

Economy, Ritual, and Power in 'Ubaid Mesopotamia

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Editors' Introduction: In this paper Stein argues that in trying to understand the cultures of the 'Ubaid period of the late 6th to 5th millennia B.C., the chiefdom continues to have utility as a model for early forms of administrative organization with formal leadership positions. However, the elements of the Mesopotamian 'Ubaid societies that he sees as critical for understanding social complexity are not those traits or patterns usually associated with the classic Melanesian or Mesoamerican models of chiefly society: warfare, long-distance trade of exotic goods as markers of status, exaggerated symbolization of social ranking, and unstable political structures. Such behaviors are clearly documented in the archaeological record only at the very end of the 1500 year long 'Ubaid period on the eve of state formation, as described by Wright in this volume.

Stein proposes that the means of a group's attainment of chiefly status and chiefly authority can vary greatly; for this reason, the apparent lack of prestige goods in 'Ubaid Mesopotamia does not indicate the absence of chiefly rank. He suggests that D'Altroy and Earle's distinction between wealth finance and staple finance as strategies of surplus mobilization may explain some of the apparently anomalous aspects of 'Ubaid political and economic organization. In this alternative model, he argues that the chiefly elites of small scale, irrigation-based 'Ubaid polities used inclusive ideologies emphasizing group membership through a strategy of ritually mobilized staple finance instead of overtly hierarchical principles.

Most archaeologists studying pre-state groups in the Near East have shied away from using the concept of chiefdom either as an evolutionary stage or as a dynamic descriptive model for specific societies. To a large extent, this reluctance stemmed from the realization that the earliest complex societies in the Near East simply did not conform to the redistributive model postulated by Service (1962) in his original characterization of chiefdoms. However, two main developments argue for a reconsideration of this position. First, most researchers have jettisoned the redistribution concept altogether in favor of a model which sees chiefdoms as complex societies in which chiefs mobilized food surpluses from commoners, but gave them few or no material goods in return. Instead, the only "redistribution" taking place in these groups was in the form of prestige goods, badges of rank, and limited food supplies given by the chiefs to a restricted circle of lower ranking elites in order to reward them, validate their status, and reinforce the political hierarchy (Earle 1977, Steponaitis 1978). In the second, related develop-

ment, researchers have eschewed the earlier, more typological perspective on chiefdoms in favor of a more flexible approach that recognizes a broad range of variation in the political, economic, and ideological makeup of chiefdoms as an organizational form less complex than that of the state (see e.g. Earle 1987a, 1989, 1991; Spencer 1987; Welch 1991; Wright 1984, this volume).

The earliest state societies in southern Mesopotamia formed during the Uruk period, ca. 3800-3100 B.C. However, the preceding 'Ubaid period (ca. 5500-3800 B.C.) remains poorly understood. Although researchers agree that this period sees the development of non-egalitarian societies in the Tigris-Euphrates alluvial zone, there continues to be much debate about the political and social structure of 'Ubaid society (Henrickson and Thuesen 1989). In this paper, I draw on a variety of published data to synthesize the evidence for 'Ubaid socio-political organization within the framework of a revised chiefdom model, in an attempt to clarify the interrelationship of economic organization, political

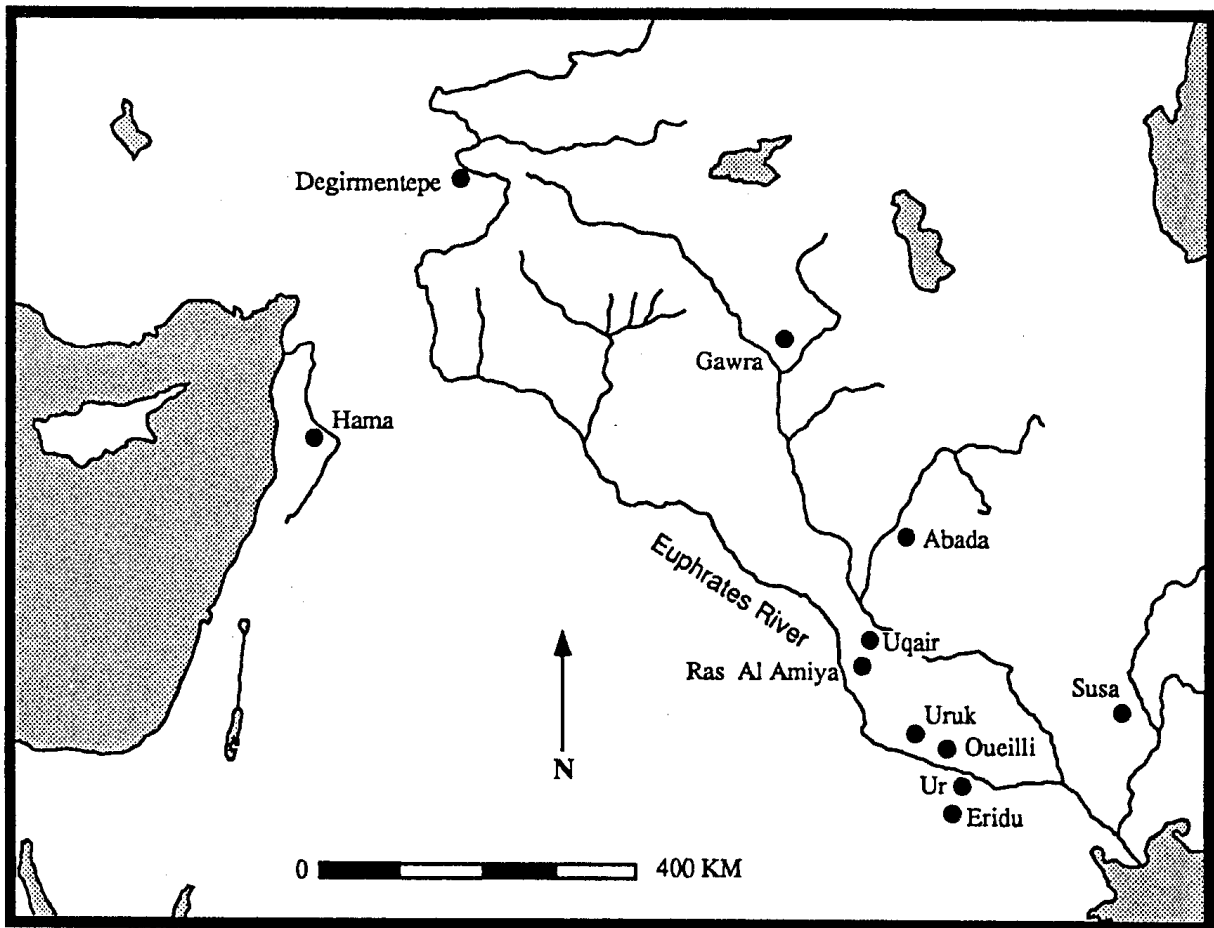


Figure 1. Major Ubaid Sites in Mesopotamia and Adjacent Areas.

leadership and ritual in sixth and fifth millennium Mesopotamia.

The 'Ubaid in Mesopotamia

The term "'Ubaid" refers to both a time period and a material culture assemblage which originated in southern Mesopotamia and lasted for more than 1500 years, from the mid sixth millennium to the early fourth millennium B.C. Although chronological problems abound, there is general agreement that the 'Ubaid period can be divided into 5 phases - 'Ubaid 1-4 (Oates 1960), and an initial period, called "'Ubaid 0", which is so far known only from the site of Tell Oueili in southern Iraq (Huot 1987, 1989).

The 'Ubaid period marks the earliest archaeologically documented sedentary occupation of the arid south Mesopotamian alluvium (Figure 1)(Adams 1981:54-55). In this area, cereal agriculture is only possible with the help of canal irrigation from the Euphrates, Tigris, and other major rivers. At Tell Oueili, the earliest known 'Ubaid site, floral and faunal remains attest to a well developed farming system

relying on oxen as draught animals for the cultivation of irrigated, salt tolerant crops such as barley (Huot 1989).

Due to the tremendous degree of alluviation in southern Mesopotamia, most of what we know about the 'Ubaid in this area derives from very limited exposures in deep soundings at sites such as Eridu and Oueili. This sampling problem severely limits the amount of available evidence, and hence the reliability of our interpretations of social and political organization for this period.

Fortunately, we know relatively more about the later phases ('Ubaid 2, 3 and 4) from both surveys and excavations at central Mesopotamian sites in the Hamrin area such as Abada, Maddhur, and Kheit Kassem (Oates 1983); in southern Mesopotamia at Eridu, Ur, al 'Ubaid, Uqair, and Ras al Amiya; and on the neighboring Susiana plain at sites such as Susa and Djaffarabad. During the 'Ubaid 3-4, many elements of the 'Ubaid assemblage appear for the first time in the dry farming zone of North Mesopotamia, most notably at the site of Tepe Gawra (Tobler 1950), and further northwest into parts of Anatolia .

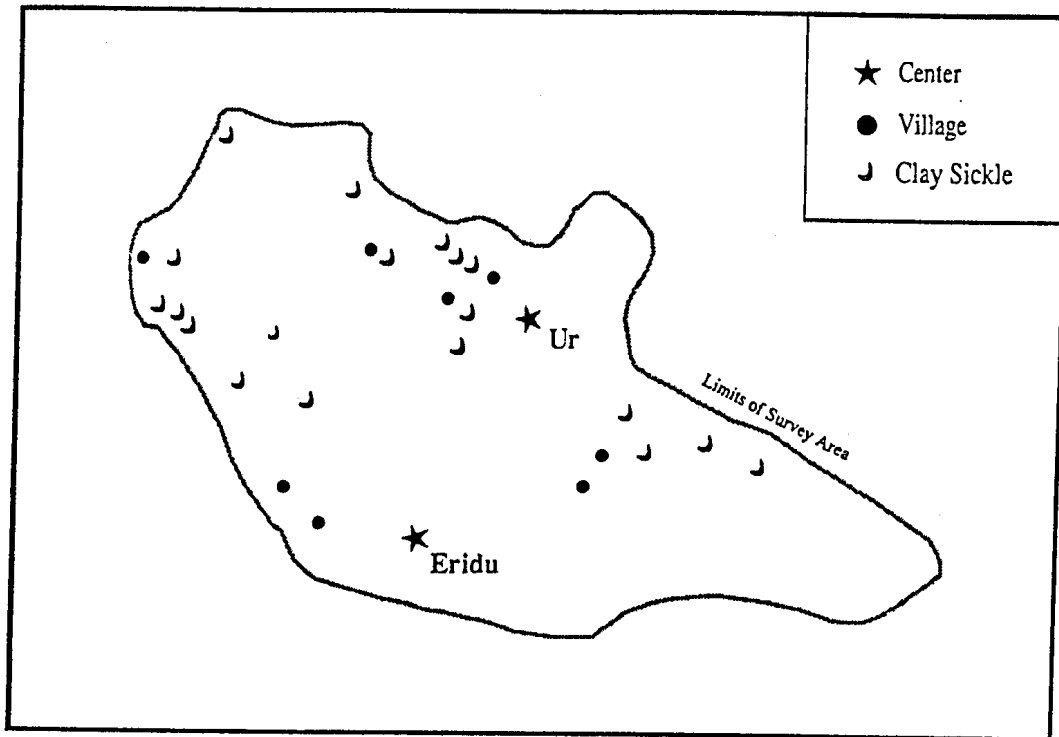


Figure 2. Ubaid Settlement Distribution in the Ur-Eridu Region, Southern Mesopotamia (redrawn from Wright 1981: Figure 17).

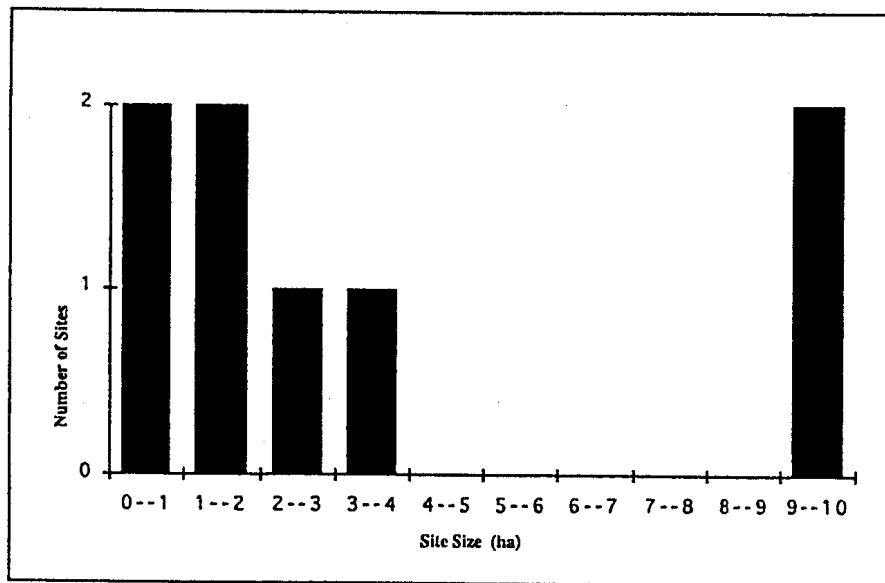


Figure 3. Histogram of Ubaid Site Size Distribution in the Ur-Eridu Region, Southern Mesopotamia (data from Wright 1981:338-345).

Similarly, in 'Ubaid 2-3, 'Ubaid ceramics spread south along the Arabian coast of the Persian Gulf (Oates et al. 1977).

The distinctive 'Ubaid material culture assemblage includes a widely distributed, uniform ceramic style (see Berman, this volume); bent clay "nails" or "mullers"; cone-head clay figurines; and clay sickles which continue with modifications into the later Uruk period (Wright and Pollock 1986:317-319). A major characteristic of 'Ubaid architecture is the

tripartite house form with a "T-shaped" or cruciform central room (Roaf 1984, Huot 1989).

Evidence for Complex Social Organization in 'Ubaid Mesopotamia

Several lines of evidence suggest the development of social complexity during the 'Ubaid period. First, at least as early as the 'Ubaid 2-3, south and central

Mesopotamia have a two level settlement pattern hierarchy consisting of a few large sites of 10 hectares or larger, and numerous small 1 hectare settlements (figures 2, 3). This division apparently corresponds to centers such as Eridu, Ur, or Uqair and clusters of surrounding, possibly subordinate village communities (Adams 1981:59; Jasim 1985:206; Wright 1981: 324-325; Wright and Pollock 1986:317).

Architecture and associated artifact distributions suggest economic differentiation between wealthier and poorer households, and the emergence of specific individuals in what looks like positions of leadership as early as the 'Ubaid 2-3 at the central Mesopotamian site of Tell Abada (Jasim 1985:202-203). Building A at

Abada, located in the center of the settlement (figure 4), is the largest house at the site, more than three times the size of the smallest houses. This house shows evidence for unique burial practices, high concentrations of stone artifacts such as maceheads, carved gypsum vessels, and stone palettes, and most significantly, administrative artifacts such as tokens and clay "proto-tablets" which are also found only in this structure (figure 5), (Jasim 1985:174). The persistence of this pattern of architectural and artifactual differentiation between building A and surrounding houses in all three occupation phases at Abada suggests that this economic cleavage may well have been inherited for several generations.

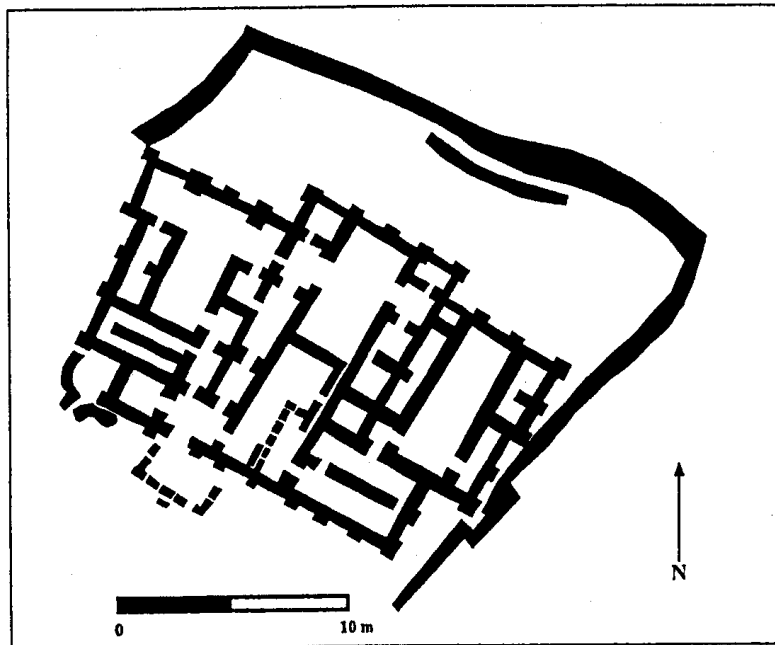


Figure 4. Tell Abada Building A (redrawn from Jasim 1985: figure 15).

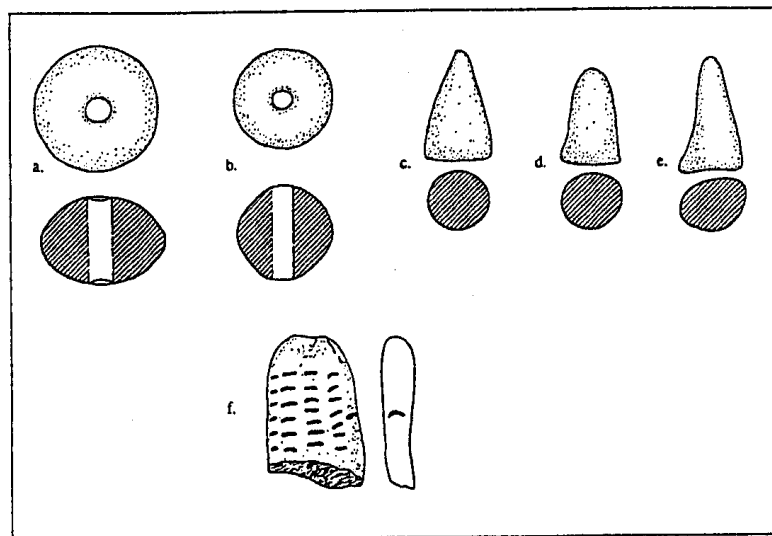


Figure 5. Tell Abada artifacts. a-b: maceheads; c-e: clay tokens; f: "proto-tablet" (redrawn from Jasim 1985: figures 67, 70, 85).

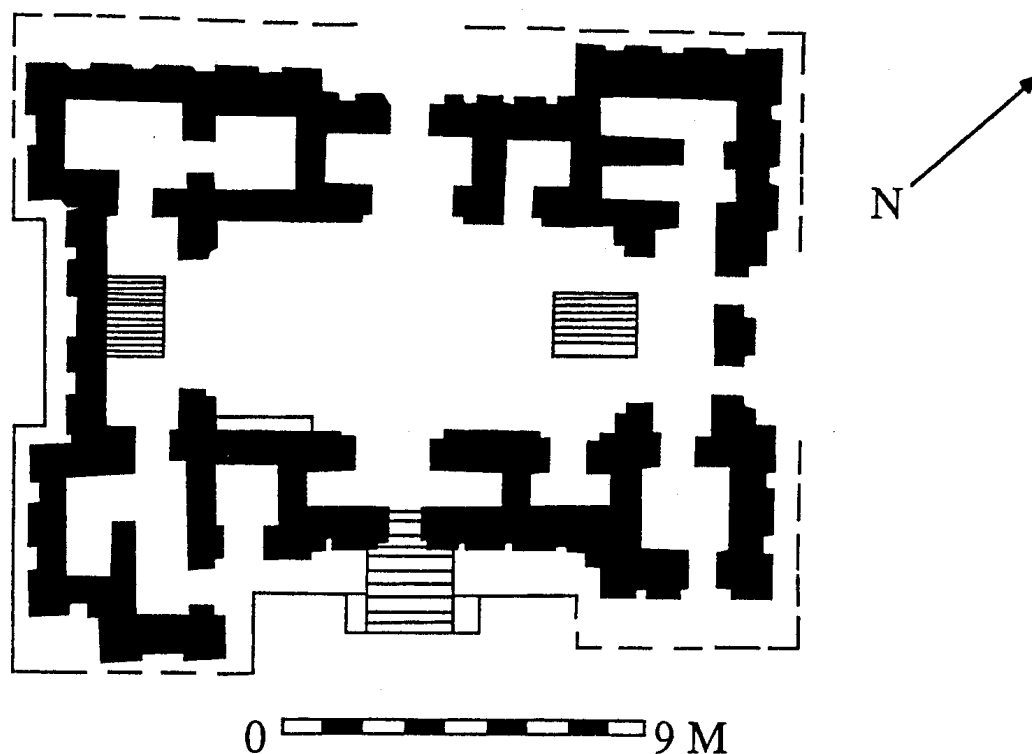


Figure 6. Eridu: Temple Seven (redrawn from Safar et al. 1981:88)

Most importantly for this discussion, the 'Ubaid period sees the earliest appearance in Mesopotamia of clearly ritual public architecture in the form of rectangular temples with their corners oriented to the cardinal points of the compass. The temples share a set of canonical architectural features such as altars, offering tables, niches, buttresses, and a tripartite, "long-room" ground plan (figure 6). Temples appear as early as 'Ubaid 1, becoming gradually larger and more elaborate over time - first at Eridu (Safar et al. 1981:86-114) and later at sites such as Warka (Schmidt 1974) and Tell Uqair (Lloyd and Safar 1943).

Based on this combination of locational, architectural, and artifactual evidence, researchers have suggested that a series of ideologically linked chiefdoms were present in many parts of Mesopotamia at this time (Wright 1984:68 and Wright, this volume).

Anomalous aspects of 'Ubaid Chiefdoms: "Where's the Chief?"

Despite this evidence for emerging social complexity, several aspects of the 'Ubaid seem at odds with the generally held model of chiefdom organization. In many Polynesian and American chiefdoms, political dynamics and chiefly strategies

of control often generate an archaeologically recognizable pattern of warfare (Carneiro 1981), long distance exchange of exotic goods as status markers (Flannery 1968), exaggerated symbolization of social ranking (Earle 1987a:290-291), and an unstable political system which cycles between consolidation and collapse (Wright 1984:50-51; Earle 1989:85-86). However, we see no evidence for any of these characteristics in 'Ubaid Mesopotamia until the very end of the fifth millennium at the site of Susa (Hole 1983, Wright 1984).

The first apparently anomalous aspect of the 'Ubaid is the great stability of the system; it lasts for 1500 years with only minor changes in settlement, subsistence, and material culture. Second, we have no evidence for warfare. In contrast with later periods, 'Ubaid seals show no depictions of weapons, prisoners, or combat scenes. Similarly, at no 'Ubaid site have we found any signs of fortifications or violent destruction. Third, mortuary data from hundreds of 'Ubaid burials at centers such as Eridu and Ur show no signs of chiefly burials or even pronounced elite-commoner differences (Wright and Pollock 1986:324-328). The iconographic evidence for chiefs is minimal, with the possible exception of a clay figurine from Eridu which depicts a nude male wearing a necklace and holding a mace or scepter (figure 7).

Finally, in mortuary, ritual, and domestic contexts there is a striking lack of evidence for exotic, rare, or high status trade goods. Copper is almost nonexistent in 'Ubaid sites, and only starts to appear with any frequency in the succeeding Uruk period. Lapis lazuli and gold are not found in Mesopotamia until almost a thousand years later. 'Ubaid sites also lack centrally produced, high status craft items.

Obviously, we have to be careful about arguments from absence, since 'Ubaid sites in southern Mesopotamia are so deeply buried that only limited exposures have been possible. However, after more than 60 years of excavation in southern Iraq at centers, villages, and cemeteries, the fact remains that there are virtually no exotic luxury items in 'Ubaid sites. Only at the end of the fifth millennium does this pattern show any signs of change, when the center of Susa provides evidence for violent destruction, political instability (Wright 1984:67 and this volume), a monumental platform and an elite cemetery with exotic copper artifacts (Hole 1983:67; Pollock 1990) and high status decorated ceramics (Berman 1987, Pollock 1983). However, it is important to note that these developments all take place at the tail end of the late 'Ubaid—ca. 4000-3800 B.C., immediately before the transition to state organization in the Uruk period (Wright 1984 and this volume). For the earlier 90 percent of the 'Ubaid period, evidence for warfare, exotic trade goods, and pronounced social stratification is completely lacking.

These apparently anomalous aspects of the 'Ubaid have led several researchers to question the appropriateness of the chiefdom as a model for Mesopotamian society in the late sixth and fifth millennia. Sabah Abboud Jasim, the excavator of Tell Abada, argues that the 'Ubaid differs from the generally accepted model of populous, warring theocratic chiefdoms. Instead, he views them as largely secular, small scale polities ruled by the heads of economically dominant local kin groups (Jasim 1985:213). Frank Hole suggests that it is far more useful to examine the *organizational milieu* of 'Ubaid society, rather than focusing in too narrowly on centralized chiefly control and regulation (Hole 1983:324).

Chiefdom Economies: Staple Finance and Wealth Distribution

In this paper, I outline an alternative model of 'Ubaid polities in an attempt to make sense of the available data within the more flexible framework of recent research on chiefdoms. I suggest that the connection between economic organization and ritual elaboration can account for the apparently anomalous

aspects of early complex societies in 'Ubaid Mesopotamia. Recent studies suggest that the economic bases for political power in chiefdoms fall into two general categories: staple finance and wealth distribution (D'Altroy and Earle 1985:188; Earle 1987a:294-296, Gilman 1987:22). Staple finance is the mobilization of surplus staples such as cereals to support the elite. Wealth distribution is the manufacture or procurement of special products such as craft goods or exotic materials. These are exchanged for staples and redistributed among the elites as badges of rank or rewards for service. (D'Altroy and Earle 1985:188). These economic strategies can function either independently or in combination (Gilman 1987:22). Each system carries with it a set of advantages and disadvantages.

Staple finance provides the simplest and most direct way to mobilize surpluses. However, the costs of bulk storage and transportation limit the effective size to which such systems can expand (D'Altroy and Earle 1985:188; Earle 1987b:68). Moreover, it is difficult for chiefdoms based on staple finance to expand or intensify production without resorting to some form of coercion (Gilman 1987:22). By contrast, chiefly elites relying on wealth distribution can rapidly expand their sphere of influence by establishing new channels for exchange. However, this high growth potential is matched by high risks and instability; wealth distribution systems are much more vulnerable to any kind of disruption in the exchange networks that provide the prestige goods needed to sustain the elite (Earle 1989:85; Gilman 1987:22). The high payoff/high risk nature of wealth distribution means that many chiefdoms based on this economic strategy developed into more complex states, while others cycled between periods of expansion and collapse (Earle 1987a:297; Gilman 1987:29).

In a polity dependent on wealth distribution, one would expect to see the following archaeologically detectable characteristics:

- a) exotic goods as markers of status in a prestige goods economy;
- b) centrally located attached specialists focusing on the production of prestige goods;
- c) pronounced differentiation of elites, especially through their emphasis on foreign connections as means of access to exotic knowledge and goods (Helms 1988), and
- d) higher levels of inter-regional competition and warfare.

Note that these aspects of wealth distribution are precisely the forms of evidence most commonly used by archaeologists to infer the presence of chiefdoms. Thus the *absence* of these kinds of archaeological data does not in itself preclude the existence of chiefdoms; it simply means that these polities did not pursue strategies of wealth finance. By contrast, a polity dependent on staple finance would lack prestige goods/wealth items, but might still be expected to have:

- a) economic differentiation;
- b) centralized storage facilities for staples;
- c) evidence for rural production of surpluses;
- d) either village-based craft production, or high proportions of local, as opposed to long-distance exchange;
- e) evidence for either ritual, kinship-based, or coercive modes of surplus mobilization.

The limited archaeological data from 'Ubaid Mesopotamia are consistent with virtually all of this latter set of archaeological indicators.

'Ubaid Mesopotamia: Ritual Mobilization of Staple Finance

I suggest that 'Ubaid Mesopotamia consisted of a series of small, localized chiefdoms based on staple finance. As I noted earlier, the 'Ubaid shows no signs of the trade goods, overt status markers, and warfare which typify a system of wealth distribution. Instead, the 'Ubaid is notable for the simultaneous emergence of 1) an irrigation-dependent farming system, 2) economic differentiation, 3) regional centralization, and 4) ritual elaboration. These characteristics closely conform with what one would expect to see in an elite economy based on staple finance.

How would such a system have functioned? Irrigation would have provided the basis for chiefly power, not through the administration of irrigation, but rather through economic control over the inputs of the system: water, land, and labor. In southern Mesopotamia, good agricultural land with access to irrigation water is a relatively scarce commodity which can be controlled by one individual and denied to others (Adams and Nissen 1972:91). The higher productivity of these lands can generate economic differentiation and the eventual formation of elites (Earle 1987a:295).

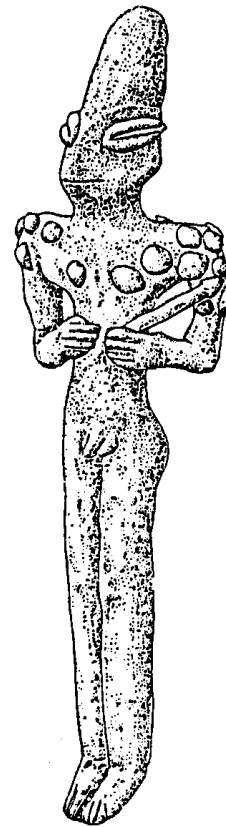


Figure 7. Eridu: Baked Clay Figurine of Male Holding a Mace or Scepter. (By permission of University of Texas Press and the British Museum.)

However, the control of land and water is meaningless unless one can mobilize the labor necessary for canal maintenance, sowing and harvesting. A number of studies have demonstrated that access to, and control over labor are critical factors for the emergence of social complexity (e.g. Feinman and Nicholas 1987; Webster 1990). Thus the ability to mobilize labor is often the major limiting factor on the growth of elites. Emergent elites generally draw on two main sources of labor—their immediate kin group (especially the household), and the broader social group in which they claim membership.

Immediate kin form the most critical labor pool. Ethnographers have noted a consistent correlation between family size, and household wealth (Bates 1973:96-97, Irons 1975:161-163; Kramer 1982:70). The fact that apparent indicators of wealth (e.g. unique and exotic goods such as maceheads, tokens, 'prototablets' and high quality polished stone vessels) are limited to the largest excavated houses at Tell Abada indicates that a similar correlation probably existed in 'Ubaid times as well. I suggest that economically differentiated 'Ubaid chiefly elites emerged from those large, geographically well-situated families who were able to mobilize consistently large supplies of agricultural labor through ties of kinship.

However, the prominence of temples in 'Ubaid society may well reflect a second, more important source of surplus labor and staples. Chiefs can enhance or extend their access to labor resources far beyond the limits of kinship through the manipulation of community organizations. To give an ethnographic example, the shaykh of the el Shabana tribe in modern southern Iraq reinforces his economic pre-eminence and political legitimacy through his control over the tribal *mudhif* (a combination of guest-house, community center, and administrative/judicial center.) The shaykh controls a large amount of land whose produce is theoretically allocated to the maintenance of the *mudhif*. In practice the shaykh contributes only a portion of the produce from this land to the communal *mudhif*, while keeping the remainder for himself (Fernea 1970:91). The shaykh is able to mobilize tribal labor to construct and maintain the *mudhif*, along with food surplus animals and grain for periodic tribal feasts (*ibid.*). In short, the shaykh of the el Shabana manipulates his sponsorship of the community *mudhif* in what is essentially a system of staple finance.

The ability to mobilize labor in this way presupposes the existence of a cohesive, bounded community with formal institutions whose ideological power crosscuts kin lines to extend over the entire community. 'Ubaid Mesopotamia would appear to meet these conditions. Hole (1989:175) argues convincingly that the appearance of large cemeteries in the fifth millennium at sites such as Eridu, Ur, and Susa imply the existence of a stable corporate community identity. Similarly, the widespread occurrence of temples in these communities is strong evidence for a broadly shared religious ideology associated with this bounded community. Within such a system, if 'Ubaid chiefs played an analogous role to that of the el Shabana sheikhs as priests or sponsors of local community temples, they would have been able to mobilize labor and food surpluses on a larger, regional scale, while at the same time gaining sacred validation for their own political position. An analogous situation exists in south India, where Hindu temples "provided the institutional context for the social mobilization of both low ranked caste groups...and incipient political elites" (Appadurai and Breckenridge 1976:189).

'Ubaid site locations in the southern margins of Sumer provide possible support for this model of linkages among irrigation agriculture, temple functions, and elite mobilization of agricultural surpluses. The Late 'Ubaid villages in the Ur and Eridu hinterlands are predominantly located on canals or other watercourses upstream from these temple towns, with each of the two settlement clusters farming a

cultivated zone estimated at 100 km², based on the distribution of clay sickles - a common diagnostic artifact of this period (Figure 2, see also Wright 1981:325). Thus, both clusters may well have been farming areas far in excess of the subsistence needs of their constituent villages—a pattern suggesting the production of large scale agricultural surpluses to support the centers. The location of these fields and villages upstream from their respective centers would have greatly facilitated the riverine transport of grain surpluses to Ur and Eridu. Boat models at sites such as Eridu (e.g. Safar et al 1981: fig.111) make it clear that the technology for water-transport of grain surpluses was present in 'Ubaid times. If, as the excavators have suggested (Huot 1989, 1992:192), the large cellular structure at Oueilli is in fact a granary, this would provide additional evidence for the centralized storage of grain surpluses in the late 'Ubaid. In short, site location, land use patterns, and architecture in southern Sumer are all consistent with a model of ritual mobilization of surplus cereals in an economy based on canal irrigation.

The ethnographic record provides numerous examples of this same strategy by which emerging elites use the control of ritual activities and the appropriation of sacred powers as a basis for economic and political centralization (Netting 1972:233). However, the proposed role of ritually based authority in no way dismisses ideology as merely a form of mystification in the Marxian sense (Miller and Tilley 1984:10-11). As Mann points out,

...knowledge purveyed by an ideological power movement necessary 'surpasses experience' (as Parsons put it). It cannot be totally tested by experience, and therein lies its distinctive power to persuade and dominate. But it need not be false; if it is, it is less likely to spread. People are not manipulated tools. And though ideologies always do contain legitimations of private interests and material domination, they are unlikely to attain a hold over people if they are merely this. Powerful ideologies are at least highly plausible in the conditions of the time, and they are genuinely adhered to (Mann 1984:23).

The 'plausibility' of chiefly authority as part of 'Ubaid religious ideology would presumably have been grounded in the temple's role in the agricultural cycle. In the arid, unpredictable, and constantly shifting marginal environment of southern Mesopotamia, temples could have provided a powerful buffer against the risk of subsistence failure,

by acting as agricultural 'banks', storing localized surpluses, and disbursing them when necessary to the supporting population. Adams (1981:244) has characterized the origins of Mesopotamian cities in the Uruk period as an adaptation to the problem of periodic, unpredictable shortages, through the role of these centers as concentration points for the storage of surpluses. This pattern of resource mobilization as both staple finance and a buffer against subsistence risk may well have had its roots in the earlier temple-towns of the 'Ubaid period.

By focusing on economic control over *local* resources, mobilized through ritual sanctification of authority, 'Ubaid chiefs would have avoided the instability inherent in polities whose political economies depend on wealth distribution of exotic trade goods. What we would see archaeologically as a result of this hypothesized strategy is a network of numerous small scale chiefdoms that exhibit tremendous stability over time.

Implications of the Model

Although unabashedly speculative, this model of 'Ubaid political economy is consistent with both the available archaeological evidence from Mesopotamia and with our current understanding of chiefdom organization in cross-cultural perspective. The hypothesized 'Ubaid reliance on ritually mobilized staple finance explains why we do not see the cult of prestige goods that would be present in polities which relied more heavily on wealth distribution as the basis for chiefly power. Similarly, the stability and limits to growth in chiefdoms based on staple finance are entirely consistent with the archaeological evidence for the persistence and localized focus of 'Ubaid polities.

Due to the importance of local, rather than exotic resources, continued chiefly access to rural surpluses would have depended on their ability to maintain local kin ties or residence-based affiliation with local temples. In such a case, the optimal strategy for chiefs would be to emphasize their group membership, while downplaying intra-group differentiation (see e.g. Renfrew 1974: 74; Earle 1989:86); this is the exact opposite of a chiefly strategy depending on wealth distribution. As Helms notes, political ideologies in chiefdoms often mediate rank and status differences by explicitly recognizing fundamental points of commonality that "link elites and commoners into a single political-ideological structure" (Helms 1981:222). An egalitarian facade of this sort helps explain the lack of conspicuous display of status differences, even when the evidence of house sizes and artifact inventories argues strongly for the exist-

tence of an economic elite. In emphasizing group ideologies, the 'Ubaid chiefs would have followed a pathway to power markedly different from the "aggrandizing" strategies of political leaders in Formative Mesoamerica (see e.g. Clark and Blake in press) In similar fashion, 'Ubaid elites could have downplayed or de-emphasized existing economic differences as a tactic aimed at maintaining an egalitarian ethic of shared group membership and ideology, since this was the most effective way to mobilize labor and surplus staples from commoners in the surrounding villages.

The remarkable stability and uniformity of 'Ubaid material culture in both time and space suggest that this was an extremely durable and adaptable ideology. Once established in southern and central Mesopotamia, many elements of this system were able to take root even outside the irrigation zone. At this point in the mid-late fifth millennium ('Ubaid 3-4), we see the spread of 'Ubaid style ceramics, temples, and house forms into the dry farming zone of northern Mesopotamia, where they gradually replace the indigenous Halaf assemblages at Tepe Gawra and other sites in that area (Breniquet 1987; Stein 1991).

This expansion seems to have taken place through the peaceful adoption by northern communities of an 'Ubaid chiefly ideology. In other words, we are seeing the *replication* of existing small systems, rather than the *absorption* of neighboring areas into a few large, expansionistic chiefdoms.

If correct, this characterization of 'Ubaid society points to interesting avenues for future research. For example, the transition from 'Ubaid chiefdoms to Uruk state societies might be related to a shift at the end of the fifth millennium from a small scale system of staple finance to an externally oriented system combining staple finance with wealth distribution. A change of this nature would have opened up tremendous possibilities for expansion and increases in social complexity, but would also have carried with it greater instability and susceptibility to collapse. Both of these tendencies are seen in Greater Mesopotamia starting at the end of the fifth millennium. The later scope of the Uruk expansion from Mesopotamia into surrounding peripheral zones of the Zagros, Syria, and Anatolia may well be related to a fundamental shift from staple to wealth finance as the basis for political economy.

Conclusions

Leadership in 'Ubaid society can be considered secular in the sense that it was based on temporal wealth—the control over and mobilization of cereal

surpluses in an irrigation based economy. However, the close association between irrigation, socio-economic differentiation, and the appearance of temples suggests that ritual elaboration played an important role in generating and maintaining these economic differences. The particular chiefly strategy of locally-based, ritually generated staple finance resulted in the peaceful spread and long-term stability of small scale chiefly polities throughout greater Mesopotamia in the 6th-5th millennia B.C.

Acknowledgments

This paper is a revised and expanded version of "Rites, Riches, and Rulers: Economic Differentiation and Ceremonial Elaboration in Pre-State Societies of Mesopotamia", originally presented at the American Anthropological Association Annual Meeting, Washington, DC in 1989. Judith Berman, Michael Blake, Gary Feinman, Stuart Fiedel, Michelle Hegmon, Michelle Marcus, Susan Pollock, Mitchell Rothman, Henry Wright, and Aslihan Yener provided useful comments on earlier drafts of this paper. Any remaining errors of fact or interpretation are, of course, my own.

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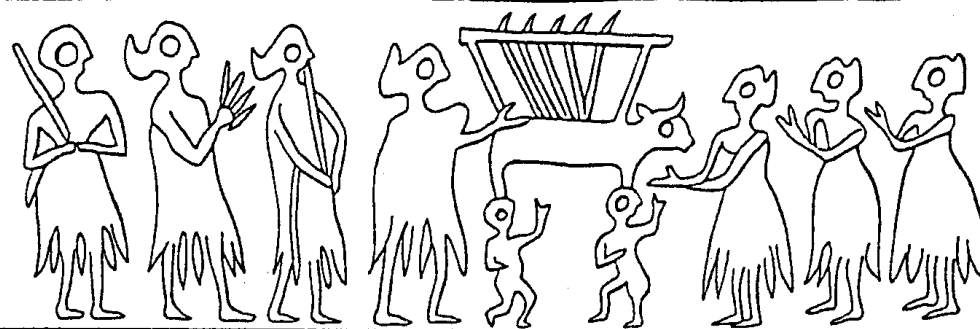


PREHISTORY PRESS 1994

*Monographs
in World
Archaeology
No. 18*

Chiefdoms and Early States in the Near East

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