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Flight to New Pigeonholes: Comments on Fredrickson

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In the first issue of this journal, David Fredrickson has put forth a new synthetic scheme for Central California prehistory. It is not my purpose to dispute this scheme *in toto*. I am in agreement with Fredrickson that in Central California substantial temporal and areal diversity is expressed in the archaeological record, and that this diversity presents us with an unusual opportunity for the study of human adaptation. I welcome Fredrickson's attempt to re-sort the Central California chrono-cultural cards to form new and hopefully more playable hands. The idea of "patterns" as loose complexes of artifacts and attributes that generally express temporal unity and social interconnectedness is valuable, because it frees our thinking from the semantic binds attached to the old unilineal three-horizon system. We have all disparaged the Grand System for some time; I applaud Fredrickson's initiative in developing a viable alternative for organizing the archaeological record.

On the other hand, I believe Fredrickson's paper to be, in some respects, poorly thought out, and I think it is important to introduce some critical comments.

After presenting a straightforward summary of North Coast Range and Central California prehistory as he sees it, utilizing his

"pattern" concept, Fredrickson (1974a:46) opines that:

Some kind of integrative framework to encompass this diversity would be useful. I propose that the dating and identification of temporal periods in California prehistory be kept separate from the dating and definition of particular patterns and suggest the following framework

The framework then proposed for the ordering of temporal periods is an apparent adaptation of Willey and Phillips' (1958) treatment of North American prehistory, subdividing their "Archaic" into "Lower," "Middle," and "Upper," and proposing the "Emergent" as a non-agricultural equivalent of their "Formative," a period of political differentiation, sedentism, and high population. My criticism of this integrative scheme is that I think it is less useful than it is obfuscatory, that it is neither demonstrated in fact nor of hypothetical value.

A scheme like Fredrickson's is nothing more nor less than a typology (cf., Willey and Phillips 1958:15-18), in this case, a typology of archaeo-cultural patterns. As such, in standard practice, it must meet at least one of two criteria. First, it may be "real," i.e., it may really exist in nature, or have historical reality (cf., Spaulding 1953; Rouse 1960). Alternatively, it may be arbitrary but useful as an heuristic or analytic device (cf., Ford 1954). I do not believe that Fredrickson's classification meets either of these criteria.

At the risk of erecting straw men, I will examine Fredrickson's scheme in terms of both these criteria. I have alluded to the

		Period Characteristics
1800	Emergent Period	Clam disk bead money economy appears. Increasing quantities of goods moving farther and farther. Growth of local specializations re: production and exchange. Interpenetration of south and central exchange systems.
1500		
500	Upper	Growth of sociopolitical complexity; development of status distinctions based upon wealth. Emergence of group-oriented religions. Greater complexity of exchange systems; evidence of regular, sustained exchanges between groups. Shell beads gain in significance, possibly indicators of both exchange and status. Possible origins of Kuksu religious system at the end of period.
AD	Archaic	
1000	Middle	Altitheimal may have ended by ca. 3000 B.C.; climate becomes more similar to present-day. Mortars and pestles and inferred acorn technology introduced. Hunting important. Possibility of entry of new population. Diversification of economy; sedentism more fully developed, population growth and expansion. Technological and environmental factors provide dominant themes. Little evidence for significant changes in exchange relations.
BC	Archaic	
3000	Lower	Altitheimal may have begun about 6000 B.C.; ancient lakes drying up. Milling stones develop or are introduced; plant food emphasis, little hunting. Although semi-sedentary life style, exchange seems similar to previous period. Most artifacts manufactured of local materials. Little emphasis upon wealth.
6000	Archaic	
10,000	Paleo-Indian	First demonstrated entry and spread of humans into California. Lakeside sites with a probable but not clearly demonstrated hunting emphasis. No evidence for a developed milling technology although cultures with such technology may exist in state at this time depth. Exchange probably ad hoc, individual, one-to-one. Social unit not heavily dependent upon exchanges; resources acquired by changing habitat.
		(No satisfactory information from the preceding Early Lithic Period.)

Fig. 1. Hypothesized Characteristics of California's Prehistoric Periods (after Fredrickson 1974a).

apparent relationship between Fredrickson's formulation and that of Willey and Phillips. The latter authors have discussed the conceptual basis for their unit formation, and have explicitly rejected the attribution of objective "rightness" (Willey and Phillips 1958:77). Since Fredrickson has not actually stated the relationship between his concepts and those of Willey and Phillips, however, I think it is necessary to examine his thinking by itself, and the basis for his unit formation is nowhere explicated in his paper.

First, let us consider the historical reality of classes like "Archaic" and "Emergent." Presumably, we can dismiss at the outset the proposition that these classes represent ideas that existed in the minds of those who

occupied the respective periods; no one ever awoke to the thrilling realization that he or she had emerged out of the Archaic. I assume that if Fredrickson is attributing historical "rightness" to his periods at all, he is asserting that each represents a cluster of attributes that is objectively boundable both descriptively and temporally. Let us then briefly consider whether his evidence demonstrates that this is so.

Fredrickson provides us with no key to the decision-making process he employed in developing his typology; we are simply presented with six periods and subperiods summarized in his Fig. 3 (reproduced here as Fig. 1) and partially documented in his surrounding discussion. It appears that he is dealing

primarily with change in food-procurement strategy, exchange systematics, and social organization. The period-defining changes in each of these parameters can be abstracted from his summary as shown in my Fig. 2.

I have no argument with the overall picture of directional change presented by the typology as thus synopsisized. California economic systems become more complex through time, and a shift occurs from reliance on the local natural environment as exploited through individual efforts toward the systematic utilization of many habitats through group manipulation of the social environment. I do not see that this gives us any basis for the definition of periods like Fredrickson's, however. If such periods were objectively present, concurrent changes in the various parameters given in Fig. 2 would be expected. In fact, however, the only changes that Fredrickson actually documents or even presents are the hunting-to-gathering-to-diversification shifts given as characterizing

the Paleo-Indian, Lower Archaic, and Middle Archaic respectively, and the development of group-oriented exchange and status relationships typifying the Upper Archaic. These are certainly changes in adaptive approach, but if they are used as period definers we would arrive at perhaps three periods, one of which would be subdivided as shown in Fig. 3, not six periods and subperiods.

It may be objected that by demanding change in all parameters in order to define a period shift I am requiring a monothetic approach to sequence-building, clearly inconsistent with reason or practice. Thomas (1970:32) has pointed out that an experienced typologist, when sorting artifacts, automatically deals in polythetic sets. No single attribute is sufficient to define a type, and conversely, lacking a single attribute does not automatically exclude a specimen from a type. Fredrickson, as an experienced California archaeologist, can be assumed to be designing his cultural typology by "feel," i.e.,

"Period"	Procurement System	Exchange System	Social Organization
Upper Emergent	Unspecified but presumably diversified	Increasing group orientation, developed networks	No change specified
Lower Emergent	Introduction of bow and arrow, maritime adaptation. Diversified hunting and gathering	Increase in group-oriented exchange. Development of exchange networks	Development of organization centered on wealth and status status ascription
Upper Archaic	No change specified	Development of group-oriented exchange	Initial development of status-oriented organization (sic)
Middle Archaic	Diversified hunting and gathering. Beginning of acorn economy	No change specified	No change specified
Lower Archaic	Gathering most important. Non-lacustrine (?)	No change specified	No change specified
Paleo-Indian	Hunting probably most important. Lacustrine settlements	Probably individual exchange	Unspecified

Fig. 2. Changes in Consistent Parameters Abstracted from Fredrickson (1974a:Fig. 3) and Accompanying Discussion.

Diversified	Greater Diversified	— — —	Facility (e.g., plank canoe) and tool (e.g., bow and arrow) innovations
	Lesser Diversified	— — —	Balanced though regional variable diversified hunting and gathering, including acorn gathering and processing.

Gathering	— — —	—	Economy centers on gathering and processing of hard seeds

Hunting	— — —	—	Economy centers on procurement of game animals and/or birds, especially on lakeshores

Fig. 3. Trial Definition of "Periods" Based on Subsistence Practices (as presented by Fredrickson).

polythetically; hence the fact that change is not demonstrated in all parameters at each period is beside the point, as long as *some* attributes show change.

When we attempt to tabulate the parameter changes that Fredrickson proposes, however, as in Fig. 4, we do not find classes that are any more justifiable on a polythetic basis than they were on a monothetic. In Fig. 4, I have included Fredrickson's notes on the Altithermal and on population movements, whose relationships to the three basic defining

parameters is unclear, in order to provide every opportunity for clusters of changes to appear. The results are essentially similar to those discussed above: there are shifts from hunting to gathering to diversification, now concurrent with the course of the Altithermal and ending in a period of population movement. There follows a time of social and economic elaboration in the context of procurement strategies modified at one point by a subsistence shift occasioned by technological innovation (the bow and arrow). These are interesting changes, but they do not define the classes that Fredrickson has proposed.

In sum, then, I do not see that Fredrickson's periods emerge of themselves from the archaeological record. There *are* objective cultural changes throughout the Central California sequence, and Fredrickson has identified many of them, but from the data he has presented these changes do not appear to conform any more neatly to his scheme than they did to that of Lillard, Heizer, and Fenenga (1939).

We must assume, then, that Fredrickson's typology is proposed to have analytic value, that it is imposed on the real world in the Fordian sense (Ford 1954). This, of course, is what Willey and Phillips said of their stages. Neither Willey and Phillips nor Fredrickson have told us what *sort* of analysis this kind of typology is to be used for. Let us, though, attempt to explore just what it is that Fredrickson's periodization might buy us in analyses of Central California prehistory.

	Procurement System	Exchange System	Social Organization	Climate	Population Movements
Upper Emergent	-	↑	-	-	-
Lower Emergent	+	↑	↑	-	-
Upper Archaic	-	+	+	-	-
Middle Archaic	+	-	-	+	+
Lower Archaic	+	-	-	+	-
Paleo-Indian	0	0	0	0	0

- = No change from previous period specified + = Change specified from previous period ↑ = Continuum from previous period specified

LEGEND

Fig. 4. Fredrickson's Periods as Polythetic Sets.

Since Fredrickson focuses on food procurement, exchange, and social organization in his definition, one would assume that it is in the analysis of these areas of culture that the typology would be useful. Taking food procurement as an example, we see several important changes taking place through Fredrickson's sequence. The first occupants of the sequence hunted; about 6000 B.C. hunting decreased in importance in favor of gathering. By perhaps 2000 B.C. a diversified economy featuring acorn use had become established. After about 500 A.D. this economy was augmented by the product of a technological innovation, the bow and arrow. Obviously, if we are going to understand these changes we need to deal with complex variables of demography, climatic change, resource utilization, and so on. Are we assisted in some way in studying these connections by saying that, for example, acorn processing begins during the Middle Archaic? It seems to me that we are properly concerned, when we study the acorn economy, with the time-range of its origin and with the precedent, concurrent, and succeeding events in other areas of economic and socio-political organization that may suggest processes responsible for, or triggered by, acorn use. We are likely to have similar concerns with regard to the development of clam disc beads, the introduction of the bow and arrow, or the rise of the Kuksu Cult. To jam these clusters of events into an arbitrary latticework of periods seems to me to only obscure their relationship. To bring this consideration closer to reality: Gerow has recently published a detailed discussion of California culture history and anthropometry in support of a model of "convergence." In Gerow's view, by at least the middle of Fredrickson's "Middle Archaic," the coast and Sacramento Valley are occupied by morphologically contrastive populations, each characterized by distinctive social forms and adaptive poses, which gradually converge through time. The early

Sacramento Valley adaptation features hunting as an extremely important economic activity, while the coastal populations are predominantly gatherers (Gerow 1974). While it appears that this formulation is not directly contradictory to Fredrickson's textual description of the Middle Archaic ("considerable pattern diversity and cultural variation" [Fredrickson 1974a:49]), I certainly cannot see that testing a formulation like Gerow's is in any way facilitated by knowing that the convergence is thought to have begun during a time when, according to Fredrickson's "hypothesized characteristics" (his Fig. 3, my Fig. 1), hunting was important all over California and the economy was becoming diversified.

In the field of economic exchange, it seems to me that if one were to characterize California prehistory in terms of a change sequence one would predict such broad shifts as that from casual interpersonal exchange to group-oriented redistribution, or from redistribution to a market economy. One might develop broad hypothetical categories based on such predictions, and seek to test the hypotheses using fine-scale heuristic change-units in, for example, bead styles (cf., C. King 1974). The distinction between, say, Upper Archaic ("Greater complexity of exchange systems; evidence of regular, sustained exchanges between groups") and Lower Emergent ("Regularized exchanges between groups continue with more material entering into the network of exchanges") does not appear to contribute notably to the facility with which we can study exchange.

In the development of California political organization, one could certainly cut the continuum of exchange into sequential segments if for some reason this seemed useful. We might posit, for instance, an Egalitarian Period typified by Stickel's (1968) Rincon Cemetery as opposed to an Hierarchical Period exemplified by L. King's Medea Creek (L. King 1969). These self-evident categories have

limited value when thought of as periods, however, particularly in the light of clear evidence of considerable intra-regional, temporal variability in organizational change (cf., Fredrickson 1974b; T. King 1974). Hence the possible fact that status distinctions based on wealth began to appear during the Upper Archaic (Fredrickson 1974a:Fig. 3) does not do very much for us in the analysis of change in California political organization.

It may be complained that it is unreasonable to insist, as I seem to be doing, that Fredrickson's scheme be relevant to everyone else's research. I would wholeheartedly accede to this complaint if Fredrickson himself presented a body of research to which his typology was demonstrated to be pertinent. What is presented, however, is a typology *in vacuo*, which must be useful to others or somehow reflective of reality if its existence is to be justified at all. Unfortunately, I find it all too easy to imagine just what the use of this scheme will be; we will be subjected to interminable arguments about whether the archaeology of this or that river valley should be labeled Middle or Upper Archaic; people will agonize over the fact that the Aliklik never *did* become Emergent, and a great deal of meaningless research will be justified by the researchers' ability to make the results perch in the new pigeonholes. I must suggest that Fredrickson's typology thus impedes rather than enhances our ability to perceive and understand culture change, and that it should be discarded as an obstruction to the systematic study of culture process in prehistoric California.

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Comments on Fredrickson's "Cultural Diversity"

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David Fredrickson recently summarized in the first issue of this journal the major conclusions of his doctoral dissertation (Fredrickson 1973). A model to explain observed and predicted cultural diversity in Central California between approximately 2500 and 500 B.C. is proposed. A shift from an earlier emphasis upon the collection of small hard seeds to the acorn and increasing emphasis on hunting is attributed to either a major climatic change or to the intrusion of a new population (Penutian speakers?). Since I have previously offered a historical model of two interacting traditions and populations in early Central California, the following comments may, hopefully, spark the development of a constructive dialogue (Gerow 1954, 1972,

1974; Gerow with Force 1968).

It is encouraging to find that some of the ideas which I espoused as early as 1954 are now openly accepted by someone other than myself. We apparently agree that within Central California the shell artifact typology, developed originally from an analysis of lower Sacramento Valley data, predicts time and not type of complex. We also agree in our rejection of the earlier conceptualization of widespread parallel cultural succession or development within Central California, in the recognition of the early coexistence of two distinct cultural traditions or patterns in the San Francisco Bay region and the lower Sacramento Valley, respectively, and in our acceptance of a long period of contemporaneity for these two between approximately 2500 and 500 B.C. Fredrickson's Fig. 2 (Periods and Patterns) (1974:47) also implies a recognition that cultural differences between the several regions were greater during this time span than during the following one thousand years or so. One notes a general conceptual similarity between Fredrickson's two competing economic modes and Gerow's contrast between an earlier, marginally located, generalized food collecting technology and economy and a later, centrally located, more specialized one, emphasizing the use of projectile points in hunting and warfare. There are allusions to the possibly important role that Penutian speakers may have played in the introduction of new technologies. Finally, it should be noted that Gerow's model of convergence through acculturation and gene flow has never excluded the possibility of more than two traditions or patterns coexisting during the period under discussion.

While a conceptual similarity exists between Fredrickson's model of two competing economic modes and that of Gerow's, the roles of Early San Francisco Bay and Wind-miller peoples are reversed by casting the