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In their introduction, the editors of this volume note that this is the first attempt at a general compendium on California Indians since the early 1950s. Why should anthropologists be particularly interested in California Indians? California Indian studies have been largely moribund since Kroeber's day, and it is not hard to find reasons to account for this. The stultifying effects of the "culture element distribution" approach can be mentioned, as can the fact that California Indians everywhere have not lived off the land in a traditional manner for at least 150 years (with a notable exception being the famous case of Ishi). Small wonder, then, that anthropologists interested in traditional hunting-and-gathering adaptations have tended to look elsewhere, especially to remote areas like Australia and the Kalahari Desert, where such traditional adaptations persisted and could be observed directly.

Yet, as the editors point out, many of the hunter-gatherer societies living today are atypical of the total range of such adaptations in the past, which included groups living in temperate habitats richly endowed with natural resources. Such was the case in much of aboriginal California, and the editors argue from this basis that a revitalized interest in this area could yield information bearing on major evolutionary developments in similarly rich habitats like highland Mexico and the "hilly flanks" of Mesopotamia. They conclude:

Therefore it is reasonable to look to California when seeking to construct a general model of non-agricultural, as well as incipient agricultural, political and economic organization [p. 6].

This is an ambitious and worthy goal. It means that any attempt to review this volume must be based on an evaluation of the contributions it makes to general issues in hunter-gatherer ecology and evolutionary anthropology. That is, we must measure this volume in terms of the yardstick offered by the editors themselves.

Lowell Bean's "Social Organization in Native California" is unique among the papers here in the way it draws upon evidence from all of California. His paper presents a series of observations that may surprise some scholars, although those who have worked closely with California Indians will recognize much here that is familiar. Large, stable populations with strong class and status differentiation were common in aboriginal California. Also, there were often chiefs who acted to manage resources through mechanisms of production, distribution, and exchange. The picture presented by Bean contrasts with commonly-held stereotypes of California Indians living in egalitarian and rather loosely-structured societies, and it helps us appreciate the potential for these sorts of developments under ecological conditions like those found in California. Bean's ethnographically-based arguments are supported by evidence presented by archaeol-
ologist Thomas F. King in his paper, "The Evolution of Status Ascription around San Francisco Bay." King notes the complexities of mortuary patterns at the Mrn-27 cemetery site in Marin County and demonstrates in his analysis that "nonegalitarian, ranking social organization characterized at least one community of Indians living on the shores of San Francisco Bay approximately 2000 years before the present" (p. 39). However, King then goes considerably beyond his evidence in a series of arguments designed to show that complex forms of political organization evolve as a result of positive feedback relationships related to population growth. This is, of course, an important and much-debated issue in the field of human ecology, and King's arguments, while logically satisfying, lack any demonstration based on real or even realistically estimated figures for prehistoric population. The hypotheses proposed by King still await testing based on a comprehensive examination of excavated materials throughout the San Francisco Bay area.

Although it focuses mainly on southern California, the paper, "Ceremonial Integration and Social Interaction in Aboriginal California," by Thomas Blackburn, also attempts a broad synthesis with a scope comparable to Bean's. Major, organized ritual systems are interpreted as redistributive mechanisms to ensure the effective transfer of resources. Blackburn stresses the importance of regularity as an aspect of these transfers. Ritual systems requiring regular exchanges move beyond the primary need to respond to environmental fluctuations and stimulate expanded social relationships which themselves become necessities. As Blackburn puts it, "... what began as an ecologically adaptive convenience becomes a socially catalytic necessity ..." (p. 110). Incidentally, the title of this volume, Antap, refers to officers and members of an important Chumash Indian cult system, one of several analyzed by Blackburn.

My first reaction—perhaps better called a reflex—when I read the title of Chester D. King's paper, "The Explanation of Differences and Similarities among Beads used in Prehistoric and Early Historic California," was "Good grief, yet another paper on California Indian beads!" As I read on, however, I realized that my initial response, based on many past hours of staring at bead typologies by California archaeologists, did an injustice to this interesting and highly interpretive paper. The author presents the hypothesis that beads were used in ancient California to regulate flows between energy stores. He argues that:

Changes in these stores (i.e., changes in their size, number, distribution, degree of hierarchical ordering, number of differentiated flow networks and rates of flows between stores in different networks) resulted in systematic changes in the form of beads used in the organization of flows [p. 80].

Analysis of beads associated with late prehistoric burials at the Medea Creek cemetery site (LAn-243) and historic localities in the Malibu region and the Santa Monica Mountains revealed a sequence of changes that was correlated with different stages in the process of Spanish colonization there. King notes, for example, that introduced diseases led to reduced Indian population, which in turn made it easier for people of otherwise low status to attain wealth and power. This correlated with a reduction in craftsmanship in the manufacture of Olivella wall-disk beads and an increase in the percentage of the total population using them. These and other changes, it is suggested, reflect a tendency toward a more egalitarian social system among the Mission Indians.

In "Lower Colorado River Area Aboriginal Warfare and Alliance Dynamics," Chris White argues that dual amity-enmity alliances served as homeostatic mechanisms to help maintain a population-resource balance. White
notes the relatively unpredictable nature of resource availability in this desert and semi-desert environment. He argues that various groups formed economic and military alliances as a means of ironing out long-term fluctuations by expanding their access to key resources, but he notes, too, that wars were fought on a local level in response to specific stresses caused by shortages. This hypothesis does much to explain the wide extent and high frequency of warfare among these southwestern California Indians, but there still remains the nagging possibility that the whole argument may be too simple. Was warfare in this area really as economically determined as White claims? Or is it possible that other, more emic factors could also account for this behavior? The author could have considered factors of status, prestige, and other possible motivations for war. Such consideration need not necessarily contradict the central hypothesis but would make it seem less simplistic.

“Chumash Baptism: An Ecological Perspective,” by Gary Coombs and Fred Plog, examines the role of the early Spanish missionaries in their efforts to establish agriculturally viable missions based on Chumash Indian labor. The more converts the missionaries made (as evidenced by baptismal records), the greater the pressure on available mission lands. To solve this problem of balancing population and carrying capacity, the priests adopted two strategies, termed “excursion” and “resettlement” by the authors. In the case of the former, all neophytes were present at the mission for harvests, but otherwise at least one-fifth of the Indian population was sent back to their villages on one- or two-week “excursions,” thus reducing the concentration of people at the mission. In 1798, as population pressure increased, the priests adopted the latter approach of resettling neophytes at coastal villages, where they grew their own crops and remained away from the mission on a year-round basis. The authors see this as a kind of symbiotic relationship, since mission agriculture also helped the Indians to mitigate the effects of seasonal shortages in their traditional food supplies. This paper provides an interaction model of Chumash-missionary cultures instead of the more usual one-sided view of Indian response to European pressures, and for this reason alone it should be considered as an important contribution to the general literature on hunter-gatherer ecology.

Only one paper, David A. Fredrickson’s “Social Change in Prehistory: A Central California Example,” appears to be out of step with the rest of the volume. The emphasis here is on the analysis of exceedingly complicated mortuary developments in Middle and Late Horizon contexts at three excavated sites in Contra Costa County. More than any other in the volume, this is a “data” paper focused on localized problems. The hypotheses it tests are inward-looking rather than expansive in the sense that it seeks to explain local changes in the archaeological sequence instead of using interpretations drawn from sequence to explain general patterns of California Indian behavior. The author has done much here to clarify one of the most difficult problems of regional analysis in North American archaeology, but there is a question, nevertheless, of how appropriate this paper is with respect to the rest of the volume.

The editors of this volume are to be commended for their useful introduction and short prefaces for each of the contributed papers. They have done a good job of providing continuity amid diverse contributions. But beyond these editorial considerations, I am impressed by the fact that this volume provides the strongest argument yet for the value of etic, adaptively-oriented research on California Indians. Such etic-analytic approaches are currently favored in the study of hunter-gatherer ecology and cultural evolution generally, and this volume,
when judged against its own goals, is a significant contribution. I hope that it will be widely read outside the small circle of scholars who specialize in the study of California Indians.


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In 1948 the University of California Archaeological Survey was established in the Department of Anthropology of the University of California at Berkeley. Rock art data were collected by the Survey from the start, with the aim of eventually publishing a general survey which would continue from the point at which Julian Steward (1929) had left off 20 years earlier. The recent publication by Heizer and Clewlow is based on a compilation of data from 400 sites collected by the Survey since its beginning. *Prehistoric Rock Art of California* is a two volume work. The first consists of 64 pages of text, 21 maps, 5 tables, 2 appendices, and 23 plates. The second is a collection of 384 drawings, sensitively rendered and representing complete panels. Previously published illustrations have not been repeated in the current work, unless a better or more accurate record has been obtained by the Survey.

Four major petroglyph styles and five pictograph styles are described. Style areas were determined by subjecting the material to an analysis based on five major element categories: Human, Animal, Circle and Dot, Angular, and Curvilinear. Counts were made of each element for each site, petroglyphs and pictographs being treated separately. The results were then plotted according to county, and the percentage of each element category in the total number of elements in the entire county was then calculated. This information was further reduced by rounding off the percentage of each element to the nearest 20% unit, assigning a number to it on a 1-5 scale. The data thus abstracted, along with a heavy reliance “upon subjective evaluation,” led to the stylistic divisions described in the text. These are further elucidated by a series of maps on which the element counts for each county are indicated. Heizer and Clewlow point out that some of the style areas so defined correspond with those described by previous investigators, thus lending support to their own findings. In the course of discussion, several regional studies by other scholars are mentioned, and some of the more detailed stylistic analyses delineated. The various functions that might be attributed to the different California styles are considered in turn. Big game hunting magic, fertility, weather control, shamanistic ritual and puberty ceremonies are the major purposes listed, information being derived from both the archaeological record and, where possible, ethnographic sources. In the final chapter there is a summary statement on rock art studies in general which includes many bibliographic references to rock art literature, both within the United States and from countries throughout the world, a useful adjunct to the primary focus of the book.

In regard to Heizer and Clewlow’s stylistic analysis, there are several problems imposed by their methodology. It has already been well demonstrated by a number of studies in both the Southwest and in California that rock art styles specifically correlate with former cultural systems. Consequently, the spatial distribution of a given style corre-