Cultural Evolution in Mesoamerica

Ancient Mesoamerica. A Comparison of Change in Three Regions. RICHARD E. BLANTON, STEPHEN A. KOWALEWSKI, GARY FEINMAN, and JILL APPEL. Cambridge University Press, New York, 1982. x, 300 pp., illus. Cloth, $29.50; paper, $11.50. New Studies in Archaeology.

Mesoamerica is generally famous for the achievements of its ancient civilizations, but among archeologists it is particularly known as an active arena for debate over the causes and consequences of change in "pristine" complex society. Although this book is designed to attract the novice and lay person, it is not simply the latest introductory tour of the area. It is a position paper outlining a theoretical approach to Mesoamerican cultural evolution and the methodological priorities associated with that approach. The objective is clear in the organization of the text. Introductory and summary discussions bracket three substantive chapters on the Valley of Oaxaca—where the authors have carried out long-term work—the Valley of Mexico, and the eastern (Maya) lowlands of the Yucatan Peninsula. By paring down the subject matter and excluding many parts of Mesoamerica from consideration, the authors underscore their interest in developing a new comparative framework for which these three regions provide illustration and inspiration.

The region is decidedly the unit of analysis. Exclusion of the Olmec, regarded by many scholars as the "mother culture" of Mesoamerica, is not merely expedient. The origins of complex society in the three regions under discussion are thematically presented as localized phenomena. Relations between these three "nuclear" regions are reserved for the summary of the book and will hence be treated further on in this review. Settling squarely on the region, the authors face the challenge of explaining the appearance of complex society in Mesoamerica as a recurrent expression of general principles or processes.

In recent years there have been several attempts to explain the rise of regional civilizations in Mesoamerica as local phenomena. Many of these attempts have appealed to general factors that might cause social growth in the direction of increased complexity: population pressure, environmental potential, technological innovation, warfare, trade, and ideological innovation. The authors reject such "prime movers," even when they are offered as an interdependent systemic set. Instead, they propose to build their comparison and explanation on three "core features" that are "basic to all societies": scale, integration, and complexity (p. 17).

Scale refers primarily to the size of a society, and generally the scale of a society is a reflection of the elaborateness of its internal organization, although this must be qualified by consideration of the society's integration and complexity. Integration refers to the degree and nature of interdependence between the units constituting a society, here defined primarily in settlement terms such as household, village, and urban center. Complexity is defined as the degree and kind of functional differentiation between such constituent units, viewed vertically as hierarchical levels and horizontally as the number and arrangement of units within levels. Finally, the authors state that with respect to these three features political and economic organization should be examined separately.

"Cultural evolution," the authors suggest, "can thus be defined as change in societal scale, integration, and complexity" (p. 17). Evidently, these variables are not in themselves prime causes, but rather are "prime measures" of the interacting organizations constituting a society. To be sure, any given state of a society is a harbinger of states to come; but the authors eschew any linear notions of causality (p. 25) and emphasize the unpredictability of human systems, the circularity of cause and effect.

In the ensuing chapters on the nuclear regions all the various prime movers are deployed to explain change in the prime measures. For example, in the case of Oaxaca:

> Both raiding and trading were ways of transferring people, information, and goods over long distances under conditions of large year-to-year perturbations in harvests, and highly dynamic, weakly defined social system boundaries. Also, both raiding and trading created conditions that we think would have favored evolutionary change in the southern highlands macroregion [p. 60].

The difference is that, instead of being primary and independent sources of change, such factors are viewed as historically contingent, their particular expressions molded by prior and coeval conditions. As the authors state in the conclusions:

> Changes in institutional strategies and goals often occur as adaptations or adjustments to problems that could be considered examples of traditionally defined prime movers. . . . But it is our contention that these factors . . . may have very different effects on societies of varying scale, complexity, and integration [p. 231].

Obviously the question how such variability in the core features came about in the first place can only be answered through historical description if the factors are never independent of circumstance and if the core features are not determinative.

The result of this intellectual position is a series of three social histories that at the empirical level emphasize settlement pattern data and at the theoretical level emphasize the manner in which people were integrated economically and politically in different ways through time and between regions. As social histories, these are innovative and provocative scenarios. The attempt to show the interplay of political and economic institutions through time is particularly well developed for the Valley of Oaxaca and the southern highlands region. Monte Alban, Mesoamerica's first urban center, is founded as the political capital of a military league. Subsequently, it generates a new economic institution in the form of massive government agricultural programs on the underexploited hillslopes above the intensively cultivated—and aristocrat-dominated—valley floor. Concomitant with this development is an increased meddling by government in local exchange networks, administered marketing. This government-induced economic growth is successful to the point of attracting an unmanageable population of participants, through in-migration and increase. The government shifts interest away from agricultural management into imperial expansion as a source of financing, archeologically identified as the shift from Monte Alban I to Monte Alban II. This small segment should give some impression of the complex sequence hypothesized for the region. Whether or not the scenario proves correct—and even such basic institutions as the market are subjects of controversy—

it is an eloquent invitation to think about political and economic institutions as perpetually dynamic in their relations.

Though the Valley of Mexico is dealt with through a rather straightforward distillation of current data, the authors try to present an alternative to the population-pressure, ecological-adaptation model favored by survey archeologists there. It is, generally, a negative argument to the effect that population size never approached the carrying capacity of the land and hence the causes of complexity must be sought elsewhere. The authors evidently favor an explanation that will ultimately be based on the need to regulate social and economic relationships in the context of dense, but not starving, populations. More impressive is the comparison of the Valley of Mexico with the Valley of Oaxaca with respect to vertical integration and complexity: Classic Teotihuacan, regarded as primarily an economic and religious nexus, "washed out" the complexity of its hinterland by abrogating the functions of secondary centers and concentrating people and business in the capital. Monte Alban, on the other hand, actively encouraged the development of secondary centers in its hinterland. These premier examples of urbanism are viewed not only as distinctive in their origins and functions, but also as expressions of distinctive regional organizations.

If the highland valleys have strong vertical integration, the Maya lowlands are posited to be "flat" politically and economically as well as geographically. This attribution, along with a general diatribe on the inadequacies of the data in the region to address the issues of interest, will no doubt raise the hackles of professionals devoted to the Maya. In contrast to other scholars, who have regarded the Maya as less advanced than their highland neighbors, the authors here emphasize that they were different: complexity is substantial but resides in the horizontal dimension. In essence the authors envision an economic network of great intricacy, specialization, and durability underwriting a relatively ephemeral political order. The generality here is that geographically bounded systems are more likely to produce complexity in the vertical dimension than are geographically open systems such as the Maya lowlands. It is a worthwhile challenge to Mayanists to address the relations between the economic and political orders in such a comparative framework.

Granted the commitment to the region as a primary unit of analysis, it is not surprising that the authors attribute little causality to the larger, Mesoamerican network of relations. They suggest that the interaction between elites helped to widely distribute many kinds of rare and precious goods, as well as many ideas and customs. The "prestige system," however, was merely a means of reinforcing power based on other political and economic means operating at the regional level. Many of the goods traded over long distances at the time of the Spanish Conquest were used as currencies regulating local economies—a form of interdependence characteristic of economic "world systems"—and it is surprising that the authors, given their interest in such institutions as markets, fail to regard the luxury goods of Classic Mesoamerica in a similar light.

The book is, in the last analysis, an application of process archeology. Complexity, integration, and scale are the processes of change here; but, as is not the case in Kent Flannery's brilliant manifesto (*Annu. Rev. Ecol. Syst.* **3** [1972]) on this viewpoint, the "evolutionary mechanisms"—determinable, regular, perhaps predictable ways in which organizations respond to stressful "movers"—are vague and undefined. There are allusions to "diminishing returns to scale" precipitating important change in organization, such as the transition from Monte Alban I to II; the notion that government is self-perpetuating at the expense of economic development is offered. The book remains comparative social history rather than provides an explanatory framework because it never squarely faces the fundamental question of cause. If one rejects movers and measures, then mechanisms become the last resort for causality. Archeological discovery of such mechanisms remains a most promising route to explanation of past social systems.

DAVID A. FREIDEL
Department of Anthropology, Southern Methodist University, Dallas, Texas 75275

Island Primates

The Primates of Madagascar. IAN TATTERSALL. Columbia University Press, New York, 1982. xvi, 382 pp., illus. $40.

Madagascar, a roughly California-sized chunk of Gondwanaland, lies in the Indian Ocean 400 kilometers off the southeastern coast of Africa. The geological evidence suggests that it has been at least 65 (and possibly as many as 250) million years since a mammal could have walked from Africa to Madagascar. Yet six orders of non-flying mammals somehow reached Madagascar, where the absence of other competitors led four of them to evolve into a fascinating array of ersatz cats, anteaters, hedgehogs, rabbits, and so on. The best-studied and most spectacular of these evolutionary radiations is that of the lemurs. These primitive primates not only managed to produce reasonable imitations of various anthropoids, from gelada baboons to orangutans, but went on to evolve more outlandish forms resembling larger versions of some Australian marsupials. Ian Tattersall's excellent book, which is the first in English on this important subject, provides a literate, thoughtful, and compendious survey of what is currently known about the Malagasy primate radiation.

The scope of Tattersall's subject has not seduced him into constructing grand theoretical schemes that ignore the intricacies of the facts, or into the opposite mistake of piling up vast blank drifts of minutiae with no theoretical context. For example, in describing the varied locomotor patterns of the Malagasy lemurs, Tattersall neither classifies them into quadrupeds, hangers, vertical clingers, and suchlike "locomotor categories" (which invariably obscure important differences within each category) nor resorts to that dreary, theory-free tabulation of hopping, hanging, and trotting frequencies that so often passes as a substitute for a research problem in studies of primate locomotor behavior. Instead, he summarizes the characteristic movements, postures, and support preferences of the various living lemurs in five pages of lucid prose and then goes on to try to draw a modest number of plausible correlations between behavior and certain aspects of limb morphology. The reader emerges from this convinced that there is something here to be understood and feeling a wholesome impatience with the inadequacy of our present understanding. Tattersall's approach in the sections dealing with lemur social organization, diet, ecology, physiology, distribution, and alpha taxonomy is similarly thorough, restrained, and stimulating. The chapter describing the subfossil giant lemurs, a special interest of Tattersall's, is the best and clearest summary of the subject available.

Unfortunately, when we arrive at the chapter on phylogeny and classification, it becomes evident that Tattersall's admirable reluctance to draw facile adaptive lessons from the facts of lemur biology has an ulterior motive. He hopes to convince the reader that the diversity of the Recent lemurs was not produced by