Book Reviews

Toward Understanding Cultural Evolution

The concept of cultural evolution, dominant a century ago in anthropology, faded to insignificance early in the present century but has been revived within the last decade or two. Today, however, the important connotation of cultural evolution is a scientific interest in cultural causality—in the factors and processes that operate in culture change—rather than a continuation of the 19th-century heritage. The recent scientific orientation, in fact, began as a sharp departure from the early 20th-century historical particularism and cultural relativism, which denied the possibility of ascertaining causes. But the term evolution was rarely applied to this scientific objective until the centennial celebrations of Darwin's *Origin of Species* in 1959 gave it a new respectability in cultural studies.

Of the many recent works representing this new trend, Robert McC. Adams's **The Evolution of Urban Societies: Early Mesopotamia and Prehispanic Mexico** (Aldine, Chicago, 1966. 213 pp. Illus. $5.75) is by far the most important. The general trend in studies of cultural evolution, as in many sciences, began with grand taxonomic schemes and postulation of universal explanations. The earlier scholars were interested in culture generically, rather than in specific cultures; they postulated world stages that were first explained by progress and later by man's control over energy, biological analogies, and the need for managerial controls over irrigation in developing agricultural societies. Cultural evolution today is concerned with specific cultures and particular factors and processes. The methodology is consequently far more difficult than any grand view based on facile presuppositions. Adams has performed a brilliant job in carrying the methodology much farther than previous studies while supporting it with a quantity of data that is remarkable in so small a book.

The subject of this study is two cases of parallel evolution of stratified, politically organized societies from egalitarian, kin-based farm villages. The analysis is limited to comparisons of Mesopotamia and Central America, although some of the processes described are evident in the evolution of the first or "primary" states of Egypt, the Indus Valley, China, and the central Andes. Single hypotheses which have attempted to embrace all these states have been either so general as to add few insights or so particular in characterizing each stage as to contain many errors of fact. Adams restricts his analysis to Mesopotamia and Mexico for several good reasons. Too little is known of the early farm villages of Egypt, the Indus Valley, and the Andean highlands. In the Old World, because states first evolved in Mesopotamia, there is a remote possibility that state evolution elsewhere was not entirely autochthonous. Mesopotamia and Central Mexico, however, were unquestionably independent of each other historically, and any trans-Pacific influence that may have brought Asiatic culture to America was too minor to have implanted a state system.

Adams's study would have been impossible 20 years ago because archeology prior to that time was so preoccupied with the monumental architecture, writing, art, and other achievements of the Dynastic periods of Mesopotamia and the Classical periods of Mesoamerica that little attention was accorded the early, developmental state of these agricultural societies. Since World War II, Adams, Robert Braidwood, and their colleagues at the Oriental Institute have employed dirt archeology along with the texts to reconstruct the developmental picture in Mesopotamia between about 3900 B.C. and 2300 B.C. when the Urban Revolution or state evolution occurred, while Americanists have disclosed a similar sequence between 100 B.C. and 1500 A.D. in Mexico.

Among several basic methodological assumptions, Adams's first is that comparative analysis of two parallel cases of evolution is more revealing and convincing than analysis of one. His quite valid argument is that the fundamental evolutionary processes and social institutions may be more readily disentangled from the innumerable particulars, especially stylistic features and distinctive forms, which, however, have similar functions.

Second, he views cultural evolution as "disjunctive processes of transformations connecting one qualitatively distinctive level of sociocultural complexity with another" (p. 7). This is a rejection of any orthogenic, teleological, or other hypothetical built-in tendency of culture to evolve in certain ways and of the possibility that any single principle can explain all stages of evolution. Adams's assumption that new principles—qualitatively new causal factors and processes—account for each stage is very fundamental.

Third, he refrains from characterization or definition of cities, states, or civilizations, for these are too varied in substantive features to permit any classification that is valid for all times and places.

Adams seems reluctant, however, to formulate the causes that produced the stratified state, although careful study of this volume convinces me that he has really set forth very adequate explanations. His argument ostensibly postulates that state institutions are the cause of all other change—and even of the state itself. Thus, while conceding that improved technology and farming are not irrelevant to the evolution of the state, he contends that "it seems to have been primarily changes in social institutions that precipitated changes in technology, subsistence, and other aspects of the wider cultural realm . . . rather than the reverse" (p. 12) and that "there is simply no evidence for gradual population increase that might have helped precipitate the Urban Revolution after reaching some undefined threshold" (pp. 44–45). What caused these social changes? If Adams seems to evade the logic of his own analysis, perhaps it is because there has been too much tendency to ascribe primary importance to what are crudely defined as economic factors. Moreover,

his own research in Mesopotamia had shown previously that population increase, large-scale irrigation, and certain cultural achievements were consequences rather than antecedents of state development.

State institutions nevertheless did not develop among hunting and gathering societies or among simple farm villages. They had at least preconditions of land use, settlement pattern, and population. Perhaps it is my own predilection for simplifying things that leads me to find very convincing causes of state institutions in Adams's excellent analysis. Specifically, he shows that there was a highly specialized development of eco-niches that produced symbiotic interdependence between adjacent segments of society. Primary importance need not be ascribed to population density, community size, potential surplus production, or any other single factor. But it seems to me that the author has documented the incipiency of crop improvement, better utilization of microenvironments, and increased specialization and interdependency of local population segments as the new processes or trends that led to state institutions.

Adams says that there were "certain built-in incentives to population growth" in agricultural regimes based on better exploitation and expansion of ecological niches (p. 44), and "there were significant respects in which [the state's] component producing units were not self-sustaining" (p. 47), as in Mesopotamia, where different localities were devoted to wheat and barley, gardens, herding, and fishing (p. 48). Although these specializations culminated in the state, they can surely be assumed to have been essential processes in the development of state institutions and not merely their results. Specializations similar to those of Mesopotamia were, he says, "the most advanced and characteristic institutions of Mesoamerican society . . . [which] may even have had their origins in mediating the relationships and interchanges between the specialized components" (p. 52). Additional factors that created heterogeneity and cooperation as well as competition betwen social segments were pressures and movements of external groups, including nomads in Mesopotamia, who were "one of the strategic disequilibrating factors that may have set the core of processes of the Urban Revolution in motion" (p. 19).

There emerges a clear picture of early specialization and interdependency between the peoples of adjacent localities, which contrasts with the general assumption previously held that productive activities of early states were fairly uniform over wide areas. Local specialization and trade entailed other kinds of social interaction which in time required formal, institutionalized controls. Once any local society becomes sufficiently specialized, it also becomes inextricably and irreversibly linked with institutions that have emerged as a higher level of organization.

Institutions that had the potentials for filling new functions already existed in the temples and priesthoods of the early farm villages, where they served many purposes, including performance of fertility rites (pp. 120–129). By extending the theocratic institutions across communities, strengthening their authority, and adding such new functions as control of deployable surplus, the basic theocratic state institutions were evolved (chapter 5).

Subsequently, the emergence of militaristic controls represented another disjunctive step in evolution. While this involved further social differentiation in societies that were already complexly structured, it is not quite clear whether the new goals of acquiring additional wealth through tribute and conquest of land represent an irreversible trend toward aggrandizement of certain social segments that had begun in the theocratic period, or whether new factors are discernible. Since the primary states elsewhere were at first theocratic and later militaristic, further comparative study might disclose several dissimilar factors that led to conquests.

In addition to analyzing the basic evolutionary processes, Adams devotes considerable attention to the smaller processes—the particular links in the chain of causality by which the original corporate village kin groups were modified within the state structures, subordinated to higher classes, and even differentiated internally into status groups, while the temples, nobles, and militaristic kings acquired increased control of the land and of the labor of certain segments of the population. The final picture in both areas is complex in similar ways. Lands became concentrated in the hands of nobles, kings, and temples, although kin groups and even merchants retained land rights. Labor was mobilized through slavery and through *corvée* and other kinds of obligations for construction of public works, expansion of productive land, and service in households. Militarism enlisted various segments of the population, and frequently rewarded successful armies. The social structure included slaves, semi-slaves, corporate kin groups, nobles, and kings. Certain segments became craft specialists, some of them organized in guilds, which advanced technology and learning.

Adams does not contend that the processes he has analyzed for Mexico and Mesopotamia do not hold for other primary states. Very probably many of these processes will be recognized elsewhere. The crucially important features of Adams's analysis is its detailed empirical basis. Any generalizations that are extended to other cases must be based on equally detailed study. In the perspective of 100 years of cultural evolution, the contrast between the postulation of stages through which mankind progressed and Adams's delimited and meticulous comparisons is very vivid.

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A Chinese Classic

What little we know of Sung Ying-hsing's life as a scholar-bureaucrat seems ordinary enough. What was rare about him was a sense of wonder, developed through observation of the farmers and artisans of his native South China, at the creative power of nature and at the ingenuity of man in disciplining it and turning it to productive use. He wrote a classic survey of the techniques of his time, now translated by E-tu Zen Sun and Shiou-chuan Sun as **T'ien-Kung K'ai-Wu. Chinese Technology in the Seventeenth Century** (Pennsylvania State University Press, University Park, 1966. 386 pp. Illus. $15). Sung's aim was to demonstrate to his fellow gentry, "who knew the taste of their meals well enough, but not where they came from," that not everything worth knowing is learned from the classics or through meditation. He predicted the fate of his masterpiece: "An ambitious scholar will undoubtedly toss this book onto his desk and give it no further thought; it is a work that is in no way concerned with the art of advancement in officialdom." It dropped out of sight, in fact, soon after publication in 1637,