DEVELOPMENT OF THEORY IN CALIFORNIA ARCHAEOLOGY, 1966-1991

Joseph L. Chartkoff
Department of Anthropology
Michigan State University
East Lansing, MI 48824-1118

ABSTRACT

In the quarter century since the founding of the Society for California Archaeology, scholars in the field of California archaeology have made many significant contributions to the development of theory in archaeology. Few of these contributions have been in journal articles directly devoted to theory, but the work of researchers in a wide range of subjects has led to discussions of understandings about factors that have shaped the archaeological record and scholarly understandings which give meaning to this record. This paper surveys a sampling of these contributions.

INTRODUCTION

When the Society for California Archaeology was founded a quarter-century ago it had only a few dozen members. The field of cultural resource management did not exist as such. All the men and women who practiced California archaeology as their major intellectual occupation could sit together in a moderately-sized room. In the ensuing 25 years the Society's membership has burgeoned, corresponding to the number and variety of people who pursue this area of study. Their intellectual contributions have flourished proportionately. Within this work have been many writings contributing to the development of archaeological theory, both in general and within the more immediate context of California archaeology. The purpose of this paper is to examine a representative array of these contributions in order to evolve some sense of the intellectual progress that has been made in the area of theory since the founding of the Society in 1966.

The goal of surveying the growth of theory in California archaeology is itself somewhat quixotic. Two anecdotes may illustrate. The first concerns a paper I presented to the Society a few years ago (Chartkoff 1987). In it I took my colleagues and myself to task for not publishing very much in the journal literature and thereby hindering the intellectual growth and impact of the field. When, last year, I was asked to develop this paper reviewing the growth of theory, it seemed as though it would be a modest task. With little literature, there ought not to be much to review. As will be noted below, this judgment was subject to a good bit of revision. It remains true that
California writers have not been especially active contributors to the national and international literature, compared to colleagues in other parts of the country. The body of literature written by and for the Californianist audience, however, is gratifyingly large and rich.

It remains, though, that most California archaeologists do not think of their field as being a hotbed of theoretical development. My view of the poverty of the literature has been widely shared. Many, if not most, of the Californianists with whom I have interacted over the last few decades hold to the notion that California archaeology is dominated by pragmatic cultural resource managers and contract archaeologists who write descriptive reports for filing cabinets and contribute little to the field's intellectual growth. A recent letter from a colleague (who shall remain nameless) makes the point. In it he noted that I have been digging these past number of years for "pure" research rather than for crass dollars, and that as a result I have not become a spiritually-compromised contract archaeologist like everyone else. I will say as an aside that the fact I spend my own money to do archaeology rather than getting someone else to pay for it has led my wife to conclude I don't have as much common sense as God gave to rutabagas.

My colleague's comment, however, can be seen as reflecting a significant part of the corporate culture of California archaeologists today. In this perspective, all that is being done in California anymore is contract archaeology. Contract archaeology is viewed as an intellectual vacuum in which little of theoretical significance has emerged over the past quarter-century.

This position, however widely it may be held, is wrong, and I am actually in a reasonably good position to make that assertion. Since I am geographically more isolated from my field and fellow practitioners than virtually any other participant, I am more reliant on the published literature and may, therefore, have a better sense than others may have of the scope and magnitude of theoretical contributions coming forth. From this distance I am obliged to pursue the ethnography of California archaeology nearly as much as the archaeology itself -- rather as an outside participant-observer as much as a practitioner. As an observer, I am happy to report that this perception is erroneous.

**COMMENTS ON THE NATURE OF THEORY**

Any examination of the contributions to theory by California archaeologists needs to begin with a consideration of what is meant by theory. The use of the concept here starts from a perspective of the structure of scientific inquiry. Research in science stems from observations about data in the external world. From observations come questions about how the data are organized, why they are organized that way, and what sorts of more general processes cause particular data to behave the way
they do. What is going on out there? What are the patterns and the variations, the regularities and the departures? What are the stabilities and the changes? What causes them, and why?

From this perspective, the task of theory is to provide answers to these questions. Theory is distinct from methodology in that methodology gives us the strategies for asking and answering questions, but not the content of the answers: theory provides the content. Methodology deals with making observations and analyzing the results so that regularities and variances emerge and can be linked back to the questions and answers. Techniques are the procedures by which the methodologies are applied. Research strategies tell us how to organize these activities (see, for example, Stickel and Chartkoff 1973).

From the results of these activities emerge inductive generalizations about patterning in the data. Occasionally, regularities in the relationship between data variables lead scholars to see law-like relationships, so that scientific laws can be proposed. But even such laws, in and of themselves, do not explain how and why the workings of nature occur as they do. Data never explain themselves, never explain how they behave or why they behave that way. Such explanation is the task of theory.

Even in the pro-theory heyday of the New Archaeology movement, many, if not most, archaeologists shied away from discussing theory overtly. We have tended to be intimidated by the formal elegance of theory in the physical and biological sciences, but needlessly so. Archaeologists do in fact explain a great deal about their data base, the archaeological record, and their explanations are just as theoretical as those of the natural sciences.

Theory for our purposes can, therefore, be regarded as a body of explanatory ideas. In archaeology, theory is what makes sense of the archaeological record. It accounts for patterning and variation, for constancy and change over time and space. It does so by suggesting what factors are significant in causing what other factors to behave in particular ways. Any discussion which tries to make sense out of the archaeological record by reference to more general notions is, therefore, inherently theoretical.

It remains, though, that one can look long and fairly fruitlessly for discussions in the literature of California archaeology that are identified as theoretical. Such discussions are there, but are rarely so identified. One can look profitably, however, at discussions of the nature and significance of the various aspects of the archaeological record to find a considerable body of theoretical commentary.

THEORY, DATA AND QUESTIONS

A useful way, then, to organize a review of theory is in terms of the topics and issues for which theory is mobilized.
The literature of contract archaeology tends to be organized around geographically-based projects, so it is difficult to synopsize in terms of theory. But Californianists have published many papers in journals such as the Journal of California and Great Basin Anthropology, Pacific Coast Archaeological Society Quarterly, Coyote Press Archives of California Prehistory, Ballena Press Anthropological Papers, and Society for California Archaeology Proceedings, among others. In the last quarter-century, over 1000 papers, books and monographs have appeared in this literature, in addition to the more than 50,000 contract archaeology reports that have been written in the same time. This published literature has been organized around topics about which the writers have been asking questions and suggesting answers. Many of these papers have made theoretically relevant contributions at a variety of levels. An overview of these contributions can be organized around the topics and issues to which they have been devoted.

A caveat must be issued at this point. There are too many writers who have made interesting contributions for any small review to possibly cover. Many writers have made a number of contributions in different areas. This review inevitably must fail to discuss many valuable contributions, and may emphasize a particular piece by some writers whose other, and perhaps more important, efforts go unmentioned. To my colleagues, whose many deserving contributions are not discussed below, I can only apologize, beg their tolerance, and plead sampling error in a quest for a more holistic overview. In the time frame available, I have attempted to indicate something of the range and scope of theoretical development in California archaeology by emphasizing a dozen major themes of quite disparate nature to explore briefly.

PAST SOCIAL ORGANIZATION

One of the most creative theoretical efforts to emerge in California archaeology during the past 25 years has involved the analysis of past systems of social organization from archaeological data. In the late 1960s, several researchers began to look at mortuary remains from this perspective. Earlier scholars, such as Adan Treganza, Robert Heizer and Bert Gerow (among others), had used burial remains as keys to chronology and culture periods. As an outgrowth of the New Archaeology movement of the 1960s, however, some Californianists helped to evolve the perspective that social, political and economic patterns in living societies are reflected in burial data patterning that results from the ways cultures dispose of their dead.

Linda Barbey King (1969), who worked at Medea Creek in Ventura County, E. Gary Stickel (1968) at Rincon Point in Santa Barbara County, and Thomas F. King (1970) working in Marin County, are cases in point. They were leaders among those who began to look at relationships between artifact patterning among grave goods and social differentiation within communities. One
of the major consequences of this work was the development of a basis for recognizing the existence of complex forms of social organization in prehistoric Native California. Previously, the dependence of Native Californians on hunting and gathering, the absence of food production, ceramics, and solid architecture, and the descriptions of the ethnographic record, had led archaeologists to assume that prehistoric California societies had only the simplest forms of sociopolitical organization. These studies provided the first major analyses to show the existence of socially stratified systems in the state. Their works proved to be influential nationally. A few of the more recent contributions in this area include studies by Jeanne Arnold (1987), Linda King (1982), Patricia Martz (1984), and Randy Wiberg (1988).

LANGUAGE, ETHNICITY AND CULTURE HISTORY

California also has been a leader in exploring the relationship between language affiliation and archaeological patterning. The interpretation of regional patterning of contemporary archaeological assemblages as reflecting membership in a specific language group has provided a model to explain changes in the archaeological record in terms of the expansions, contractions, readaptations, and movements of linguistically-organized ethnic groups. This linguistic approach to the explanation of the archaeological record has been more prominent in northern California archaeology and is one of the most significant paradigms in Michael Moratto's classic synthesis, California Archaeology (1984). Mark Basgall's (1982) paper on language and Sonoma County prehistory is a case in point. D.L. True's (1966) analysis of northern San Diego County archaeology is another important contribution.

CULTURAL EVOLUTIONARY THEORY

Contrasting with Moratto, the book my wife and I developed, The Archaeology of California (Chartkoff and Chartkoff 1984), takes an explicitly cultural evolutionary approach theoretically. Whereas Moratto looked to population change to account for differences in adaptation and settlement in the archaeological record, we used an ecological evolutionary model to explain adaptive change within continuing populations. Somewhat related approaches are reflected in Baummhoff's (1980) study of Pomo society and in Chester King's (1981) dissertation on the Chumash.

EXCHANGE THEORY

In the 1970s interest grew in the analysis of past systems of resource distribution, generally thought to have been exchange systems. Exchange was regarded as a significant variable in the development of social complexity. The emergence of an interest
in exchange systems can, therefore, been seen as a logical out- 
growth of the earlier emphasis on social organization noted above.

Studies of the distribution of obsidian were especially 
significant in the development of exchange systems analyses. The 
work of Jonathon Ericson, shaped both by the evolution of methods 
for obsidian source identification through trace element analysis 
and by the ethnographic models of Timothy Earle, was particularly 
notable. Their volumes on prehistoric exchange had international 
significance (Earle and Ericson 1977; Ericson and Earle 1982). 
Richard Hughes' paper on prehistoric Wiyot exchange also was very 
influential (1978). The obsidian analysis programs that have 
been developed at the University of California, Davis, Sonoma 
State University, and elsewhere have made tremendous 
contributions in documenting in hitherto unimagined detail the 
patterns of prehistoric obsidian exchange over time and space, 
which in turn led many writers to theorize about the 
patterns, mechanisms, and significance of that exchange. 
Increasingly, this perspective is being expanded to examine the 
nature of past exchange in other materials as well. Some of the 
many other significant works in this area include papers by Mark 
Basgall (1979), Paul Bouey and Basgall (1984), Joseph Chartkoff 
1982), Matthew Hall (1983), Thomas Jackson (1988a), Chester King 
(1971), Thomas Layton (1981), Nelson Leonard and Christopher 
Drover (1980), and Steven Shackley (1981).

SETTLEMENT SYSTEMS

A focus on settlement archaeology had begun to emerge in 
California archaeology by the time the Society for California 
Archaeology was founded in 1966. Regional survey projects had 
begun to be developed with theoretical models to account for the 
patterning in settlement systems and their change over time. 
UCLA and Berkeley published some important early studies. James 
O'Connell's analysis of settlement in Surprise Valley (1971, 
1975) was especially influential nationally.

In many cases settlement behavior has been explained in 
terms of ecological determinants. Robert Bettinger's (1980, 
1982) studies of the western Great Basin are especially 
noteworthy. William Hildebrandt's work in the North Coast Ranges 
also deserves note (see Hayes and Hildebrandt 1985). A few of 
the many other important works in this genre include papers by 
Jon Erlandson (1985), Lynn Gamble (1983), Michael Glassow (1979, 
(1987), Steven Shackley (1980), and True and Waugh (1982).

CULTURAL ECOLOGY

Research by Clement Meighan at Little Harbor on Santa 
Catalina Island in the 1950s helped found the cultural ecological
approach for American archaeology (Meighan 1959a, 1959b). This approach has been a strength of California archaeology ever since. Also extremely important was Baumhoff's (1963) paper on the significance of ecological factors in regulating California populations.

These studies provided a theoretical framework which used the nature of the resource system, the strategies of exploitation that cultures developed, and the feedback between population and environment as explanatory factors to account for many other aspects of cultural patterning and change.


CLIMATE AND ECOLOGICAL EVOLUTION

One derivation of the cultural ecological approach has emphasized the significance of climatic change as a significant variable in leading to other changes in cultural systems. This orientation has not been especially noteworthy in California archaeology until fairly recently. Many Californianists have tended to regard climate either as a constant or as a factor not closely connected to variability in the archaeological record. To this extent California has been rather behind writers in other regions.

Recently, however, some California archaeologists have developed models that explicitly link archaeological change to climatic changes. Polly Quick's studies on the evolution of San Francisco Bay and the California coast are examples (e.g., Bickel 1978), as is the paper by Moratto et al. (1978) on climate change and prehistory in the southern Sierra Nevada. James West's pollen studies of the North Coast Ranges have also pioneered in this area (e.g., Hayes and Hildebrandt 1985). West has helped to develop the technology for the recovery and analysis of pollen remains in California, previously rarely possible. Among other significant works are Roberta Greenwood's (1972) study of Diablo
Canyon prehistory, the Leonard Rockshelter study (Byrne et al. 1979), and Costello's (1989) historical-period analysis of Santa Ynes Mission.

ROCK ART THEORY

The study of prehistoric petroglyphic and pictographic art was extremely minor in California archaeology when the Society was founded. Since then it has blossomed into one of the most widely-followed foci in the field. The compendia and analyses developed by Heizer and Baumhoff (1962) and Heizer and Clewlow (1973) were especially influential in fostering this interest. The University of California at Los Angeles has since established the Rock Art Archives, while the Pacific Coast Archaeological Society has published an especially large number of California rock art papers in its Quarterly.

At one level, this literature, now numbering literally hundreds of papers for California alone, would seem to be particularly non-theoretical because it is extremely descriptive and particularistic. The literature is devoted especially to narrative discussions of art styles, typologies, and chronologies. Yet writers inevitably try to make cultural sense of the art, developing theories to explain the historical framework of pattern distributions in time and space, the cultural contexts of the art, and the meaning of the symbol systems. These efforts result in a substantial body of explanatory theory.

Important theoretical paradigms include archaeoastronomy, cosmology, rites of passage, subsistence behavior, hallucinogen effects, ethnicity, and conflict theory. Among the many important contributions are papers by Thomas Blackburn (1977), William Clewlow (1981), Travis Hudson (e.g., 1984, 1985), Hudson and Conti (1981), Hudson and Lee (1981), Hudson and Underhay (1978), Hudson et al. (1979), Georgia Lee (e.g., 1979, 1981a, 1981b), Clement Meighan (1981b), True and Baumhoff (1981), and David Whitley (1982).

ARCHITECTURAL THEORY

Compared to scholars elsewhere, Californianists have paid relatively little attention to architecture as a unit of archaeological analysis. This modest level of interest has not stemmed from a lack of architectural remains so much as from having interests elsewhere. Earlier scholars such as Heizer and Rogers were concerned especially about the establishment of culture sequences. They, therefore, emphasized stratigraphic exposures over spatial ones and, thereby, de-emphasized the exposure of horizontal living surfaces and structures in favor of vertical faces and test pits. An interesting exception was Adan Treganza, whose work in northern California included numbers of excavations in which he excavated pit houses as units (e.g.,...
Treganza 1958, 1959; Treganza and Heickson 1960; Treganza et al. 1969). Even so, Treganza's work produced little in the way of explanatory analysis of architecture. That work, however, did lead other writers to expand more in this area (e.g., Chartkoff and Chartkoff 1983; Schiffman 1988)

For perhaps obvious reasons, historical archaeologists have been much more attuned to the significance of architecture than have been prehistorians in California. Among many examples that could be cited, Deetz's (1963) work at La Purisima Mission has proved to be especially influential, as has Treganza's (1954) study of Fort Ross.

More recently a growing number of prehistorians have been emphasizing architecture from a variety of theoretical perspectives. Bettinger's (e.g., 1975a, 1975b) ecological analysis of Owens Valley and White Mountain domestic architecture is notable. Joan Oxendine's (1981) ritual behavior model for southern California rock enclosures has been frequently cited. I should probably also mention my paper on prayer seat enclosures and other rock structures in the Klamath Mountains as an example of a ritual behavior approach (Chartkoff 1983).

TECHNOLOGY AND ECONOMY

Taken by itself, technology is a topic, not a theory. When technology is used as an independent variable to account for changes elsewhere in the archaeological record, however, a theoretical model is asserted. The significance of technology to culture change has long been recognized by California archaeologists because the appearance of new technologies has also served as a time marker. Archaeologists thus have noted the appearance of such devices as the millingstone complex, the mortar and pestle, the bow and arrow, and the plank canoe, and have discussed their historical importance as well as their chronometric significance (e.g., Elsasser 1978; Wallace 1978). At a more sophisticated level, Jeanne Arnold's (1983) dissertation on microblade production in the Channel Islands and its influence on Chumash settlement, social organization and economics reflects this sort of approach to the construction of explanation. O'Neil (1984) and Costello (1989) also are significant in this context.

CHRONOMETRICS AND SPACE-TIME SYSTEMATICS

Chronometrics is usually discussed in terms of methodology, such as artifact typology, obsidian hydration, or radiocarbon dating. In a larger sense, however, the understanding of the relationship between form and time, space and time, or assemblage patterning and ethnicity, requires a theoretical paradigm.

A concern for these relationships is as old as archaeology
itself, but some significant contributions have emerged within California during the past quarter-century. Among the many scholars who have helped to develop understandings in this area, it is particularly necessary to draw attention to the contributions of David Fredrickson and his colleagues and students. Their work on the development of obsidian hydration methodology and its application in new ways to regional problems, and on making sense of the resulting data and their relationships to the rest of assemblage patterning, reflects the intimate relationship between method and theory as well as a series of profoundly fruitful and provocative data contributions.


ARCHAEOLOGICAL VALUES

The meaning and significance of archaeology itself rests on theoretical assumptions about the power of knowledge of the archaeological record to shape other aspects of culture and culture history. The justification of cultural resource management, for example, grows out of such ideas. California has been a national leader in developing cultural resource management and its rationales, not just as a bureaucratic, legal, political, and economic activity, but as an articulation and manifestation of a value system which sees the preservation of the archaeological record and its analysis and interpretation for the general population as a significant social good.

As noted above, the field of cultural resource management has developed primarily since the founding of the Society. California archaeologists have taken important roles in the formation and development of the theoretical underpinnings of cultural resource management; the activist roles of individuals such as Thomas F. King, Donald S. Miller, Herrick Hanks, Francis A. Riddell and Paul J.F. Schumacher, to name a few, have long been recognized. It is especially appropriate to draw attention to a paper by Tainter and Lucas (1983) on the concept of significance, a study which has had international influence.

Another milestone in California archaeology that should be noted here was the nearly simultaneous publication of the only two books ever devoted to the synthesis of the state's archaeological heritage (Chartkoff and Chartkoff 1984; Moratto 1984). While these works were devoted primarily to the organization and interpretation of the archaeological record,
each provides a strong general statement about the significance of the study of California archaeology to more general concerns and, therefore, form some of the more influential contributions to the epistemology of California archaeology published in the past 25 years.

Also germane to this discussion is the concern for law-building in archaeology. This concern, which arose as part of the New Archaeology movement, had some important centers in California, particularly at UCLA. There scholars, such as James Hill, James Sackett, Fred Plog, and Lewis and Sally Binford, influenced a generation of graduate students, some of whom applied this orientation to California archaeology (e.g., Stickel and Chartkoff 1973; Stickel and Cooper 1969).

The range of allied topics discussed in the literature of California archaeology is substantial and cannot be adequately outlined here. It extends from explorations of the quality of the data base (e.g., True and Matson 1979) to examinations of the processes by which the archaeological record is formed (e.g., Titmus and Woods 1986).

CONCLUSIONS

This brief overview allows a few more general points to be raised. Five such comments can be cited at this time. The first one, and one that will be immediately obvious to all who read the literature of California archaeology, is that this overview is far from exhaustive, either in its coverage or in its articulation of theoretical issues. It is now both feasible and needed for scholars to synthesize and critically analyze the array of theoretical positions being explored within the field. There need never be an orthodox, universally-accepted body of theory among us, but a fuller and more explicit development of these notions should lead to a fruitful, exciting interplay between theory and data that can only enrich the scholarship of all. It is hoped that this paper will help stimulate such a development, for this paper by itself can hardly fill that need.

A second observation, and one which underlies the first, is to emphasize that California archaeology has not been a theoretical wasteland. It has generated a rich body of theoretical thought. The great bulk of this thought has arisen in a context of contract archaeology. Whether "pure" or "applied" research is being done, archaeological understanding must be, and always is, based on theoretical assumptions. The division between "good pure" research and "intellectually insignificant" contract or applied research is a false dichotomy that should be abandoned, along with any lingering feelings that archaeologists who do contract archaeology are thereby second-class citizens in this Society. The distinction between well-done and poorly-done research is fully sufficient for any critical differentiation that may be required.
A third point, though, is that, even allowing for the previous points, California archaeologists have not been as self-conscious about developing and critically evaluating theory as they could be or need to be. The field can benefit considerably by turning a bit more effort, in meetings and in publications, to the conscious, organized discussion of theoretical understandings about the past and what shaped it.

Fourth, it is useful to ask, in the context of this paper, what the role of the Society has been in the development of theory in California archaeology. This paper, after all, has been developed as part of the activities held in recognition of the Society's silver anniversary. The paper has asked what developments in theory have taken place during the Society's existence. It is germane to ask whether the Society has simply co-existed with intellectual activity or whether it has had a meaningful role in that development.

The answer is, not surprisingly, that the Society has played a valuable role. It is not that the Society has formally advocated the evolution of theory, much less promoted any particular theoretical perspective. The founding of the Society, however, was undertaken in order to heal some deep schisms within the body of California archaeology, and to create a forum in which the exchange of data and ideas would proceed with vigor and effectiveness. It has done so admirably, thanks to the good-will and commitment of its many fine members and officers. The Society's meetings have become by far the most significant venues for intellectual sharing in California archaeology, while the publication series sponsored by the Society and its members have created an active, vital literature in which important ideas are developed and explored. The Society's role has been crucial in fostering a climate and a system of intellectual interaction in which the growth of knowledge, including archaeological theory, has flourished.

The last point recognizes that California possesses an amazingly rich intellectual environment archaeologically. Few other nations in the world are home to as many practicing archaeologists as is the state of California. Its archaeologists are not just numerous, but they interact often and fruitfully.

All this is to the good. Yet there is much more to be gained by expanding this scale of interaction outward much more than at present. On the national and world scenes California archaeology remains sadly underrepresented, both in the journal literature and at scholarly meetings. The rest of the world learns little of what is being done in California, and Californianists contribute relatively little to the development of the more general body of thought that can be applied cross-culturally. This lack of participation has left the rest of archaeology with the understandable view that little of intellectual importance happens in California, and little that happens in California archaeology is of much significance.
elsewhere. Even many California archaeologists seem to have adopted this perspective.

This perspective, like that of the devaluing of contract archaeology, is wrong. California archaeology has much of value to contribute to archaeology more generally. At the same time, it has much to gain from the more active participation in wider intellectual circles. When the Society for California Archaeology holds its 50th anniversary celebration, it will be especially gratifying to be able to look back on the SCA's second quarter-century and be able to document the intellectual significance of the contributions of California archaeologists to theory on a more national and global scale.

NOTE

1. A version of this paper was presented at the 25th Annual Meeting of the Society for California Archaeology, Sacramento, March 20-23, 1991.

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