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Johnson, John R.

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## REVIEWS

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### ***California Prehistory: Colonization, Culture, and Complexity***

Edited by Terry L. Jones and Kathryn A. Klar. Lanham, MD: AltaMira Press, Rowman & Littlefield Publishing Group, Inc., 2007; xiv + 394 pp., maps, illustrations, tables, bibliography, index; clothbound, \$99.95.

#### **Reviewed by John R. Johnson**

Santa Barbara Museum of Natural History,  
2559 Puesta del Sol, Santa Barbara, CA 93105

In the spring of 2004, a special symposium was held at the annual meeting of the Society for California Archaeology to commemorate the twentieth anniversary of the publication of two landmark works devoted to the region's prehistoric past: *California Archaeology* by Michael J. Moratto (1984) and *The Archaeology of California* by Joseph Chartkoff and Kerry Kona Chartkoff (1984). The purpose of the session was to assess and update our knowledge of California prehistory, utilizing new theoretical and technological approaches to archaeological research, as well as new discoveries emerging from the tremendous volume of fieldwork that had been accomplished since 1984. Each participant devoted themselves to a particular research topic or subregion of California. The tangible result of this effort is the current volume, edited by the principal organizer of the original symposium, Terry L. Jones, and linguist Kathryn A. Klar. Besides many of the original participants, additional contributors were invited to join in the endeavor to serve as coauthors or to add chapters pertinent to subjects that had not yet been covered. In the end, a total of 53 individuals contributed to this comprehensive volume.

*California Prehistory* consists of twenty chapters, densely packed with information pertaining to our region's Native American past. In their introductory summary of the volume's contents, Michael Moratto and Joseph Chartkoff provide a retrospective look at the progress achieved in archaeological research since their 1984 publications. Following this introduction are two chapters detailing the current state of knowledge regarding the paleoenvironmental contexts for prehistoric cultural

change, one examining what we now know about the terrestrial environments that have existed in California since the late Pleistocene, and the other looking at changes in prehistoric coastlines. The next two chapters concern Paleo-Indian cultures, one focusing on initial colonization and the other discussing early lithic technologies. Chapter 6 on linguistic prehistory, authored by Victor Golla, summarizes the accumulated insights derived from native language studies that have taken place since Moratto's influential interpretative model appeared in the concluding chapter of his 1984 volume. The contextual "table" having been set, the next ten chapters serve up a smorgasbord of information pertaining to specific subregions of California. Following these are contributions that examine special topics: prehistoric material conveyance, rock art, and the emerging field of ancient DNA. The concluding chapter by the volume's editors brings together the major findings of the volume, addressing in turn the themes of colonization, culture, and complexity.

Every chapter in *California Prehistory* contains useful tables, illustrations of exemplary artifact types, photographs, and excellent maps showing topographic details that were produced by cartographer Brian Codding in consultation with the editors and chapter authors. These tables and illustrations greatly augment the information-rich text. The comprehensive bibliography is a welcome contribution in and of itself, and is undoubtedly destined to be consulted repeatedly by anyone wishing to locate the literature pertinent to any specific topic or region. An index of archaeological site designations and a topical index complete the volume.

Anyone who devotes the time necessary to read all of the chapters in this exhaustive volume will come away with a greatly increased understanding of prehistoric cultural and environmental change in California. Of particular usefulness are the chapters offered by those who summarize the state of our knowledge that is derived from other fields of anthropology and from interdisciplinary research. Chapter 2, by G. James West and his colleagues, presents a thorough, up-to-date review of the literature and findings pertaining to environmental change throughout the period in which there has been a prehistoric human presence on the landscape. This will

be an extremely useful reference for anyone seeking to place their archaeological data in environmental context. Likewise, Golla's chapter on linguistic prehistory provides the most recent, overall statement regarding the seven principal linguistic groups identified in California (one and all take note that the Chumashan family is no longer included in the Hokan stock). He provides hypotheses regarding the ancestral origins of certain language families outside of the California region, and estimates the time depths suggested by the degree of diversification within each family or stock. Chapter 19, by molecular anthropologists Jason Eshleman and David Glenn Smith, provides insights into prehistoric population movements on the basis of recent studies of ancient mitochondrial DNA (mtDNA). In their introductory chapter, Moratto and Charkoff rightly praise mtDNA analysis as an important new technique for informing us about prehistoric population distributions and relationships, although they err in stating that Chapter 19 considered mtDNA from living populations, when in fact it was based upon the analysis of ancient DNA. Because this is such a new field and the sample size on which the authors' discussions is based is still quite small, the chapter's interpretations are necessarily preliminary and will be subject to revision as new data become available.

The influences of late twentieth century anthropological theory pertaining to hunter-gatherer economies are evident in many of the regional contributions to this volume, reflecting the larger intellectual concerns of the discipline of human behavioral ecology. In particular, the dichotomy between collector and forager strategies as defined originally by Binford (1980), as well as Optimal Foraging Theory as an explanatory model, are used repeatedly to interpret prehistoric cultural changes in various regions of California. In addition to an obvious emphasis on refining and interpreting cultural chronologies, recurrent themes that may be found running through the volume include debates regarding the effects of unfavorable environmental episodes on native cultures (e.g., the Medieval Climatic Anomaly), considerations of the types of evidence needed to detect the arrival of new immigrant groups and subsequent population replacements or coalescences with older groups, and insights derived from obsidian sourcing and hydration-dating regarding exchange and population fluctuations (e.g., all chapters pertaining to northern

California and the Sierra Nevada, as well as Chapter 17, "Prehistoric Material Conveyance").

Given the many strengths of the *California Prehistory* volume enumerated in the preceding paragraphs, one hesitates to bring up any discordant note; nonetheless, it is perhaps the reluctant duty of any reviewer to highlight subjects that were given short shrift or suggest changes that could have further strengthened the value of the total effort. Although some of the comments that follow bring up issues or interpretations that this reviewer felt should have been addressed differently, it must be emphasized that every chapter in this volume makes a serious, thoughtful, and significant contribution to our knowledge of California's prehistoric past.

Perhaps it is inevitable that instances of duplicated or conflicting information may be found in any volume in which the various authors worked independently from one another. Some chapters in *California Prehistory* appear to have been pasted together by the editors from manuscripts written separately by contributors who do not appear to have communicated closely. One instance of this is Chapter 3, which discusses evidence for reconstructed coastal environments in the Early Holocene. Only the portion of the chapter that was written by Patricia Masters on southern California makes good use of archaeological evidence, evidence which is missing from the latter part of the chapter pertaining to central and northern California that was written by oceanographer Ivano Aiello. It is unclear whether this disparity reflects differing research emphases between the two regions or the different disciplines of the authors. Aiello's contribution includes a section on Postglacial climate that (although attributed to his authorship) appears more in keeping with the themes and descriptions in the preceding chapter by West and his colleagues on environmental change.

Occasionally, one observes that particular chapters are not quite up to date with regard to recent developments in the field. To a certain extent, this reflects the lag time between the authorship of the original papers around the time of the symposium in 2004 and the publication of the completed volume. The dates for the initial colonization of California, for example, are variably reported in different chapters and do not reflect our current understanding of this period's chronology that is based on a careful redating of many Paleo-Indian sites across North America

(Waters and Stafford 2007). In an otherwise excellent synopsis of evidence for the late Pleistocene peopling of California, Erlandson and his colleagues were aware of stratigraphic and paleoecological studies conducted at Arlington Springs on Santa Rosa Island in 2001, yet fail to acknowledge the suite of radiocarbon dates stemming from that work that corroborate the 13,000-year-old age derived from human bone collagen. This oversight leads the authors to the unfortunate speculation (p. 57) that the date derived from bone collagen may have been too early, if that Paleo-Indian individual had subsisted on a coastal diet and a correction for marine reservoir effect was not applied. Fortunately, Erlandson and his colleagues have since come to recognize that the dating of Arlington Springs rests upon radiocarbon determinations run on a series of samples obtained independently from dates on human bone collagen (Erlandson, Moss, and Des Lauriers 2008).

Probably the most frustrating problem evident in *California Prehistory* is the lack of any effort to bring consistency to the nomenclature and dates assigned to the various regional chronologies that are offered in different chapters. Apparently, virtually no one is using the same chronological scheme, and correlations between these schemes have by and large not been attempted in this volume (Table 17.2 in Hughes and Milliken's "Material Conveyance" chapter being an exception). There is a great variety of names used for the assorted periods, phases, patterns, aspects, and what have you used by archaeologists focusing on the different regions of California. To the non-specialist who hasn't worked in those regions, the esoteric nature of much of this terminology can be an obstacle to discerning broad patterns. Does the Early Holocene, aka "Millingstone Horizon," really manifest itself separately between 8,000 and 5,000 B.C. in northwest California, between 8,000 and 3,500 B.C. in the San Francisco Bay vicinity, then start later at 7,000 B.C. and end earlier at 4,500 B.C. along the Central Coast, whereas the Santa Barbara Channel region mirrors what was happening in the Bay Area between 8,000 and 3,500 B.C.? How many believable radiocarbon dates support these different estimates for the beginning and ending dates presented in the various chapters? Aren't we all talking about the same general chronological period and cultural manifestation? While acknowledging that terminological distinctions and

characteristic artifact assemblages often do reflect real differences in the archaeological record (see Chapter 8 by Milliken and his colleagues for a particularly careful interpretation of assemblage differences in the complex prehistory of the San Francisco Bay region), there are certainly broad changes that can be observed in prehistory throughout much of California, and we should be able to come to a consensus regarding how to refer to these and what time spans they encompass.

Considering the immense editorial task involved in an undertaking such as that represented by this wide-ranging volume, it is probably not surprising that the reader occasionally encounters inconsistencies or missing references. Fortunately, these are few in number. Although the maps are very helpful with regard to showing the locations of archaeological sites referred to in the text and tables, some of the geographic features mentioned in the chapters are not shown (e.g., names of mountain ranges and lakes), and names of mapped ethnolinguistic groups sometimes differ in the various chapters or in a few instances are misspelled. In several instances, mapped ethnolinguistic boundaries differ from those provided in the standard reference volume pertaining to California Indians (Heizer 1978), but no citations or explanations are provided for the revisions. Some citations to the literature were omitted in the otherwise comprehensive bibliography at the end of the volume (e.g., several key references that are cited in Chapter 17, "Prehistoric Material Conveyance" by Hughes and Milliken, are missing). The "microblade" industry from Eel Point discussed in Chapter 5 was incorrectly attributed to Santa Catalina Island instead of San Clemente Island (p. 4) in Chapter 1. One photograph, that of Obispeño Chumash consultant Rosario Cooper, was flipped horizontally and printed in reverse in Figure 9.3. Our updated understanding that the 13,000-year-old Arlington Springs skeletal remains were likely from an adult male was accurately reported in Chapter 4, but they are mistakenly identified later in Chapter 12 as being from a woman. In the concluding chapter, the Medieval Climatic Anomaly is specified as having occurred between 700 to 1,300 years before present (p. 301), but it should have been reported as having taken place between 700 and 1,100 years ago, based on dates presented in the paragraph that follows. Three pages later, completely different beginning and ending dates are provided for this same period.

The concluding chapter by the volume editors begins with an excellent summary of paleoenvironmental conditions throughout California prehistory, and otherwise considers major themes, integrating the data from the various chapters, as well as studies not included in this volume. While succeeding overall, here and there statements are made that reflect a misinterpretation of results. One of these occurs on p. 312, where it is inferred that speakers of Uto-Aztecan languages in southern California once lived in central California, based on a resemblance between mtDNA haplogroup percentages between the two regions. As Eshleman and Smith caution in their chapter, the small sample size used in their comparison makes this interpretation highly conjectural; indeed, an examination of specific mtDNA haplotypes found among modern descendants demonstrates that native groups in central and southern California had unrelated population origins (Johnson and Lorenz 2006). Finally, in a curious footnote at the end of the chapter, the authors appear to belittle the very same ethnohistoric evidence for interpreting mtDNA patterns that they relied upon in their text and prominently displayed in Table 20.1. Furthermore, they disparage attempts to infer marriage patterns that occurred in the prehistoric past. To the contrary, such studies are now certainly possible and are currently being conducted, precisely because of recent advances in ancient DNA research and our ability to compare the results of this research with ethnohistoric data regarding postmarital residence. Certainly it is appropriate to urge caution in using ethnographic evidence derived from societies that were disrupted following European contact; however, I suspect that the authors actually concur with this reviewer in believing that a more insightful understanding of prehistory will be achieved when we integrate more fully our understanding of social networks and marriage practices, derived from ethnohistoric and ethnographic sources, with patterns regarding economics and subsistence that are revealed by the prehistoric record.

Overall, *California Prehistory* succeeds admirably in its objective of bringing together in one place the

accumulated knowledge derived from the many research projects exploring the complex prehistory of the most diverse environmental and cultural area of Native North America. In particular, this notable synthesis highlights the insights and tremendous amount of data generated from public-mandated archaeological studies. *California Prehistory* is a remarkable achievement that demonstrates the valuable role that public archaeology and cultural resource management have played in building upon the foundation established by academically-based research. Many, if not all, of the chapters have now become the standard go-to references for specific information regarding prehistory within the Golden State. All of the authors and the co-editors are to be congratulated for producing a work of lasting value.

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