volume, so that other, equally enlightening issues can be addressed. In the last pages of the book, Erlandson agrees with this assessment, arguing for a mixed strategy of excavation and analysis.

Notwithstanding these problems of sampling strategy, Erlandson has produced an excellent contribution to the study of California prehistory. It is well-written and informative, and should be a cornerstone reference for any student of hunter-gatherer coastal adaptations.

## REFERENCES

- Hildebrandt, William R., and Terry L. Jones  
1992 Evolution of Marine Mammal Hunting: A View from the California and Oregon Coasts. *Journal of Anthropological Archaeology* 11(4):360-401.
- Jones, Terry L.  
1991 Marine-Resource Value and the Priority of Coastal Settlement: A California Perspective. *American Antiquity* 56(3):419-443.
- Lyman, R. Lee  
1989 Seal and Sea Lion Hunting: A Zooarchaeological Study from the Southern Northwest Coast of North America. *Journal of Anthropological Archaeology* 8(1):68-99.
- Lyon, G. M.  
1937 Pinnipeds and a Sea Otter from the Point Mugu Shellmound of California. University of California, Los Angeles, *Publications in Biological Sciences* 1:133-255.

Perkins, D., and P. Daly  
1968 The Potential of Faunal Analysis: An  
Investigation of Faunal Remains from

Suberde, Turkey. *Scientific American*  
219:96-106.

