THE DECLINE AND RISE OF MESOPOTAMIAN CIVILIZATION: AN ETHNOARCHAEOLOGICAL PERSPECTIVE ON THE EVOLUTION OF SOCIAL COMPLEXITY

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The typological schemes constructed by many archaeologists to explain the rise and fall of civilizations have neither accounted for the processual changes involved in the evolution of social complexity nor contributed to the development of a comparative method for considering regularities and variation in social behavior. This paper begins with a review of the foundations on which archaeologists have based their conceptions of social evolution. A critical test of the assumptions of "evolutionism" is then provided by case studies in Mesopotamian civilization in which materials from both preliterate and literate times are examined. Using ancient, emic documentation that is recovered as part of the archaeological record, such studies may logically be termed ethnoarchaeological. It is suggested that the customary analogy between social change and biological evolution is inappropriate and that a new problem orientation will facilitate more productive research into the dynamics of social evolution.

> You would be surprised at the number of years it took me to see clearly what some of the problems were which had to be solved. . . . Looking back, I think it was more difficult to see what the problems were than to solve them, as far as I have succeeded in doing, and this seems to me rather curious.
>
> Charles Darwin

> When we define a word we are merely inviting others to use it as we would like it to be used . . . the purpose of definition is to focus argument upon fact and . . . the proper result of good definition is to transform argument over terms into disagreements about fact, and thus open arguments to further inquiry.
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> C. Wright Mills

THE EVOLUTIONIST PARADIGM

IN STUDYING THE RISE AND FALL of civilizations in recent years many archaeologists and social anthropologists have claimed to derive empirically observed uniformities of social development and collapse from a model of social change analogous to biological evolution. The following titles of major works on the subject, whether areally specific or cross-cultural, clearly indicate the pervasiveness of evolutionary terminology: *Origins of the State and Civilization: The Process of Cultural Evolution* (Service 1975); *The Evolution of Early Agriculture and Culture in Greater Mesopotamia* (Smith and Young 1972); *The Cultural Evolution of Civilizations* (Flannery 1972); *Mesoamerica: The Evolution of a Civilization* (Sanders and Price 1968); *The Evolution of Political Society* (Fried 1967); *The Evolution of Urban Society* (Adams 1966); and most recently, *The Origins of the State: The Anthropology of Political Evolution* (Cohen and Service 1978). By "social evolution," most of these authors do not refer simply to "social change," but rather to a specific model of "evolutionism" that arose from highly polemical debates among social anthropologists during the 1940s and 1950s. Although not all evolutionists may be equal advocates of a consistently coherent doctrine, I contend that the various evolutionist positions, all stemming from one fount of anthropological reaction, can justifiably be conflated into a remarkably singular perspective. I

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further argue that this "paradigm" has contributed little to the development of cross-cultural tools for measuring the differences between simpler and more complex cultures and for appraising the internal dynamics of change. Indeed, I believe that archaeologists have not so much evaluated the evolutionist paradigm with the very materials most appropriate for determining its significance—prehistoric and early historic data—as they have simply accepted it as revealed truth through which data must be interpreted. Moreover, I shall attempt to show that evolutionism cannot explain social change in any but a reductionist scenario (dramatic effect being dependent on *dei ex machina*) and in fact has performed the feat of metamorphosing social evolution into neofunctionalism.

In the history of anthropological theory, the theme of social evolution has, as is well known, undergone a rather recent renascence. A moment spent highlighting a few episodes in its revivification will be instructive in considering the background of the overwhelming acceptance of evolutionism by archaeologists. I begin with Leslie White, mainly because the reaction against which evolutionist studies arose can be seen most clearly in his works. White, in his first essay on the subject in 1943, in his last in 1960, and in several in between, was fond of citing a remark of B. Laufer's, exhumed from a 1918 review, which he considered exemplary of that regard in which sociocultural evolution was held by anthropologists in the early twentieth century: "The theory of cultural evolution [is] to my mind the most inane, sterile, and pernicious theory ever conceived in the history of science" (Laufer 1918:90). In his initial foray into the subject, White predicted "The time will come, we may confidently expect, when the theory of evolution will again prevail in the science of culture as it has in the biological and the physical sciences" (White 1943:356). In 1960 White's confidence was gratifyingly (for him) repaid:

> . . . antievolutionism has run its course and once again the theory of evolution is on the march. . . . The return to evolutionism was, of course, inevitable if progress was to continue in science and if science was to embrace cultural anthropology. The concept of evolution has proved itself to be too fundamental and fruitful to be ignored by anything calling itself a science. Evolutionism was therefore bound to return to cultural anthropology sooner or later (White 1960:vii).

Of course White stressed the return of evolutionism, and emphatically disclaimed any title of "neo-evolutionist" because "the *theory* of evolution set forth in this work does not differ one whit in principle from that expressed in Tylor's *Anthropology* in 1881" (White 1959a:ix).

If Tylor, Morgan, and other nineteenth-century anthropological evolutionists were reacting against the supernatural in history (Kaplan and Manners 1972: 39–40) and the creation theory of Judeo-Christian theology (White 1959a:1; Lesser 1952:135), White was reacting against the errors of Boasian particularism, Kulturkreislehre diffusionism, and British structural-functionalism. Though differing greatly in many other respects, these three heresies were united in their insistence against studying developmental change.

Boas and his group (those most frequently cited by White seem to include Goldenweiser, Sapir, Lowie, Herskovits, Mead, and Benedict) were particularists and relativists, refusing to set up stages of development and asserting that any evaluation of cultures was chimerical and ethnocentric (White 1947:165). The Kulturkreis school in Germany and Austria, especially Koppers and Schmidt, were "clerical anthropologists" (White 1959a:viii) and therefore abjured evolutionism in favor of diffusion (cf. Lowie 1946; M. Harris 1968:385–386; and a recent neodiffusionist, Nisbet 1970). In the antievolutionist view, similarity in cultures was produced by an "incessant tendency to borrowing" (Maitland, quoted in Lowie 1920:435). White criticized British functionalists (e.g., Malinowski and Radcliffe-Brown) not so much because they were antievolutionist, but rather because they were nonevolutionist (White 1959a:viii): "If they did not repudiate the theory of evolution at least [they] pushed it to one side" (White 1959b:108).

Evolutionism in its most irreducible form was to White "a temporal sequence of forms" (1959a:vii), for "no stage of civilization comes into existence spontaneously, but grows or is developed out of the stage before it" (Tylor 1881:20, quoted in White 1959b:108). "Evolution is the name of a kind of relationship among things and events of the external world . . . [and] in the dynamic aspect, things and events related in this way constitute a *process*, an evolutionist pro-

cess" (White 1959b:114). Anthropologists are beholden to White for so forcefully emphasizing the subject of developmental change as integral to the study of culture. For archaeologists in particular, the relevance of studying process has not been lost, and born-again archaeologists have sometimes denominated their inquiries "processual archaeology." Since all studies of the rise of civilization have presumably to deal with matters of processual change, it cannot come as any surprise that so many researchers have flocked under the banner of evolutionism. It may be equally unsurprising that so few have pondered the implication of their actions.

For White the stream of evolution is the culture of humankind as a whole. There is no question of confusing individual culture histories since the subject of the evolutionist sequence is all of human culture. Furthermore, the evolutionist process is irreversible and nonrepetitive, and any appeal to a particular culture's ups-and-downs is ruled out of court since these two principles are subject only to a worldwide perspective (White 1959a:29–39).

Clearly these principles are borrowed from larger evolutionary concepts:

> Is not this the method used in paleontology and studies of biological evolution in general? We have a choice between two alternatives. Either we assume that there is a genetic relationship between members of a series or that there is no such connection. Theoretically one could assume that *Eohippus, Mesohippus, Hipparion,* and *Equus caballus* are distinct and unrelated forms. Similarly one could assume that various forms of mediums of exchange, the calendar, social organization, government, etc. are discrete and unrelated. But assumptions such as these fly in the face of a great mass of evidence that indicates that one form may grow out of another. Where we can establish or reasonably assume the existence of such a process we can arrange a number of forms into a series and render a great mass of material intelligible with a single, simple formula. This is of course trite and commonplace in biology; everyone knows how evolutionist theory has explained things that were unintelligible without it (White 1947:175).

It will be argued in the conclusion of this paper that White's comparison of sociocultural with biological evolution breaks down, in that societies do not form phyletic stages and that cross-cultural comparison can best proceed through analogy rather than homology. It seems doubtful, however, that White intended to carry through this biological comparison too strictly; he propounded the concept of "evolutionism" principally as a heuristic device in combating his "non-scientific" triad of competitors.

The scale White used in evaluating cultural progress was based on the amount of energy utilized by a culture. According to the second law of thermodynamics, the universe is breaking down structurally and moving toward a more uniform distribution of energy. Culture develops, then, as the efficiency of capturing energy increases and simply as the amount of goods and services produced per unit of labor increases (White 1959a:47; 1943:336). This, according to White, is *the* law of cultural evolution (White 1943:338). Since energy capture depends on technological advance, "social evolution is a consequence of technological evolution" (1943:347).

Armed with the evolutionist concepts of developmental human culture and progressive utilization of energy through technological advance, White was able to describe a basic evolutionist trajectory in the development of civilization. In agreement with Maine (1861) and Morgan (1889), he depicts the "great divide" (Service 1975:1) in human cultural evolution as the change from societies based on kinship, personal relations, and status (= *societas*) to societies based on territory, property relations, and contract (= *civitas*). In the first type, relationships of property are functions of relationships among humans; in the second, relationships among humans are functions of relationships among items of property (White 1959a:329). This transformation occurs when ties of kinship wane and territorial factors wax. Further subdivision of evolutionist levels was left to White's students and colleagues.

A last element in this necessarily truncated appraisal of White's contribution to the modern conception and use of social evolutionist theory is a recurring motif of real concern to White, never directly stated, but nevertheless darkly implicit throughout. In 1947 White stated that "Boas and his disciples . . . for reasons we cannot go into here . . . were definitely opposed to the theory of classical evolution as a matter of principle" (1947:191). In 1960 White was more specific, contending that since "the capitalist-democratic system had matured and established itself securely . . . evolution was no longer a popular concept. . . . On the contrary, the dominant

note was 'maintain the status quo' " (1960:vi). White's point demonstrably was that antievolutionism was opposed to social progress in the Third World and to "the communist revolution which is spreading throughout much of the world" (1960:vi) and which constituted the next stage in social evolution; this was the reason the theory was opposed by Boas and his disciples. Marvin Harris (1968:640, following Barnes 1960:xxvi) traces White's conversion to "evolutionism" to his 1929 tour of the Soviet Union but dismisses his understanding of the subject, describing White by Engel's perjorative term, "a mechanical materialist" (Godelier [1977:42] and J. Friedman [1974] reply in kind, describing Harris'cultural materialism as "vulgar materialism"). This point is relevant only insofar as it sheds light on White's earnestness concerning the subject of evolutionism and on a possible political agenda in his "objective evaluation of cultures." These issues are not mentioned as an indictment, but rather as a justification for considering White's ideas as largely formulated in the context of other anthropological schools and political currents of his day.

The second source for the modern archaeological utilization of social evolutionist concepts derives from the work of Julian Steward. Leaving aside for the moment his well-known categorization of evolutionists into unilinear, universal, or multilinear groups (Steward 1955:11–29; cf. M. Harris 1968:642–643), Steward's own basic points may be quickly summarized. Cultural evolution, as opposed to biological evolution, is additive rather than substitutive (following Kroeber 1948:297). Cultural evolution is also ordinarily divergent, since lines of evolution are occasioned by distinctive local environments and subsistence patterns. Here Steward of course was opposing White, who simply disregarded local ecological situations: "If one wishes to discover how cultural systems are structured and how they function as cultural systems, then one does not need to consider the natural habitat at all" (White 1959a:51). Now White was talking about Culture, not cultures, and thus could not be limited by any local environmental condition. Steward rejected "universal evolution" precisely because the theory wasn't relevant in explaining any particular cultural development: "The postulated cultural sequences are so general that they are neither very arguable nor very useful and cannot explain particular features of particular cultures" (Steward 1955:17). White countered expectedly by pointing out that "a generalization is not a particularization," but this does not answer Steward's criticism of utility of the "universal" theory. As Harris aptly remarkes, "if a generalization tells us *nothing* about particulars, it can scarcely enjoy the status of an empirical proposition" (M. Harris 1969:649).

Steward's evolutionist framework did agree with and further articulate White's view in that it involved "development levels . . . marked by the appearance of qualitatively distinctive patterns or types of organization . . . wholly new kinds of over-all integration" (Steward 1955:13). If social evolution is mainly divergent, "the attribute of progress"means that there are also genuine parallels of evolution "in historically independent sequences of cultural traditions." These parallels, moreover, can be explained "by the independent operation of identical causality in each case" (1955:14). "Multilinear evolution" attempts to discover these parallel cases and underline the cultural laws that effect the parallelisms. These "cultural laws" are rooted in "cultural-ecological adaptations—the adaptive processes through which a historically derived culture is modified in a particular environment" (1955:21). Thus, in Steward's delineation of "culture types"—constellations of diagnostic features that have identical functional interrelationships in each culture—cause-and-effect regularities exist between particular environmentally similar situations and sociopolitical structures. Steward was therefore rather infatuated with Wittfogel's hydraulic hypothesis (1957) and with the formulation of parallel evolutionary sequences for widely distant parts of the world that depended on the management of scarce water resources. Steward's case for parallel evolutionary sequences at least unified his view of evolution with White's in one fundamental way: both were arguments against relativistic theories of cultural divergence that held that convergence was due solely to diffusion.

Steward's essay *Cultural Causality and Laws: A Trial Formulation of the Development of Early Civilizations* (1955) holds that in arid lands (Mesopotamia being the example par excellence), production, population growth, and sociopolitical development are related to the nature of irrigation systems. Initially, "irrigation was undertaken only on a small, local scale," and "the sociopolitical unit was a small house cluster, which probably consisted of a kin group or lineage"

(1955:200–201). Population grew as irrigation works were developed until "the flood plains became densely settled and . . . collaboration on irrigation projects under some co-ordinating authority became necessary" (1955:201). A theocratic ruling class emerged to manage irrigation, extending its control until finally forming a multicommunity state. Empires were created from competition over resources, population pressure, and the threat of hostile nomads. "Irrigation works were increased to the limits of water supply and population," after which peak the empires collapsed, "irrigation works were neglected, and population decreased" (1955:204).

This explanatory scheme can now be countered in almost every particular (as will be shown in brief in the examples below), but as Steward foresaw, it is all too easy for specialists to produce new material and to point out inconsistencies in the facts. For Steward, however,

> Facts exist only as they are related to theories, and theories are not destroyed by facts—they are replaced by new theories which better explain the facts. Therefore, criticisms of this paper which concerns facts alone and which fail to offer better formulations are of no interest (1955:209).

I agree with Steward, and although I consider his "facts" to be wrong, my central point of dispute is with the theory used to explain the facts. The theory is of course social evolutionism, with the concomitant taxonomic units (Incipient Agriculture, Formative, Regional, Florescent, etc.) that derive from Steward's tenet that culture can be subdivided according to "qualitatively distinctive patterns of organization . . . wholly new kinds of overall integration." In this Steward is in substantive agreement with White's principle of evolutionist development through a series of stages.

The final element in the modern historical development of evolutionist concepts, and the most forceful and explicit appeal to archaeological users, is the putative compromise of White's and Steward's positions put forth by Sahlins and Service. Emphasizing the two-fold nature of the evolutionist process, Sahlins and Service (1960:4) hearken unto Tylor's view on the subject: on the one hand, evolution consisted in "the general development through which culture as a whole has passed 'stage by stage,' " while on the other hand it also lies in the study of "particular 'evolution along its many lines.' " The terms "general evolution" and "specific evolution" were coined to describe this dual nature. Specific evolution (namely, Steward's multilinear conception) accounts for the process whereby new forms differentiate from old ones, while general evolution (White) covers the process whereby higher forms arise from and surpass lower ones (Sahlins 1960:13). Specific evolutionary sequences can result in parallelism, "the consequence of similar adaptation to similar environment" (1960:28). The general evolutionist argument is, however, ineffably more powerful—essentially because it is general. It "is the central, inclusive, organizing outlook of anthropology, *comparable in its theoretical power to evolutionism in biology*" (1960:44, my emphasis).

To clarify the utility of the terms "general" and "specific" evolution, Sahlins employs the example of feudalism. Feudalism is not "the *general stage* of evolution antecedent to high (modern) civilization"; rather it "is a stage only in a *specific* sense," part of a particular line of development (1960:31, 32). In general terms the stage preceding modern nation-states is represented by such classical civilizations as Rome, China, Sumer, and the Inca empire. Feudalism is thus a backward form representing "a lower level of general development than the civilizations of China, ancient Egypt, or Mesopotamia, although it *arose* (my emphasis) later than these civilizations and happened to lead to a form still higher than any of them" (1960:33).

It is exactly the matter of "arbitrarily rip[ping] cultures out of context of time and history and plac[ing] them, just as arbitrarily, in categories of lower and higher development" that represents "the taxonomic innovation that is required for the study of general evolution" (1960:32). With this taxonomic innovation, the successive evolutionist forms of bands, tribes, chiefdoms, archaic civilizations, and nation-states can be delineated (1960:37). Moreover, "any representative of a given cultural stage is inherently as good as any other, whether the representative be contemporaneous and ethnographic or *only archaeological*" (1960:33, my emphasis).

What is not explained by this "taxonomic innovation," in either general or specific terms, however, is that feudalism not only represents a rise, but also a collapse. According to evolutionist theory, feudalism is the specific evolution of a lower form, the sort of evolution that does not stop when bypassed by a higher form. Representing a lower level of general development than ancient China or Sumer, it could lead to a form higher than China or Sumer. The so-called law of evolutionary potential thus states: "The more specialized and adapted a form in a given evolutionary stage, the smaller the potential for passing to the next stage" (Service 1960:97). Furthermore, "an advanced form does not normally beget the next stage of advance . . . the next stage begins in a different line" (i.e., a different geographical area), and "if successive stages of progress are not likely to go from one species to its next descendant, they are not likely to occur in the same locality" (1960:98–99).

Cultures, therefore, just like animal species, become too committed to a particular line, become specialized and over-adapted, less viable than more generally adapted competitors that finally vanquish them. Or, cultures become too specifically adapted to contend with the invariably independent variable of environmental change and succumb. Thus, cultures develop internally, but they collapse from some external condition.

> The "seeds of destruction" [of a civilization] were . . . broadcast . . . so to speak, outside its own area, and some of them root and grow vigorously in new soil, sometimes becoming stronger than the parent stock, finally to dominate both their environments. . . . Decline . . . is caused by the rise of new and superior competitors (Service 1975:321).

Explanation is thereby reduced to tautology. If a culture collapsed, it must have been too narrowly adapted to survive climatic change and/or vigorous external competition; if it persisted, it was more generally adapted and had more evolutionary potential than an initially superior, but more stolid, competitor. Thus, development is accounted for through endogenous change and genetic continuity, while collapse is explained through exogenous change. This seems tantamount to pleading that there is no diffusion in development but that only diffusion explains collapse.

This evolutionist view of societal collapse, clearly inspired by, though not entirely consonant with, the biological theory of evolution (see later discussion), fails to present a unified theory that can account for internal processes of social change: it must necessarily assume that one sort of phenomena will be relevant in developing situations while a very different sort must be considered in times of collapse. I propose, to the contrary, that the phenomena of collapse can indeed (often) be explained as the outcome of internally sown "seeds of destruction," though I do not discount the possible importance of external phenomena contributing to collapse. (The important questions to ask about the latter situations, however, are how and why the affected social system did or did not deal with these external factors. Though I shall deal only with internal [processual] change in this paper, it would be fatuous to discount totally the occurrences of discontinuities produced by exogenous developments). Furthermore, I want to build the case that the study of collapsing systems can also be highly informative by isolating the components and by showing the dynamic interrelations among them in the development of these systems. I contend it is possible to deal with social change within a noncontradictory theoretical framework, and the "decline and rise" of the title of this paper hence refers to a methodological point of view: that study of the manner in which a society decomposes will shed much light on the nature of the composition of that society.

I shall first present an example of the collapse of a complex social system in Mesopotamia. Then I shall attempt to utilize perspectives gleaned from the situation of collapse to outline some of the conditions pertinent to the study of the rise of Mesopotamian civilization. If the present conception of evolutionism fails to deal adequately with the internal dynamics of collapse, it is my contention that it also masks the nature of the development of complex societies and seriously frustrates the construction of a comparative method of analyzing evolutionary development. I shall return to these topics in the concluding section of the paper.

The Mesopotamian examples are not offered in recidivist justification of "Boasian particularism." Even general evolutionists do not undertake a "metaphysical . . . quest to discover

the *nature* [original emphasis] of evolution . . . [but attempt] to provide a *useful framework* [my emphasis] for thinking about, researching, and explaining cultural change" (Kaplan and Manners 1972:49). If, then, it can be demonstrated that the collapse of a Mesopotamian social system cannot be explained as part of an evolutionist conception of collapse, that evolutionist explanation will obviously not provide a universally useful framework for understanding social change. The following evolutionist principle will be tested: a social system collapses when that system becomes too specifically adapted to its environment to cope with a drastic change in climate and/or the rise of new and superior competitors.

The specific Mesopotamian social system I propose to examine as an example of societal collapse dates from the Old Babylonian period (really an ethnolinguistic designation, but evoking among Assyriologists a common set of historical responses). This period (ca. 2000–1600 B.C.) is known principally from the information provided by thousands of cuneiform documents. Especially noteworthy is the variety of sociolegal material available for analysis, and particularly illuminating are administrative documents that reveal socioeconomic interactions between the crown, as the centralized authority, and the network of local organizations with their own authority structures. Changes in the decision-making process during the collapse of the Old Babylonian social system can, moreover, be appraised by considering documentation on the ecological situation and on competitors outside the system (Yoffee 1977a).

The study of the collapse of a social system in a historic period will highlight several methodological principles useful for examining the rise and fall of civilizations in the ancient Near East. Cuneiform tablets, no less than other sorts of excavated materials, are archaeological artifacts. Like other artifactual remains, they reflect only certain segments of the living society they represent, and these must consequently be explained within larger theoretical constructs that attempt also to account systemically for unattested elements in the society (Yoffee 1975). This analysis of collapse in a historical time period will also show the desirability of not separating documentary remains from other aspects of the material record. No part of the material record should be isolated solely on the basis of its own internal criteria, but rather parts must be drawn together with the aim of comprehending the larger social meaning of their patterning.

For these reasons, attempts to separate research into distinct philological and archaeological provinces can only fractionalize the data pertinent to such reconstructions. Furthermore, attempts to split the material record into prehistoric and historic divisions must assume that social systems are different in form on the basis of the presence or absence of the trait of literacy. One unfortunate outcome of such an evolutionist assumption has been for "prehistorians" to produce explanations of Near Eastern social systems in late prehistoric times without any recourse to accounts from early historic data—explanations that are quite inconsistent with the information gleaned from those data. In studying the rise of civilization in the ancient Near East, an (emic) ethnoarchaeological perspective is clearly called for, one that utilizes all available material in dealing with questions of social change.

HIERARCHICAL DECOMPOSITION: A MESOPOTAMIAN CASE STUDY

The Old Babylonian period, though not marking the appearance of the first state in Mesopotamia, will provide an illustration of the complementarity of documentary and other material data. Before turning to the phenomena attendant upon the Old Babylonian collapse, however, it will first be necessary to outline cursorily the sequence of events leading up to the collapse.

The brief (ca. 2100–2000 B.C.) but spectacular regime of the "despotic" kings of the "Third Dynasty of Ur" came to an end as the subject city-states of lower Mesopotamia reestablished their autonomy (Diakonoff 1969). For about the next two centuries in the southmost alluvium, rival city-states struggled for control over the venerable city of Nippur, symbol of preeminent power in the old Sumerian heartland. To the north at about the area where the Tigris and Euphrates are nearest to each other, the political situation was even more chaotic. Local shifting alliances were

constructed and dissolved amidst political intrigue, spying, and the use of agents provocateurs (al-A'dami 1967; Yoffe 1977b). As Nippur was the symbol of primacy in the south, so Kish stood out in central Mesopotamia as the foremost prize to be won by rival sheikhs (Yoffee 1977c). This confusing welter of petty bickering was resolved when a long-lived, stable dynasty established a core area of sociopolitical control centered around the hitherto unimportant city of Babylon. Hammurabi (1792-1750), the most ambitious of his line, united all of southern Mesopotamia and brought vast lands to the east and west of the capital under Babylonian hegemony in a brilliant series of confederations and conquests. This empire, however, was not destined to outlive Samsuiluna, the son of Hammurabi, and the remaining core area finally fell to a marauding Hittite expeditionary force from Anatolia in 1595 B.C. Power became vested in a non-Babylonian ethnolinguistic group, the Kassites. It is this time after the reign of Hammurabi that I shall now examine in detail as an example of the collapse of a complex Mesopotamian state.

Our knowledge of the history of the Old Babylonian period after Hammurabi is sketchy at best, and the standard histories devote few pages to the last five kings of the dynasty and their 155 years of rule until the sacking of Babylon by the Hittites (Edzard 1965; Gadd 1965; Garelli 1969; Hallo 1972). After Hammurabi's successor there are few royal inscriptions, and except for a scattered reference or two in late chronicles, historians have relied solely on events commemorated in date formulas to reconstruct this time. The picture has thus emerged only in broad strokes: Hammurabi was a skillful and resourceful monarch, but already by the time of his son and successor the empire was beginning to erode under pressures from the south, north, and west. During the final century the territory under the control of the last ineffectual rulers further contracted; the dynasty sank slowly into decline until the Hittite raid put an end to it.

By studying administrative and economic documents and by tracing the careers of certain bureaucrats and the activities of their bureaus, it is possible to fill out the picture of this period and to reassess the collapse of the "First Dynasty of Babylon" (Yoffee 1977a). This analysis is not made from the vantage point of the kings and leaves us no better informed about potentially "crucial" battles, alliances, and the like. It does, however, allow a detailed look at a particular set of bureaucratic "microcosms" (Fallers 1974:Chap. 1) and illuminates some aspects of the relationship between the local community and the Old Babylonian crown.

The evidence gleaned from a close examination of several ranks of offices indicates that these offices were created or greatly expanded after the time of Samsuiluna. In other words, if we may trust our present sample, it seems that as the political strength and territory of the Old Babylonian dynasty waned, the number of bureaucratic offices expanded and the administrative system became more articulated. This apparent contradiction may be explained as follows.

After the period of petty city-states and shifting balanced coalitions following the fall of the "Third Dynasty of Ur," central and southern Babylonia were politically and economically unified by Hammurabi. Economic policies were vigorously regulated by the crown in Babylon, often by the king himself. The organs of administration were centralized to an unprecedented degree for this dynasty, and vast quantities of subjugated land were bound to the Babylonian crown regardless of their tenure prior to the Babylonian conquest. Local political authority was bypassed in conquered areas, although Hammurabi was careful to follow certain patterns of legitimate interaction by issuing "law codes" and legal "reforms" in the attempt to portray Babylonian domination as quintessentially just. With its grandiose sentiments glorifying the infinite justice of the monarch and the assurance of unparalleled prosperity under his rule, the famous law code of Hammurabi served, if nothing else, as a piece of political propaganda designed to win the hearts and minds of the citizens of formerly autonomous city-states. This system of management greatly enriched the capital—vast building projects and waterway constructions were thereby funded—but was debilitating in the extreme to the subject territories and could be maintained only at great cost to the royal administration. In short order the constituent pieces of this so-called empire were able to assert their own independence from the Babylonian menace, and the capital was reduced to being only the centerpiece of its prior core area.

With the loss of these conquered territories and the revenues accruing from taxation and tribute at the end of the reign of Samsuiluna, the power of the crown grew progressively weaker

(dependent as it was on those revenues). In order to maintain many of the royal functions of power, however, the crown resorted to an intensification of certain practices within its diminished purview. First the crown recruited many new officials into the bureaucracy and created new ranks for them. Many of these new bureaucrats appear to have come from mid- to upper-level elites of the community who had certain connections to resources embedded in local organizations that the crown wished to mobilize. Some of these officials were charged with recruiting seasonal agricultural harvesters from the community, each hiring being accompanied by the notarization of the local "headman" or some other prominent local figure. One of the prime responsibilities of these new officials was to intensify the administration of the royal estates. Lacking adequate revenues to support a permanent staff of clients, however, the crown had to hire outside labor from the community. Given great latitude of action, these new officials were soon able to make hereditary possessions of their offices and thus further cut into the crown's control over its agricultural base.

Along with the increased demands of the crown for agricultural resources that liberated territories were no longer supplying came the devastation of a fragile ecological situation. The greater pressures for increased output of grain from diminished land holdings seem to have entailed the abandonment of alternate fallow seasons and, to telescope a complex feedback network, to have accelerated trends that resulted in serious salinization (Gibson 1974). This process may be inferred from textually derived observations of reduced amounts of grain produced per unit of land and concomitantly increased prices toward the end of the Old Babylonian period. Probably one reason for the proliferation of officials at this time was the desperate attempt by the crown to administer poorer lands even more intensively, which only resulted in aggravating the problem.

In the latter part of the period the crown also acted frequently as a credit institution, in order to acquire resources that its own estates were no longer supplying and to regulate market prices to its own ends. Crown loan documents show increasing use of phrases stating that the crown reserved the right to demand payment of the loan before the note reached maturity, but with a loss in interest. This was not a "happy discovery" of how to make note collection more flexible in the last part of the Old Babylonian period (Edzard 1970), but a sign of serious fiscal instability.

As traditional social values were breaking down in conjunction with the decrease in the crown's economic influence, the socioeconomic functions of the temple organizations became more important. Certain texts (R. Harris 1960) show the temple loaning silver and grain for profit to pious, infirm worshippers who would pay back the note when cured by the loaning deity. Occurring only at the end of the Old Babylonian period, this practice is in marked contrast to those earlier in the period, when certain prerogatives (mainly judicial ones) of the temple were arrogated by the increasing power of the crown (R. Harris 1961, 1968).

The depleted resources of the crown rendered the rulers little more than figureheads, increasingly dependent on goods and services that were controlled by various traditionally ascribed and local groups. Finally, when the state was formally overthrown by a marauding Hittite army, the locally recruited bureaucracy simply reverted to the position of a locally based aristocracy. The institutional framework of the political system collapsed, and as Adams' surveys indicate, the urban manifestation of the system was similarly reduced from a nucleated pattern to a more even distribution of smaller settlements (Adams 1965:54; Adams and Nissen 1972:39). The Kassites, who succeeded to power, were an ethnolinguistic group whose origin and role within and without Old Babylonian society are still unclear, but they were at any rate non-Babylonian (see Brinkman 1968, 1976). Their leadership structure was apparently not greatly differentiated from their ascribed local units, and as such the society of this time has been popularly termed "tribal" (Brinkman 1972:280). Nevertheless, interactions over time between the Kassites and other traditionally organized groups in Mesopotamia resulted in new political forms and the reemergence of the Babylonian state.

Collapse in the latter part of the Old Babylonian period does not seem to have taken place as a result of successful outside competition, since both Hittites and Kassites only exploited internal weakness. Nor was collapse the result of the failure to adapt to an environmental change; en-

vironmental degradation must be seen as part and parcel of the political decision-making process, in this case one element in a deviation-counteracting feedback system. Collapse was due rather to the failure to integrate the traditional, locally autonomous controls within and among city-states within the larger sociopolitical organization. Eisenstadt (1963) has shown that stability is achieved in such complex social systems when a balance is struck between autonomous groups, which are partly controlling their own goods and services, and the state, which is attempting to structure these resources as "free-floating," that is, not confined exclusively within the orbit of each local group. In the latter part of the Old Babylonian period, "collapse" occurs when this balance is not achieved, local groups break away from state control and assert their own autonomy, and political controls are established in a less centrally integrated community.

Greenwood describes in similar fashion the ability of "peasant-state systems . . . to operate under an amazing variety of environmental, technical, social, political, and cultural conditions" (1974:1). These lower order controls are able to survive crises of the political center and the collapse of successive governments, yet maintain their own productive systems and generally take care of themselves. Such controls form the basis for any complex socioeconomic system and are able to adapt to various configurations of the political center.

Herbert Simon maintains that complex systems tend to be hierarchically organized, that is, "a system is composed of interrelated subsystems, each of the latter being, in turn, hierarchic in structure until we reach some lowest level of elementary subsystem" (1965:64). Social systems clearly consist of such complex hierarchies: governmental hierarchies, town hierarchies, community hierarchies, family hierarchies, and so forth. Further, Simon proposes the concept of "near-decomposability." By this he means that the various subsystems all have a potential for mutual influence on a hierarchical basis, but that "intra-component linkages are generally stronger than inter-component linkages" (1965:72). The implications of this statement are that when the bonds among hierarchical levels are vertically weak, the bonds holding subsystems together will be horizontally stronger. In the situation of collapse in Old Babylonian times, this principle has convincing explanatory power. The state loses the means to hold the various subsystems together, but the lower levels of the society do not tend to disintegrate. The bonds that hold these local groups together at lower hierarchical levels in time of collapse, however, also work to resist integration of these groups within larger systems. We shall examine these forces of resistance when discussing the rise of Mesopotamian states.

IN THE MATTER OF THE SOCIAL COMPLEXITY

Definition, according to the epigram quoted from Mills at the beginning of this paper, ought to turn the argument from the terms themselves to matters of substance. However, most discussions of the rise and fall of civilizations and states have either consisted in barren academic exercises in defining absolute terms or simply employed these terms without bothering to specify their meaning. In both cases matters of substance have remained unstructured and research programs have been bereft of guiding principles. In this section I propose to devote a brief discussion to the terms "civilization" and "state," not in the belief that I can discover immutable meanings for these words, but rather because some "precising" definition (Copi 1972:110, 121) must be given them before I can proceed with a consideration of the development of social complexity. I shall also include in this section an abbreviated critique of the two leading camps of evolutionist thought, which are split over the question of the principal dynamic mechanism that produces complex societies.

It is generally conceded that complex social systems differ from primitive ones essentially in the amount and nature of social differentiation (e.g., Parsons 1964). Complex societies have institutionalized subsystems that perform diverse and overlapping functions for their individual members and that are organized as relatively specific and semiautonomous entities (Shils 1975; Eisenstadt 1964). Further differentiation leads to problems of social order and to a functional need for generalized centers of political and economic administration. In less complex societies, major social roles are allocated on an ascriptive basis and division of labor is based on family and kinship units. In complex societies a central authority develops in order to integrate relatively

autonomous subsystems within the contours of a larger institutionalized system. This central authority is structurally different from the ascriptive subsystem forming the societal periphery (Shils 1975) in that its members are recruited on the basis of their competence, not by reason of some ascriptive status, and their roles as part of the center are differentiated from their other social roles, especially kinship roles.

Fried has described this type of complex differentiated system as the "organization of society on a supra-kin basis" (1960:728). So succinctly stated, however, the concept of a central authority in a stratified society remains imprecise. The entire social system is not organized without kinship rules; the ruling dynasty of the centralized political structure may in fact constitute a royal lineage, but the remaining members of the center will not be chosen by virtue of their ascribed relationships to that lineage. In any event, kinship ties that characterize the periphery (local communities) do not disappear. The emergence of a center depends on its ability to express the legitimacy of differentiated social elements, acting through a generalized structure of authority by which it transcends the various societal components and gives an order to the stratification of those components. It is this centralized authority that I wish to designate as the "state." The type of differentiated society in which the state itself is embedded, and for which it symbolizes and institutionalizes social order through its offices of authority, may be usefully denominated a "civilization." The entities are thus coeval, but they are not coterminous. These "precising" definitions are important for our inquiries concerning sociopolitical development and denouement, since they require that the internal structure and activities of the political center, the state, be kept analytically distinct from an appreciation of the role of the center within the larger societal entity, the civilization. The primary functions of the state consist in storing and transmitting resources and information and making certain decisions that affect all the members of the society (Wright 1977a). The development of these functions will be the major concern in tracing the rise of the state.

A brief review of some of the recent literature on the nature of the state will be in order now to highlight the utility of the above definitions. The state has often been taken as easier to deal with than civilization. Flannery, for example, considers civilization to be "vague and ambiguous" and as just "a complex of cultural phenomena which tends to occur with the particular form of sociopolitical organization known as the state" (Flannery 1972:400). The state, then, turns out to be a

> very strong, usually highly centralized government, with a professional ruling class, largely divorced from the bonds of kinship which characterize simpler societies. . . . The state attempts to maintain a monopoly of force, and is characterized by true law; almost any crime may be considered a crime against the state, in which punishment is meted out according to codified procedures. . . . States usually have populations numbering *at least* into the hundreds of thousands (and often millions) (1972:403–404; my emphasis).

These typically phrased characteristics of the state are misleading, however, in that they do not rigorously delimit as analytical units the structure and function of government mechanisms as distinct from the powers and rights of the lower hierarchical levels in society with which the governmental authority must interact.

Bonds of kinship, strictly speaking, still do exist within the highest as well as other levels of highly centralized political societies. The argument that kinship ties attenuate in a complex urban environment seems derived from the "Chicago school" of sociology and anthropology (e.g., Wirth 1938, but going at least as far back as Ibn Khaldun); however, it does not seem universally and atemporally valid (for one striking example, see Lloyd et al. 1967). We have seen in the Old Babylonian period an instance in which the state had to deal with local headmen representing community interests in order to hire seasonal laborers to harvest crown lands. Also in this period there is evidence that groups of related people lived together in Mesopotamian cities and that provisions were allocated to them according to particular social units (Yoffee 1976, 1978). It is the absence of ascribed ties binding bureaucrats to the state that is of importance in understanding social networks in civilizations, not the presence or absence of kinship as a distinctive feature. Furthermore, decision-making elites may exist within subsystemic organizations throughout com-

plex societies and are not restricted to the governmental stratum alone. State and nonstate distinctions within a civilization cannot isolate *the* "ruling class," and "civilization" is not characterized by a monolithic administrative machinery.

"True, codified law" and monopoly of force are among the most common features catalogued as the minimum attributes of the state. A typical comment by Service is that

> the state is backed by the force pertaining to its complete legal edifice, even if every law does not say so . . . . We must declare that the power of force in addition to the power of authority is the essential ingredient of "stateness" (1975:15).

Flannery states summarily that "the state attempts to maintain a monopoly of force" (1972:404), while Fried seems to make a subtle distinction: "The state must establish and maintain sovereignty, which may be considered the identification and monopoly of *paramount* control over a population and an area" (Fried 1967:237, my emphasis).

As justification for resorting to the concrete situation in Mesopotamia, it seems evident that these statements on "true, codified law" are drawn from that area, and Mesopotamian law is rightly regarded as the best documented among the legal manifestations of archaic civilizations. However, Mesopotamian "law codes" (and quintessentially the code of Hammurabi) are not abstract legal formulations, being neither enforced nor even referred to in the hundreds of legal documents roughly contemporaneous with them (Finkelstein 1961; Landsberger 1939). One may indeed cull useful information on the nature of sociolegal activity in Mesopotamia by examining the cases depicted in "codes," but only by viewing these cases as idealizations of justice to be measured against actual attestations of jural behavior. By no means did the state have a monopoly on law and force. There were areas of legal behavior firmly closed to the state's intervention, in which local groups maintained their own legal powers. The state's manipulation of law and force largely focused on intergroup disputes and on certain activities which affected all citizens (for an example see Yoffee 1977a:57–60). The state, then, is not distinguished by the establishment of "true law" or by maintenance of a "monopoly of force." Fried's use of the term "paramount control" seems more apt. Perhaps the distinction between the state's application of law and force and the jurisdictions of local systems can be better described by referring to the state's "ultimate authority" (in matters pertaining to conflicts beyond the scope of local systems). We therefore reject the recent evolutionist statements that purport to have determined the appearance of the first state in Mesopotamia and elsewhere (Johnson 1975; Marcus 1976) by ascribing to those states grotesque, near-totalitarian control of production, exchange, and law.

The important questions in the matter of the rise of the state, then, do not pertain to the absolute establishment of law and force, but to the process of, and need for, the development of decision-making and information-manipulating functions that crosscut and overarch the entire social fabric. Evolutionists seem divided, and indeed often divide themselves (Service 1975, 1978), into two camps over the mechanisms that produce states. As a backdrop for considering the process of state development in Mesopotamia, it will be useful to review this dispute.

On the one side, Service (1975) and perhaps Rathje (1971) see the origin of civilization as contingent on the perceived *benefits* of good leadership. In times of danger from "nomadic raiding bands of predators" (Service 1975:299), scarcity of resources (Rathje 1971), and the like, the enlightened, theocratic leadership in chiefdoms provides self-evident "blessings," "strengthening the coherence of a collectivity by making plain to its members the benefits of being part of it" (Service 1975:294, 298). No *coercive* force is employed in the institutionalization of leadership patterns, and indeed for Service, "civilization" is intermediate between the beneficent chiefdom and the coercive state (1975:305). The state is "a repressive institution based on secular force" (1975:306), and only when the "immense benefits" of a centralized redistributional system characteristic of chiefdoms become "evident" do "*social* inequalities . . . probably result" (1975:285), and states arise. In chiefdoms there are no serious socioeconomic differences, and "stratification" is thus "mainly of two classes, the governors and the governed—political strata, not strata of ownership groups" (1975:285).

On the other side, for "coercion theory" (or "conflicts theory"), Fried (1960, 1967; also Witt-

fogel 1957; Carneiro 1970, among others) sees stratified society developing *before* the existence of the state. In fact, the state evolves consequentially in order "to support the order of stratification" (Fried 1960:728). Once stratification exists, "the cause of stateship is implicit and the actual formation of the state is begun" (Fried 1967:185). Mechanisms (often put as prime causes) considered as leading to stratification are (variously) population pressure on circumscribed land, the necessity for managing scarce water resources, or simply endemic warfare. All these lead to differential access to basic resources, economic power, and finally political control by the superrich/victors.

Obviously there are some agendas being fulfilled in these two camps that are not totally of a dispassionate scholarly nature (whatever that is). Most theories describing the rise of the state seem to designate one or the other set of forces as *the* dynamic factor that accounts for social change. This polarization has had serious consequences for the building of research programs, which tend at present only to attempt to justify a particular set of biases. In place of rigid adherence to either a conflicts or a benefits model, it is imperative that a dialectical approach be formulated in which both forces are dynamic parts of the whole pattern of social change.

Service's interpretation of benefits (or consensus) theory states that power structures institutionalize egalitarian exchange principles and that the economic interests of the governors are essentially complementary with the interests of the governed. This theory, however, cannot account for the rise of repressive, economically riven states from beneficent, redistributive chiefdoms except under reductionist and mentalistic assumptions: everyone is at first merry with his prosperity, whether governor or governed, until the system's benefits become so large that the governors decide to hog the goodies. *Amor pecuniae radix malorum est.*

Conflicts theory, in contrast, tends to be highly deterministic, since the state is seen as the inevitable product of nascent stratification (Fried 1967:226). No account is taken of the fact that the problem posed by stratification may also lead to the breakdown of the system (Eisenstadt 1964:384). The theory also involves the untenable assumption that a single power organizes all of the society; as we have argued, in complex societies subsystems aspire to their own functional autonomy and are at least partly independent of other parts of the whole. Finally, conflicts theory does not adequately show that the outcome of conflict is the establishment of a new system, and thereby does not imply that there are some mechanisms of conflict resolution (Eisenstadt with Curelaru 1976:255–259).

In dealing with social change, then, we need to recast these analytically restrictive models into one that treats patterns of both conflict and consensus. Internal differentiation within a social system entails a "ubiquity of conflict" (Eisenstadt with Curelaru 1976:369–371), since dominant sociopolitical goals are never accepted by all the constituents of the system. Differentiation may also require solidarity and integrity of the system as a whole, however, since institutions of the center do develop to cut across social divisions in order to form a single collectivity, a societal community. Thus, ubiquity of conflict results in a partial, "consensual" resolution of conflict whereby a legitimization of the order of differentiated subsystems and their goals is at least partly achieved (Parsons 1964).

Having made clear what I mean by the terms "state" and "civilization" and having presented arguments for the utility of these "precising" definitions, I shall now turn to a consideration of the rise of the state in Mesopotamia. This examination will attempt to illustrate how differentiation in power and in access to scarce resources includes not only the conflict among and within differentiated groups, but also the possibility of mutual solidarity and the legitimization of the complex pattern of stratification. Having then concluded that brief appraisal of certain developmental processes leading to sociopolitical differentiation in Mesopotamia, I shall return in the concluding section of this paper to a more generalized inquiry into the appropriateness of the organismic, evolutionist model for studying sociocultural change.

HIERARCHICAL COMPOSITION: OBSERVATIONS ON THE RISE OF THE STATE IN MESOPOTAMIA

Although written documents have existed from slightly prior to the advent of the third millen-

nium B.C. (level IVa in the Eanna precinct at Uruk), intelligible records can first be meaningfully concatenated and analyzed toward the end of the "Early Dynastic" period (ca. 2500 B.C.). Many of these texts report on the activities of temple estates, and for years it was believed that in the early part of the third millennium the temple dominated the Mesopotamian economy and directed the organization of society (Falkenstein 1954; Frankfort 1948). It has now been convincingly shown that this assessment was grounded on a biased sample, since most texts recovered had in fact come from temple archives. Enough documentation now exists to demonstrate that large manorial organizations and strong community controls in the form of local councils were by no means dependent on temple management (Gelb 1969; Diakonoff 1969). City-princes possessed their own land, which was in part acquired through the purchase of entire "family-estates," the emerging "crown" probably incorporating the whole family organizations as clients, then "ceding" them back their land in return for permanent service (Diakonoff 1954; Steinkeller 1977). The growing power of these city-princes was aimed mainly at the vast resources of the temples, since the rulers attempted to depict themselves as the legitimate representatives of the deities and thereby to mobilize resources from the temple estates. In this they were not entirely successful, and the priesthood was often able to assert an autonomous status (Maekawa 1973–1974).

At this time, then, in the mid-third millennium, the basic functions of the state can first be observed. The state mediated among the various social segments in areas of dispute (there are actually few court records from this time; cf. Edzard 1968; Krecher 1974), recruited members of local organizations into its army and managerial bureaucracy, represented all social components in times of external conflict, and issued propaganda by which it conveyed the message that unparalleled justice and prosperity would be secured through its good works. Socioeconomic powers and resources traditionally maintained by the temples and other local organizations with their own elite systems of management were not, however, given over completely to it. The state, rather, performed integrative functions that expedited the flow of matter, energy, and "information" (goods, services, and specialized knowledge) throughout the differentiated body politic. Thus, within culturally legitimated forms of action, the state could garner power and resources from competing subsystemic organizations and redirect these toward the perceived well-being and glory of the entire community.

By tracing the twin developments of internal differentiation and the emergence of an integrative institution that legitimizes and mediates among the normative and conflicting structures of that differentiation, we may provide the outline for understanding the process of the "rise of the state." Since we have already pointed out that nascent stratification does not necessarily result in the institutionalization of a new social order with a center-periphery structure (but may also lead to societal decomposition into a less differentiated form), we must then specify the conditions under which trends toward differentiation find these very different resolutions, one of which is the state. However, such a specification of the regularities and variations of social change remains at this time a research goal rather than an operational procedure. I shall be content in this section to critically examine the assumptions under which the process of state development has been commonly analyzed and to make a few tentative suggestions for the directions of future research.

Steward (1955; see above), following Wittfogel and certain Mesopotamian specialists, forcefully propounded the theory, so influential in anthropology, that a theocratic ruling class performed the first society-wide managerial functions in the early Mesopotamian economy; from this class of theocratic leaders evolved the "multicommunity state" (cf. Service, above, on the benefits of theocratic leadership). Recently, Netting (1972) and Wheatley (1971) have provided an explanatory mechanism for this process whereby religious specialists achieve secular authority. Netting in particular has produced several elegant ethnographic examples showing that in times of stress, such as in periods of population growth, the religious leadership, already invested with much sacral power transcending local and kin ties, may extend its moral authority into areas of dispute settlement, direction of trade, and so forth. In Flannery's terms this is an example of a "promotion," an institution arising "out of what was simply one role of a previously existing institution" (1972:413). The implication of this explanation is that in acephalous societies temples

were the first institutions to supply community-wide leadership and socioeconomic integration. Both Netting and Wheatley have also suggested that this process may have occurred during the development of the first archaic states.

Rappaport has propounded a comprehensive evolutionist scheme to account for the role and process of theocratic leadership. He contends that (1) the idea of the religious is implicit in the mother-infant relationship, then (2) as "human intelligence perhaps evolved toward selfishness" (Dawkins [1976] says all life begins with selfishness), (3) religious institutions provided checks on special interests, (4) only in the end to be degraded by secular power and to become an instrument of its authority (1971:31, 32, 33, 41).

Although from all these views there may be derived an admirable explanation for the development and importance of early temples in Mesopotamia (in material terms, the magnificent temple structures of late prehistoric periods, and in historic terms, the well-documented role of the temple-estates in third millennium city-states), I contend that the process of socioeconomic differentiation is neither first nor solely resolved by sacral institutions. I have already indicated that temples were not the only integrative institutions in early third millennium society, and I shall now try to show that they were not the only ones in prehistoric times either.

The first edifice interpreted by its excavators as a religious structure is a large multiroomed building at Tell es-Sawwan (on the east bank of the Tigris, about 110 km north of Baghdad) in level 1 dating to the "Samarra period," ca. 5500 B.C. In one room a niche was found in the center of a northern wall, and "below this niche was discovered a most striking alabaster statuette of a 'mother-goddess' " (el-Wailly and Abu es-Soof 1965:20). Also striking is the patterning of burials found beneath the floor of this structure. Infant burials outnumber adolescent and adult burials about two to one, and adult burials occur only in a block of rooms on the southwest side of the structure. With one of the adult burials was interred a remarkable (for this early time) collection of "six statuettes; eight plates, flasks and bowls; a rabbit figurine; a shell ring; a ground stone celt; a bone needle; turquoise and dentalia beads" (el-Wailly and Abu es-Soof 1965:25). The northern block of rooms, containing only infant burials, is relatively inaccessible, with a single external entrance situated at the end of a long corridor and internal access only indirectly gained. The appearance of these graves indicates that "this is no ordinary cemetery" (Oates 1973:170). Relatively little pottery was found in either building of this level, and apparently no household goods were recovered.

A full range of domestic animals was recovered from Sawwan (Flannery and Wheeler 1967:182), and "some sort of irrigation was practiced" (Helbaek 1964:47), the first instance of artificial irrigation on the Mesopotamian plain. A defensive ditch some 2.5 m wide and 3 m deep, with a buttressed wall and containing sling balls, nearly encircles part of the level 3 site. Sawwan is also larger than villages of earlier periods (Oates 1973:169). Judging from the use of irrigation for agriculture, evidence of intermittent conflict, the procurement of distant resources for use as luxury items, and possible increase in or at least nucleation of population, we may safely infer that greater amounts of "information" were being organized and circulated through the social system at this time than at earlier periods.

Since temples are not just religious centers but are also centers of considerable economic force, and since, according to the above arguments, they may have been the first institutions to coordinate the flow of information on a scale beyond that of individual social units, this remarkable structure "at the unique site of Tell es-Sawwan" (Oates and Oates 1976:105) has been considered a temple. However, cemeteries are not a typical feature of Mesopotamian temples, while burials in private houses are very well attested. In the same level at Sawwan, a structure even larger than this "temple" was recovered, though apparently without such spectacular finds (perhaps due to the incomplete excavation and/or reporting of the nature of this building). Additional data from contemporary sites are therefore needed in order for the "anomalous" finds at Sawwan to be placed in a more clearly understood context.

Roughly contemporary with the later levels of Sawwan is the site of Arpachiyah, which is to the north, just outside of the walls of Nineveh. The excavations there lasted just one year, but turned up remarkable architectural finds and spectacularly distinctive Halaf pottery. Indeed, the excavators

postulated that the site was the center of specialized pottery production for the larger, nearby city of Nineveh (Mallowan and Rose 1935:5–6). In level TT6 in the center of the site was a large house with long, narrow rooms, all thoroughly burned. In it were recovered large amounts of "the finest prehistoric pottery ever found," amounts of red ochre, "palettes for mixing . . . paint, and bone implements for trimming and burnishing . . . clay" (Oates and Oates 1976:106). The structure has thus been dubbed the "potter's workshop." Also found in the structure, however, are stone vases, jewelry, "cult figurines and amulets," and "thousands of cores and chips" (Mallowan and Rose 1935:17). Several kilns were also found near this large, centrally located structure.

On the assumption that a craft specialist would not be the occupant of such an imposing structure, an alternate interpretation for the significance of the "potter's workshop" may be proposed, one that will better account for the high-status materials found in it. Perhaps this structure was the dwelling of a person (or persons) who had access to various raw materials and controlled the manufacture and distribution of high-quality ceramics. This explanation would account not only for the pottery and the tools of production, but also for the location and size of the structure and elite items recovered in it. This elite status, unlikely to have been associated with full-time craft specialization, may well have characterized persons who controlled access to, and presided over, the distribution of valuable products. Long series of storehouses found in sites of about this same and succeeding periods and not associated with religious architecture at Umm Dabaghiyah and Gawra seem to point to redistribution systems not connected to sacral authority.

In the succeeding Ubaid and Uruk periods, well-documented and long-lived series of temples are found, the last of which are enormous edifices that required massive investments of labor and managerial expertise. For these periods, however, little except these temple precincts has been excavated. In summary, then, it may be concluded that both the important religious institutions and the large manorial estates that appear in the early historic period have a discernible prehistory. Early Mesopotamian societies were demonstrably not "organized economically around the temples of gods" (contra Rappaport 1971:36). The process whereby sacral leadership extended its powers beyond its moral authority may surely be seen as one of the results of the stress that was produced by unequal access to resources and that required more efficient circulation of information throughout the social system. This stress was only resolved in part by temples in the case of Mesopotamia, however, and no linear process from temple organization to secular power will adequately explain the complexity of the ethnoarchaeological record.

Recently archaeologists have conducted surveys in Mesopotamia with the intent of approaching the identification and measurement of social complexity in regional terms. Thus, Adams and his colleagues (Adams 1965, 1973; Adams and Nissen 1972) have sought to describe gross spatial and temporal trends of prehistoric demographic patterns by demarcating site-size hierarchies. Gregory Johnson's central-place studies (1972, 1973, 1975) have emphasized the importance of local exchange and decision-making systems, but inexplicably seem to assume that the state controls local exchange (see also Wright 1977b: 386) and that its existence can therefore be determined when a three-tiered settlement system is identified. These locational studies are of great value in perceiving the regional structure of exchange networks, but they can hardly be said to inform on the systemic interplay of the economic, religious, and administrative institutions that constitute complex sociopolitical organizations. The particular contour (Crumley 1976) or number of tiers of a hierarchical system of settlement location, even given the meager data and circularity of interpretation used to identify tiers, may mark the internal bonding of an exchange system among sites, but in and of themselves these do not constitute proof of "state-level" organization. In the history of archaeological theory, it seems a regressive step to set as a goal the identification of the exact date of the origin of the state (Wright 1977b:389), and to work toward "a definition of civilization which would draw the line between civilization and noncivilization" at some moment in the evolutionary process (Lamberg-Karlovsky and Sabloff 1974:2). Typological identification and seriation of artifacts and social forms in the material record are not the goals of modern archaeological enterprise.

The rise of Mesopotamian civilization may perhaps best be regarded as the outcome of a pro-

cess whereby (what may be called) "centripetal" forces brought together, for purposes of increasingly efficient information flow, various autonomous and internally differentiated local groups. Factors to be reckoned as increasing the load of information to be processed throughout growing social organizations include: the flow of scarce resources over long-distance networks of communication, expanded irrigation systems and the stored wealth accruing from increased agricultural output, the local exchange of goods and services arising in part as an adaptation to the fluidity of movement between agriculturalists and pastoralists, and the endemic competition over access to land and to the networks of communication. Inequalities certainly existed in the distribution of material items, but just as important were the inequalities in access to the information needed to order their circulation.

Large, redistributive estates, both of temples and of extended families, partly met the need for storing and transmitting information, goods, and services. These redistributive organizations, however, did not encompass the entire fabric of society. Marketing principles in which goods and services were channeled from areas of high supply to areas of high demand were certainly operative (Larsen 1974; Yoffee 1977a; Lamberg-Karlovsky 1975). It was the need to coordinate various amounts and kinds of matter and information among the diversified Mesopotamian socioeconomic units that militated for the growth of permanent cross-cutting networks of exchange and information. Initially, the state was a large redistributive estate, like temple and community manorial estates, but it was invested with the expanded integrative authority needed to mobilize resources from other social subsystems. Along with the "centripetal" forces working to integrate disparate socioeconomic interests, however, there were also "centrifugal" forces that resisted full social integration and tended to preserve semiautonomous elements with their own authorities and jurisdictions. If the state did not maintain the balance between the goods and services that could be mobilized from locally organized units and those that remained properly embedded within them, then instability, disintegration, and even environmental degradation were the likely results.

MODELS OF SOCIAL STABILITY AND CHANGE

It has not been my intention to focus on the particulars of the rise and fall of Mesopotamian civilization, but to use the Mesopotamian case as an illustration of the problems in employing evolutionist theory and taxonomy. Specifically, I have asked whether a close examination of the archaeological and ethnoarchaeological record supports any linear divisions into "wholly new kinds of overall integration" (Steward), and whether such levels and stages can adequately account for observed differences in social configurations.

Although developmental schemes were expressed before Darwin (e.g., Compte, Marx, Spencer) and Tylor denied that his ideas derived from either Darwin or Spencer, it is clear that the modern evolutionists draw heavily on biological and paleobiological theory in constructing their own notions of social development. Furthermore, this analogy is propounded by biologists as well as anthropologists (Huxley 1956; Cavalli-Sforza 1971, 1975; Alland 1967; Sahlins 1960; Mead 1964; plus the entire *corpus sociobiologicum*, e.g., Dawkins 1976; Wilson 1975). The argument has two components. The more general one, which cannot be taken up here at length, is the basic sociobiological position. This states not only that humans are part of biological evolution, but also that genetic behavior finally goes a long way toward explaining mental and social as well as somatic and morphological human development. Dawkins, for example, explains incest taboos as "presumably concerned with the injurious effects of recessive genes which appear with inbreeding. (For some reason many anthropologists do not like the explanation)" (Dawkins 1976:107). Among the anthropologists indicated is Marshall Sahlins (1976), whose past credentials as a cultural evolutionist are impeccable. Sahlins points out that under Dawkins' view, the deleterious effects of inbreeding must be perceived by the breeders to account for these taboos. Likewise he argues that the doctrine of "inclusive fitness" (Hamilton 1964; Alexander 1971), so rigorously confined to "relations of marriage and filiation" (van den Berghe and Barash

1977:810), fails to deal with the fact that human kinship is clearly not limited to genotypic relations. Sweet notes that

> kinship . . . has nothing to do with biological relationships and everything to do with the formation of political and social alliances between groups—the allocation of special roles, property, and so on. . . . Lineages are not biological lines; they are political groups. . . . Political relationships are the significant factors in determining where genes flow (1975:670).

Altruism and selfishness may well be *metaphors* for social selectivity, but they cannot be explained by appeals to the genetic well-being of the individual so well as they can by theories of social behavior. Genetics obviously conditions certain aspects of human behavior, and this is not in dispute. Genetics, however, cannot be used to predict social behavior except in the most reductionist and tautological perspective.

The second line of argument maintains that cultural evolutionism is a special type of evolution (and therefore, in Huxley's term, is still *sub specie evolutionis*). Thus, Mead (1964:154) and Cavalli-Sforza (1971:540; 1975:131–133) have sought to compare genes, biological mutations and statistical fluctuations in gene frequencies, and even drift with, respectively, ideas, the randomness of inventions, and finite population sizes within which cultural transmission is thought to exist. Dawkins, following in the wake of these workers, has recently proposed that although biology cannot explain social evolution, Darwinism is larger than genetics. Genes are not the only replicators, and in fact among humans a new kind of evolution is taking over from genes. Dawkins dubs the new replicators "memes" (because they are imitators), which may be thought of approximately as cultural institutions or even ideas. These memes have the attributes of an "evolutionarily stable strategy" (also see Prigogine et al. 1972:40), by which Dawkins means that they selfishly "exploit their cultural environment to their own advantage" (Dawkins 1976:213). If most members of a population adopt that strategy, it cannot be replaced by an alternate strategy (1976:74). Sociocultural systems, like genetic systems, are thus limiting, and the law of the survival of the fittest is really just a special case of the law of the survival of the stable (see again Prigogine et al. 1972).

Now evolutionary change, however gradual or rapid, occurs in a biologically homeostatic environment (in which genetic variability provides for continued existence of a population in a potentially variable environment [Wallace 1970; Odum 1969:104]). Through a change in gene frequencies, according to the principles of natural selection, mutation, drift, and so on, a more successful replicator will be represented in progeny at an even higher rate until it supersedes the previous type. Each improvement finally reaches its own limit and becomes stabilized. Not all evolutionary changes, however, have a survival value in the phenotype of an organism. Neutral mutations that are the result of random genetic changes have no effect on fitness and are therefore not subject to the forces of selection and adaptation (King and Jukes 1969; Lerner and Libby 1976:111–114). Not all evolutionary changes, therefore, are adaptive (some are obviously deleterious), but all adaptive changes are evolutionary changes (Wallace and Srb 1964:3).

"Progress" in human evolution, though nonpurposive, may nevertheless be said to consist in broadening the specificity of adaptation, that is, in the better adjustment of life to a variety of conditions and the exploitation of a greater variety of environmental resources (Huxley 1956:4; Simpson 1949:251). Likewise, evolutionary "improvement" in culture is taken to lie in "progressively greater differentiation free[ing] the cybernetically higher factors from the narrow specifics of the lower-order conditioning factors, thus enabling the basic pattern of the cultural system to become more generalized, objectified, and stabilized" (Parsons 1966:112). In general, then, sociocultural evolution is considered the "process of increasing differentiation and complexity of organization which endows the organism, social system or whatever the unit in question may be, with greater capacity to adapt to its environment so that it is in some sense more autonomous relative to its environment than were its less complex ancestors" (Bellah 1964:358).

Of course the general theory of biological evolution and the place of humans in it is about as

open to question as the Copernican theory that the earth revolves around the sun. It would be a mistake, however, for archaeologists to assume that all biologists and paleobiologists agree on the description of macroevolutionary patterns and microevolutionary processes (Ricklefs 1978). The major controversies seem to be over whether evolution should be conceived of as being in steady-state—gradualistic, morphological changes within a phylogenetic line—or whether evolutionary change should be modeled as episodic and speciational. The school following the latter view (mainly composed of paleontologists) sees transition between these "punctuated equilibria" as caused by such forces as drift (especially the "founder effect"), in which local selective pressures operate on a shielded sample of the gene pool, which is then favored by changing environmental conditions. (This division is reminiscent of the image of the "ramp and step" division used by some archaeologists in describing sociocultural evolution [Braidwood and Willey 1962:351]). Yet another trend in modeling evolutionary morphology through random, stochastic procedures even suggests that evolutionary patterns can be explained largely without recourse to the principles of natural selection (Raup 1977).

Most important of all the analogies sociocultural evolutionists have drawn from the biological sciences is the technical concept of adaptation. Rappaport is most succinct on the subject. "Adaptation," he writes,

> refer[s] to the process by which organisms or groups of organisms maintain homeostasis in and among themselves in the face of both short-term environmental fluctuations and long-term changes in the composition and structure of their environments. Homeostasis . . . is a set of goal ranges . . . we take to be vital or indispensable conditions of the systems under consideration (1971:23–24).

Homeostatic adaptations, then, are very much akin, in biological terms, to Dawkins' "evolutionarily stable strategy" or Huxley's "stabilized improvements," and, in paleobiological terms, to "punctuated equilibria." Social evolution would be represented by a series of successive dominant types, be they gradually or episodically developed, each representing a more effective exploitation of the possibilities of its environment.

The biological diversity of types can be taxonomically ordered so that the type-members can be inductively classified on the basis of their relationships (Simpson 1961:9). From this classification, further individuals may be deductively placed according to their class. The assumptions of classification are that taxonomic "types" have content, that this content is imposed by evolutionary processes, and that the classification is predictive. Although variation may well exist at the intra- as well as the interspecific level, "types" are useful abstractions that can be determined by explicit and replicable numerical methods. Thus, "natural classes" exist in the evolutionary record and can reveal evolutionary phenomena to the researcher (Mayr 1969). Evolutionary taxonomy, moreover, is and must be phylogenetic; that is, it classifies genetic differences between units and represents all the major genetic aspects in which units differ (Rao 1971:19). Evolutionary comparison, then, is based on the relative fixities of internal genetic linkages within organismic units and the relative differences of internal linkages between units, which thus allow the formation of "natural classes." Comparison is also homologous since these natural classes can be traced to a common origin. In sociocultural terms homeostatic adaptations have been likewise classified into "natural classes," ranking from logically and demonstrably less complex social forms to more complex ones.

The prime assumption behind the principle of homeostatic social adaptations is that societies are functionally successful entities: if societies were not maintaining themselves in their environments, they would be extinct. These functional interpretations deal with change, then, in a quasi-Newtonian manner: organizational systems remain at a state of rest until they are disturbed by changing external circumstances. In this view there are *no* internal sources of stress: "societies tend to resist change" (Hill 1977:75), and "processes that result in systemic change for all systems are and must be initiated by extra-systemic variables" (Saxe 1977:116), which are by their very nature unpredictable (Plog 1977:55).

This ultra-functionalist interpretation of change clearly derives from the biological principle

which holds that selection depends on the production of fitter/more stable specimens by adaptation to changing external conditions (e.g., Prigogine et al. 1972). It specifically rejects continuous, internal processes of change that have no recourse to changing exogenic factors, and it denies the possibility of various amounts and independent rates of change of linked subsystemic parts. Here the labels "evolutionist" and "functionalist" have reached a parallax view. Functionalism, in its classical formulation (e.g., Firth 1951:86; Murdock 1949:199–200; Merton 1949:42), has always regarded change as due to the resolution of unfulfilled "needs," which brings the system to a new equilibrium. By focusing on dysfunctions within a system, functionalism presumes to assess not only the bases of social stability within a system, but also the potential sources of change (Nisbet 1970:194). Evolutionism, therefore, is more functional than functionalism, for evolutionists hold that *all* social adaptations are elegantly homeostatic so long as external variables are held relatively constant. "Catastrophe theory," propounded recently as a new evolutionist explanation for social change (Renfrew 1978; Zeeman 1976), and purporting to show that under the right conditions small inputs may result in massive outputs that rapidly shift the system from one level of homeostatic equilibrium to another (lower or higher), can really be described as part of the "new functionalism."

Since I see the appraisal of internal mechanisms of change and the measurement of subsystemic differentiation and integration as the important issues in the comparison and analysis of evolutionary developments, I conclude that the evolutionist model is at best nonuniversalistic and at worst theoretically sterile. (Functionalist models are certainly no better, since they share the same notions of homeostatic equilibrium and fail additionally to deal with changing external conditions in either a signal-response or ecological feedback pattern.) However, since the evolutionist model has been appealed to as *the* generalizing, fundamental cross-cultural tool of anthropology (Sahlins), I want to examine the purported scientific utility of this perspective. Then I shall recapitulate my reasons for stating that the evolutionist model of homeostatic cultural adaptations is inappropriate for gauging the process of sociocultural change. I shall lastly attempt to outline the dimensions of a "growth model" which, I believe, can be fruitful in dealing with the evolution of complex sociocultural entities in sociocultural terms. This model will not reject pertinent biological constraints on human behavior nor will it refrain from using specific analogical or metaphorical suggestions for the explanations themselves. The model will not be dependent, however, on any genetic formulation for understanding regularity and variation in sociocultural systems.

The "scientific utility" of evolutionist logic has been manifested primarily in the drawing up of attribute lists designed to identify and seriate sociocultural adaptations in the material and ethnographic record (e.g., Carneiro 1968; Adams 1960:154). None of these lists, whether devised according to a Guttman scale or simply grouping attributes into chiefdom-state types, has been either absolutely or heuristically successful, for the differences in sociocultural entities are not whole differences, and the appearance of one trait, or set of traits, does not necessarily signal a totally new and different sociocultural form. Evolutionist classification must treat subsystemic linkages as fixed within classes and different between them. It further assumes that parallels of form and function can be explained by the operation of identical causal processes. Both these positions can be examined with reference to three very brief (but hopefully representative) examples.

In one notable study, Talcott Parsons (1966) divides "primitive societies" (including "advanced primitive" ones) from "intermediate societies" according to the development of written language (Buccellati [1977] has proposed a similar distinction). While the importance of writing is undeniable, especially as an information-processing mechanism, the construction of evolutionary stages on the basis of its presence or absence tends to prevent comparison of meaningful elements of similarity between societies. Thus, Adams (1966) has shown certain developmental parallels exist between Aztec and Mesopotamian states, although the former did not possess writing and the latter did. Advancing the presence or absence of one trait (or set of traits) as demarcating developmental levels, it may perhaps be argued, is an egregious case of promoting one particular

subsystemic variable as the defining characteristic of the whole system, and has in fact been little used since the time of Childe. Nonetheless, this particular example can be cited as representing the evolutionist position that certain hallmark differences denote an entire set of necessarily allied structural changes. For example, writing systems for Parsons symbolize a watershed between societies in which there is little differentiation between social and cultural systems and societies in which the range and power of cultural systems is far removed from the context of social relationships (Parsons 1966:26–27). Without pausing to debate the merits of Parsons' specific example, I do think he has captured the logic of the evolutionist approach to perceiving holistic sociocultural change.

Casting socioeconomic functions as strictly linear and hierarchical has also created a taxonomic trap for social anthropologists and archaeologists concerned with the rise of the state. The oft-cited evolutionist correlation of sociopolitical stages with Polanyi's (1957) classification of dominant modes of exchange and their sequence from reciprocal, to redistributive, to market forms provides a striking illustration. In this scheme redistribution is identified with chiefdoms, markets with the states (Fried 1967; Service 1975; Cohen and Schlegel 1968; many others). This somewhat simplistic reading of Polanyi, however, again fails to take into consideration the relation of order between superstructure and infrastructure and fails to account for the dynamic interrelationship among the various modes of exchange. In complex societies redistribution may exist in temple estates, in large manorial estates, and in palace estates; in acephalous societies, goods are circulated from areas of high supply to areas of high demand according to market principles; and reciprocal exchanges exist in all societies on all levels of social strata. Exclusive adherence to evolutionist taxonomy thus can be shown to prevent a proper cross-cultural examination of exchange systems by effectively denying that there can be similarities of economic mode between social systems of differing complexity.

As a last example I want to show how archaeologists have applied stage-level nomenclature as a reductionist device to flesh out the material sample. A great deal of energy has been spent in trying to ascertain whether given sociocultural stages represent "chiefdoms" or "states." Sanders (1974) considers the former social form, for example, to be indicated in Kaminaljuyu, where the labor spent on the construction of the leader's residential platform in Arenal times appears more intensive than in Verbena times (both divisions of the Terminal Formative), but still much less intensive than the labor spent on the Arenal main temple. This point is salient, since according to Sanders, a chief cannot amass significant levels of manpower for his own residence (1974:109). A deemphasis of the funerary cult into Aurora and Amatle I times (Early Classic and Middle Classic), however, along with "a much higher degree of centralization of construction activities," leads Sanders to "very tentatively suggest that the shift from a chiefdom to a state level of organization did occur between Arenal and Aurora times, that the process was completed by Amatle I" (1974:111). As a guide, then, Sanders uses "the scale and sophistication of civic buildings as a measure of chiefdom or state levels of political organization" (1974:109). Among Mesoamericanists the argument also rages over whether the existence of massive stone heads should indicate a chiefdom (Sanders and Price 1968:122) or a state (Coe 1962:82). The purpose of such typing seems designed to make possible the extrapolation from a trait or single characteristic of a whole congeries of sociocultural functions thought to characterize a type—*no matter that these may be completely unindicated in the material record* or that functions vary exceedingly among ethnographically described representatives of a type. Thus archaeological reconstructions of the evolutionist stages of the rise of civilization have sometimes read less like science than science fiction.

To recapitulate, this paper has criticized the use of social evolutionist theory and taxonomy by archaeologists on two grounds. First, the analogy with biological evolution is inappropriate, since sociocultural change is not discrete and limited to jumps in homeostatic adaptations depending on responses to external conditions. In studying sociocultural change we need an open network of methodological principles, the practical application of which remains extremely complex. The very act of categorization into stages has tended to make researchers ignore the necessity of ex-

ploring subsystemic variability within "stages" and similarities of sociocultural variability across stages.

Second, evolutionist theory has not been made operational in the field but has been used simply as a shortcut for posing real problems on the nature of the differences between complex and simpler forms of sociopolitical integration. The attraction of evolutionism for archaeologists has presumably proceeded from its apparent focus on change, its simplicity, and its claim to be scientific, drawing on the prestige of Darwin's theory by aping organismic models. Modern archaeologists do not construct research problems that focus on the recovery of splendid artifacts from the primitive past, but rather try to contribute some modicum to the understanding of social change. If modern archaeologists are to deal with the rise of civilization, they must start by giving up the apparently sanctified goal of identifying some ideal type in the material record (is it or is it not a chiefdom?) and also undertake to study social process.

The study of prehistoric social change in my view must be broader than Steward's multilinear evolution and more specific than White's general evolution. In the first instance, the cross-cultural study of prehistoric change should not be limited to particular adaptations, since regularities of hierarchical structure, balance between local and overarching authority, access to scarce resources, and socioeconomic inequality transcend particular environments and are subject to a broad, comparative, analytical framework. The principles of equifinality state that very different initial conditions and trajectories may still yield overall comparable ends (Bertalanffy 1968:79). Particular data are unique, but the circumstances determining their existence (networks of exchange, decision-making functions, etc.) and the processual nature of their development do not have a particular provenience.

In the second instance, I agree that general evolution is a positive reaction to certain historical schools of analysis, but not that it is consonant with the objectives of an empirically based science. Emphasizing real before-and-after relationships, it should be underscored, does not signal a retreat to historicism. Instead, it stresses the goal of comparison as the study of processual, not typological, phenomena.

In employing a "growth model" to account for regularity and variation in the evolution from simpler to complex societies, I refer to what Bronson (1975:75) has termed the "subliminal model" that has already united a number of researchers studying sociocultural change. In this model—subliminal because there is no explicit banner under which these researchers flock—change is not characterized by stable, "genetic" limitations that need to be overcome, but rather is constant, unstable, and operates within open systems. *In other words, this model differs from that of evolutionism in that it does not deal exclusively with homeostatic systems, denies that all change is extrasystemic in its origin, does not classify types so that relations are fixed within a type, and does not predict a "normal" or "true" developmental trajectory of types.* Principles of decomposability are utilized in this model to show how social forms have been composed as well as how they have collapsed. The doctrine of evolutionary irreversibility is here totally inapplicable, since further evolution can proceed after decomposition and within the same social series. Whereas typologies of evolutionism leave no room for internal change and innovation and segregate variables related in a fixed but unspecified manner within types, growth models attempt to discover what the relationships are among variables. In this perspective the goals of comparative classification are to establish a set of analytical categories from which regularities and variations in the process of change can be determined. Explanation will then attempt to discover these regular, predictable relationships among social as well as environmental variables and to postulate mechanisms for change and stability in their values.

In using the term "growth," I specifically refer to the study of what I consider to be an inherent tendency toward change in post-Pleistocene societies. By focusing on post-Pleistocene probabilities we may turn our attention to subjects of social differentiation and integration, "man-man" as well as "man-land" relationships. If "new archaeology" is indeed construed as the study of "man-land" relationships (see Hill 1977; Plog 1977; Binford 1964:440-"changes in

the ecological setting of any given [sociocultural] system are the prime causative situations activating processes of cultural change"), then I suggest we must move to the "newer archaeology." This archaeology will continue the commendable practice of reconstructing ecological situations but will consider change as potentially arising from internal as well as external stress. Indeed, I suspect that the evolutionist paradigm followed by "new archaeologists" is not so much erroneous as it is provincial. For those studying paleolithic and early neolithic societies, including agriculturalists of the American Southwest, changes in environment certainly appear critical in assessing reasons for social change. For those researching the nature of social change in complex societies, however, the importance of environmental variables is diminished, and these workers ought not be bound by the preoccupations of those examining simpler societies. The adequacy of various models of change must be evaluated according to the kinds of data examined and the questions being asked.

In post-Pleistocene situations, given the favorable combination of the amelioration of climate, specific biological evolution, and long-term knowledge of domesticable flora and fauna, there was a certain tendency toward growth in both a demographic and social sense (not necessarily at a constant rate nor subject to identical and universal causative processes) that cannot be explained by homeostatic, nongrowth models. Evolutionary growth models that focus on internal as well as external factors, however, can be proposed in order to ascertain the reasons for increasing social differentiation and integration in complex societies, and to find ways for measuring these in the archaeological record.

"Differentiation . . . describes the ways through which . . . the major institutional spheres of society become dissociated from one another, attached to specialized collectivities and roles, and organized in relatively specific and autonomous symbolic and organizational frameworks within the confines of the same institutionalized system" (Eisenstadt 1964:376). Increasing units (and amounts) of societal differentiation within the same institutionalized system, however, must be related to one another through a number of subsystems that integrate the various forces of production and of legal interaction in order to ensure the continued existence of the organization. If the basic problems posed by increasing differentiation are not resolved by progressive integration, the amount of differentiation will be reduced, and the society either will remain in a kind of homeostatis, will involute (Geertz 1963), or will disintegrate. Examples of these abound in the archaeological and ethnographic records and can be explained in terms of the ecological and societal constraints placed on the system. If differentiation is resolved by progressive integration, social evolution proceeds in the direction of sociocultural complexity. This complexity, however, may not ultimately be equated with greater flexibility in dealing with the environment. Indeed, Rappaport (1978) has recently argued that more highly differentiated cultural systems eventually may mask higher degrees of maladaptation.

Amounts of differentiation and integration are neither environmentally nor technologically determined. Similar environments do not produce similar divisions of labor and social relations, nor do social systems respond to environments in a challenge-and-response pattern (e.g., impoverished environments do not necessarily stimulate the development of long-distance trading systems). Likewise, different sociocultural forms co-exist within the same technoenvironment and change occurs differentially within cultures with similar technologies (Friedman 1974). Since environmental and technological predeterminations do not exist for the construction of complex societies, only empirical examination of the modes and degrees of social growth and complexity will yield explanations of the regularities in social change and stability.

These regularities can be subsumed under the systemic principle stating that integration varies directly with differentiation. This principle is not a "law," for increasingly differentiated societies do in fact disintegrate before they centralize. This disintegration of societies can be often explained (in the absence of genuine catastrophes) as occurring when the constant internal pressure (demands for surplus) to support social differentiation overshoots the capacity of the system of production of that society (cf. Culbert 1977). Thus, with apologies to Romer's Rule, by

trying to stay the same, societies collapse. In situations of societal growth, however, the internal dynamics of differentiation do not come into contradiction with productive capacity (Friedman 1974), or indeed, the process of increasing internal differentiation may create new capacities. Understanding this process requires an emendation of Boserup-type principles, for an increase in productive capacity (resulting from the pressure to support an internally differentiated society) usually leads to population growth. In an exemplification of a deviation-amplifying feedback system, population growth then serves as a factor in further differentiation. This is not the reverse of Boserup's hypothesis (which basically refuses to treat productive capacity as an autonomous variable [Netting 1974:37]), but it is an argument against regarding the intensification of productive systems as unicausal. In this growth model, the process of the intensification of production is placed within the logic of internally dynamic social forces.

Degrees of social differentiation and integration have been, and can be, gauged in the archaeological record. In general, differentiation refers to the unequal arrangement of goods and services within and among social groups. Units of differentiation can be placed on both vertical and horizontal scales. Vertical differentiation refers specifically to the uneven distribution of the conditions of existence, and it results in stratification that can be measured (in familiar, material terms) within the whole society as well as within social components. Horizontal, or radial, differentiation refers to the uneven distribution of people in relation to one another (Black 1976). This differentiation can be observed in the morphology of residence groups within settlements and in the morphology of settlements that interact systemically. Integration can be measured by the scope and strength of social controls. These controls integrate sections within subsystemic units as well as the congeries of those units. Such controls are represented by temples, palaces, public symbols of various sorts (e.g., law codes, stelae, and other types of cultural propaganda). Integration further represents the development of internally specialized decision-making systems that regulate the exchange of goods, services, and information among the various societal components. Thus complex societies differ from other societies not only in the number of differentiated societal parts, but also in the fact that in simpler societies those constituent parts are basically self-regulating, and decision-making functions are not generalized and constant. The state (see discussion of definition above) is an internally specialized decision-making subsystem (i.e., with a bureaucracy) with the power to mobilize certain resources that are not totally embedded within the various societal components.

Although the particulars of measuring social complexity are matters of empirical research, the work of describing the particular *processes* of development and collapse of differentiated and integrated societies clearly necessitates a generalizing perspective. In such an orientation the goals of research are not to identify fossilized natural classes, but rather to deal with a series of sociocultural variables, which are seen as analytical categories, and which can be combined and recombined into numerous societal constellations (Schneider 1965:78). Merton has quoted Whitehead to the effect that sciences in their infancy create grand evolutionary schemes that are ambitiously profound in their aims but trivial in their handling of details (Merton 1949:7). Sociocultural evolutionism, in my view, has failed to explain the crystallization of any specific types of complex social groups, any divisions of labor, or any means of integration. I have tried to suggest that more modest goals of explaining the mechanisms of progressive differentiation and integration within models of growth, and explaining the relationship of these societal forces to the forces of production, are more consonant with archaeological priorities and means. Of course, it will not be easy to measure the variables relevant to these goals, much less their complex articulation. But at least by changing our research objectives from types to variables, we can begin to structure hypotheses to account for the conditions of macrosocietal development and collapse. These principles of regularity in sociocultural change, and an appreciation of the variability with which change and stability take place, constitute a more productive vision of sociocultural evolution and give new meaning to that most valid of anthropological objectives, "controlled comparison" (Eggan 1954). Thus, analogical, comparative study and generalization based on similarity of socioeconomic form and function make irrelevant any attempt at "genetic" classification.

As anthropologists we owe the evolutionists great respect for helping to move the study of

developmental change to the center of our discipline. Having acknowledged our debt, as archaeologists we can now move toward assessing that change. The model of evolutionism in its very comprehensiveness has tended to bury the complexities of development under the single-minded goal of establishing an all-encompassing regularity, a teleology without a god. That model has done little to advance our understanding of social change and has offered only an untestable dogma saying that fossilized, but once harmonious, social systems are out there and only await identification and seriation. "Middle range" models (Merton 1949; Bronson 1975), on the other hand, dealing with the differential flow of goods, services, and information and the institutions that rise to regulate them, can go far toward disentangling a few strands in the web of relationships leading to social inequality and cross-cutting social institutions. Darwin thought it curious that it was more difficult to see what his problems were than actually to solve them, but this is quite natural. It has also taken archaeologists a long time to see what the problems are and, as importantly, what they are not. Our solutions, however, may take even longer.

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