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Author(s): Christopher Edens

Source: *American Anthropologist*, Mar., 1992, New Series, Vol. 94, No. 1 (Mar., 1992), pp. 118-139

Published by: Wiley on behalf of the American Anthropological Association

Stable URL: https://www.jstor.org/stable/680040

CHRISTOPHER EDENS
Peabody Museum, Harvard University

Dynamics of Trade in the Ancient Mesopotamian "World System"

Maritime trade in the Arabian Gulf connected Mesopotamia with societies in the Gulf and with the Indus during the Bronze Age. This article explores the Gulf trade in light of shifting consumption patterns and of various political forces at work within and between regions, in order to define the socioeconomic place of the trade in center-periphery relations. Through time the consumption of certain commodities, notably copper and grain, became deeply embedded in the changing political economies of Mesopotamian and Gulf societies, and the trade formed a basic economic dimension of center-periphery relations in western Asia. At the same time, other forces—political, military, and cultural—configured center-periphery relations in western Asia as deeply as the economic ones, and provided the context within which the trade occurred. Using the Gulf trade as an example, the article offers a framework for considering the political and cultural, as well as economic, character of ancient center-periphery systems.

DURING THE 3RD AND EARLY 2ND MILLENNIA B.C. a flow of goods connected Mesopotamia with societies in the Arabian Gulf and beyond. This maritime trade has been the subject of a voluminous literature in recent decades, sparked on the one hand by ongoing archeological research (see the summaries of Bibby 1970; Cleuziou and Tosi 1989; Potts 1990; Zarins 1989) and on the other hand by several seminal textual studies (Leemans 1960; Oppenheim 1954; Pettinato 1972). While most of this work has focused on the trade as such, other work has begun to consider the trade in light of social developments in one or more of the regions involved. The Gulf trade has become an almost stock illustration of various theoretical perspectives, often presented in conjunction with the Old Assyrian Cappadocian trade (e.g., Adams 1974:246–248; M. Larsen 1987).

The roots of the Gulf trade presumably lie in the 5th millennium, when 'Ubaid painted pottery appeared in numerous sites of the region. By the late 4th millennium B.C., a small array of maritime products are consistently present in Mesopotamian archeological assemblages, and Mesopotamian objects mark sites of the central Gulf and southeast Arabia. The trade continued through the 3rd and into the 2nd millennia B.C., expanding in scale and becoming deeply embedded in local societies, before it began to collapse in the 18th century B.C. At its most extensive, the Gulf trade engaged four principal regions (see Figure 1 for geographical and Figure 2 for chronological relationships): (1) southern Mesopotamia and Elam, with principal port cities at Ur, Lagash, and Susa; (2) the southern littoral and islands of the upper and central Gulf, and especially the islands of Bahrain and Failaka, corresponding to the Barbar archeological culture area and to the cuneiform toponym Dilmun; (3) the peninsula of southeastern Arabia, encompassing the southern coastlines both of the lower Gulf and of the Gulf of Oman as well as the mountain interior of Oman, a unity reflected in the archeological sequence of Hafit, Umm an-Nar, and Wadi Suq periods and by the cuneiform toponym Magan; (4) the Indus Valley civilization with its coastal settlements between Sutkagen-Dor and Lothal together with its riv-

CHRISTOPHER EDENS is Research Associate, Peabody Museum, Harvard University, 11 Divinity Avenue, Cambridge, MA 02138.

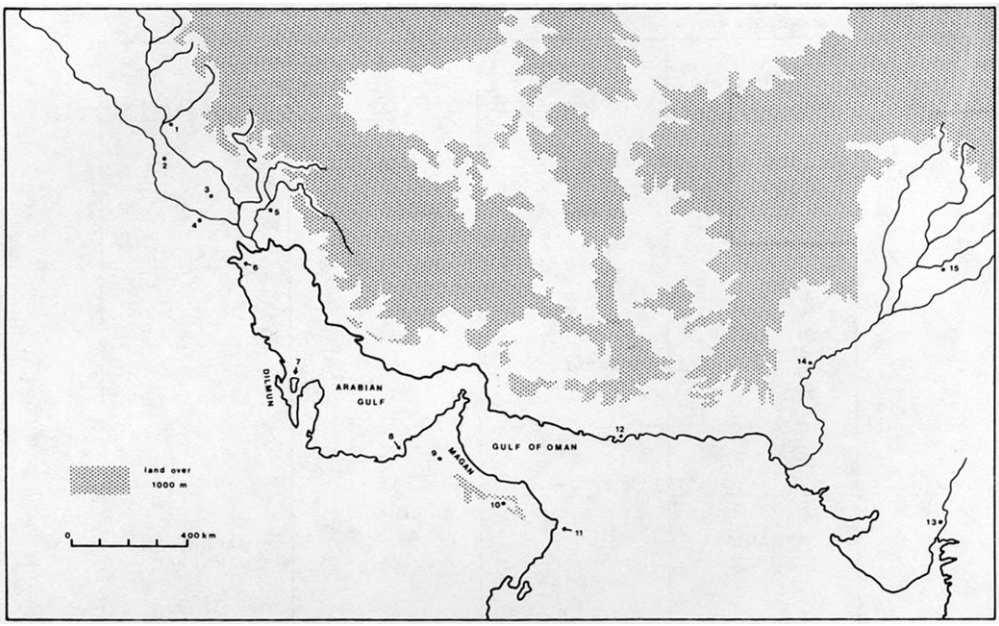

Figure 1
Map of Arabian Gulf in the Bronze Age (1 = Khafadje; 2 = Kish; 3 = Lagash; 4 = Ur; 5 = Susa; 6 = Failaka; 7 = Bahrain (Qala'at al Bahrain); 8 = Umm an-Nar; 9 = Hili; 10 = Maysar; 11 = Ras al Junayz; 12 = Sutkagen-dor; 13 = Lothal; 14 = Moenjo-daro; 15 = Harappa).

erine heartland, corresponding to the Harappan archeological sequence and probably to the cuneiform toponym Meluhha.

During the 3rd millennium these regions experienced major social changes. In southern Mesopotamia, the Uruk period of state formation was followed by the Early Dynastic configuration of competing city-states. The attempts at regional integration through warfare that typified the later Early Dynastic III period eventually succeeded under the Akkadian "empire" founded by Sargon, which also extended a military hegemony over many neighboring regions. The Akkadian polity was followed by repeated cycles of political disintegration (the Gutian and Isin-Larsa periods) and integration (the Ur III and Old Babylonian states). These cyclical "events" sprang from, and in turn altered, the Mesopotamian political economy. In particular, the role of palaces and individual agricultural estates expanded at the expense of temples, community assemblages, and corporate estates, creating new forms of political and economic power; the merchants connected to these institutions could take advantage of new opportunities for individual as well as institutional wealth.

The changes in the other three regions are known in less detail. In the Indus, the Mature Harappan period marks the relatively abrupt appearance of a complex urban society that integrated at least culturally an enormous region that had previously contained several different archeological cultures. After perhaps half a millennium, the urban aspect of the Harappan tradition collapsed, and the region again was partitioned into multiple cultural units. In the central Gulf, an urban society also developed, albeit on a small scale, by the late 3rd millennium B.C. The antecedents to the Barbar culture, though poorly known, seem to have involved local responses to interaction with surrounding regions. In southeast Arabia, on the other hand, the patterns of scattered enclaves of oasis settlement in the interior and of more nucleated villages on the coast seem to have formed

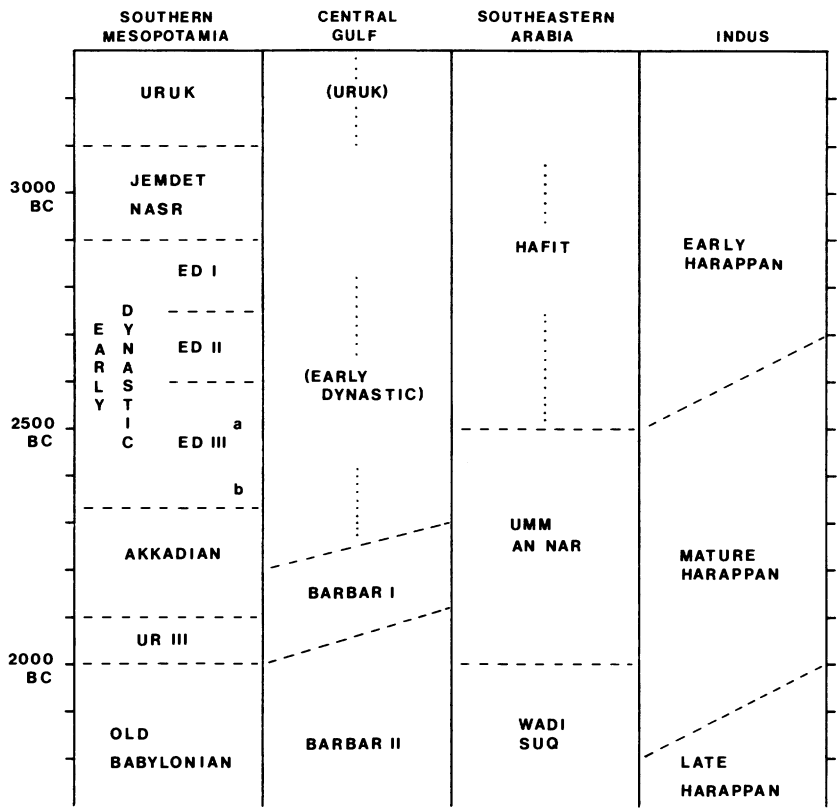

Figure 2
Relative chronologies of the Circum-Gulf in the Bronze Age.

during the late 4th and early 3rd millennia, and endured through 2nd millennium B.C. Despite this continuity, the late 3rd millennium marked a peak in the number of settlements and also in production of commodities for exchange (especially copper).

The Gulf trade represented a material connection between these four regions, and potentially a mechanism by which emerging conditions in one region effected changes in others. However, trade, whether maritime or overland, was not the only dimension of interaction between these and other regions of western Asia. Mesopotamian dealings with lands to the east also involved a range of diplomatic exchanges, elite marriages, cultural hegemony, political clientship, and warfare. Together with trade, all these activities defined center-periphery relations, whose nature and intensity altered as the constituent societies changed. The paired concept of center and periphery contrasts regional scales of sociopolitical complexity and economic production, implies interregional inequalities of economic, political, and ideological power, and locates important economic forces with respect to regional institutional and ideological structures.

The object of this study is an exploration of the Bronze Age Gulf trade as an economic dimension of center-periphery relations in western Asia. This exploration will first stake out the conceptual ground of the study, by arguing that local consumption and regional politics provide contexts in which trade acts in ancient center-periphery relations. The paper will then consider the consumption of the goods in the Gulf trade, to identify fundamental changes in the nature and consequences of the trade over time. Then the trade will be placed in the broader context of other interregional forces that defined center-

periphery relations in this part of western Asia. The focus throughout will be diachronic, in an attempt to reveal the connections between the changing nature of the trade itself and social changes in the societies engaged in the trade.

The study will not directly address the Indus, partially as a matter of expediency: information about the other three regions is far richer for the present purpose, and the nature of Indus interregional relations is hotly disputed (e.g., Shaffer 1982). The Indus did provide important aspects of the Gulf trade, especially for societies bordering the Gulf itself, and in these settings the occasional allusion to the Indus cannot be avoided. At the same time, the Indus lay beyond the Mesopotamian periphery, and itself formed a center with its own periphery. The Mesopotamia-Indus relationship thus was center-center, and Mesopotamian center-periphery structures can be presented without detailed involvement of the Indus.

What follows is an essay in the original sense: a trial or attempt. The essay develops a framework with which to conceive center-periphery relations in premodern societies generally, using the Gulf trade to develop and try out this framework. At several crucial points of the argument, the evidence is lacking or ambiguous, and subject to varying constructions; at other points, space restrictions prevent a fully detailed exposition and exploration of relevant information. To this extent, the attempt is incomplete, but it should nonetheless serve to stimulate discussion of the categories by which archeologists perceive the ancient world.

Center-Periphery Relations in Antiquity

Wallerstein's world-economy model has recently attracted much attention in archeological circles (e.g., Kohl 1978; Blanton and Feinman 1984; Rowlands, Larsen, and Kristiansen 1987; Champion 1989). Various studies along these lines have embraced the totalizing aspects of Wallerstein's model, thus focusing on production, exchange, and consumption as a dialectical unity; on regional and transregional structures of inequality; and on social as well as political history. At the same time, these recent studies have recognized that in precapitalist settings the model has restricted utility. In Wallerstein's presentation, precapitalist world systems were ephemeral, tending quickly to collapse or to transform into world empires (Wallerstein 1979:156–160). Other commentators dispute Wallerstein's assertion of a single systemwide mode of production (e.g., Wolf 1982), the asymmetrical dependency of peripheries on centers (e.g., Mintz 1985), and the marginality of luxuries as a connective and generative force (e.g., Adams 1974; Schneider 1977). The qualified rejection of "world-economies" in the precapitalist context should not deny the wider framework of its conception—the complementarity of centers and peripheries, the multiplicity and richness of the connections between these two categories of societies, and the benefits of this perspective in approaches to ancient social history. Further, this rejection does not demand a return to the constrained view of trade in the ancient world as "splendid and trifling" (Gibbon 1827:I:65). Shorn of analytic baggage appropriate only to the modern world, the basic center-periphery framework retains considerable power for analyzing the joint histories of interacting societies in antiquity, by forcing attention to a wide field of social action within broad geographical regions.

The economic dimension of center-periphery structures is often given at least implicit priority, most obviously in applications of Wallersteinian world systems. Such emphasis prejudices the matter, since various political relations may connect societies more strongly than commercial ones (see Mann 1986). Moreover, these other forces of center-periphery relations themselves channel flows of materials and people between complex societies. These observations imply that trade itself neither defines nor exhausts the contents of center-periphery relations. Indeed, to analyze precapitalist complex societies, and the place of long-distance trade in those societies, as economic configurations is to misplace basic social forces in these societies.

In traditional agrarian states, economic forces were usually secondary to sociopolitical forces. The emphasis on sociopolitical rather than economic forces underlies Giddens's

distinction between class-divided and class societies (Giddens 1981, 1987). Class-divided societies bear strong similarities with the Marxist "Asiatic mode of production." The advantage of Giddens's formulation is his attention to authoritative rather than to economic sources of power—this formulation resists the materialist reduction of social formations to economic forces, even "in the last instance." The preeminence of authoritative structures in class-divided societies directs attention specifically to noneconomic interregional forces in which trade is embedded, and to patterns of consumption.

In the most general description, consumption is a system of social acts that make "visible and stable the categories of culture" (Douglas 1979:59); simultaneously, acts of consumption contain potential contests of meaning, and potential subversion of these same categories, comparable to Sahlins's notion of putting symbols at risk (Sahlins 1985). Thus, in complex societies consumption is conceptually linked with notions of social distinctions, status hierarchies, relations of domination, and ideological structures. Patterns of consumption project and reproduce the authoritative structures that configure class-divided societies. Consumption by authoritative elites marks them off hierarchically from other segments of society, and serves the legitimation project within elite status groups.

Here Appadurai's distinction between necessities and luxuries is pertinent, where the latter are considered as "goods whose principal use is *rhetorical* and *social*, goods that are simply *incarnated signs*. The necessity to which *they* respond is fundamentally political" (Appadurai 1988:38, emphasis in original). But even this distinction between necessities and luxuries conceals the pervasively political construction of necessities. In Mesopotamia, for example, barley was a necessity not only by virtue of its central place in the Mesopotamian diet but just as fundamentally by its universal distribution in society, where it formed the basic ration in public institutions, private estates, and individual families, and provided an instrument of taxation, of rent, and of credit. Thus, barley circulated through authoritative as well as economic channels of distribution, which together defined central relations of social and political power. Although not *simply* an incarnate sign, barley still responded to a necessity that was fundamentally political, and certainly also had important social and even rhetorical uses. The distinction between luxuries and necessities is one of emphasis along a continuum within a political economy of a good's breadth of social distribution, its received restrictions and controls, and its material and symbolic uses.

To the extent that center-periphery relations supply the physical and/or symbolic objects of consumption, the economic character of these relations is contained within their authoritative context. Relations of consumption indirectly mediate trade and its presumed economic consequences: the authoritative structures in which consumption occurs are exactly those structures that intensify production for exchange, diversify and integrate economies of scale, and promote entrepreneurial activity. In other words, analysis of the economic dimension of center-periphery relations must consider the place of trade with respect both to the other social forces that act across regions, and to the political economic meaning of trade (and other mechanisms by which goods are acquired) within regions.

Consumption and the Gulf Trade

The commodities of the Gulf trade included metals, textiles, semiprecious stones, ivory, woods and reeds, cereals, alliacious vegetables and other condiments, oils, unguents, resins, shells and possibly pearls, and a small array of finished products of wood, metal, or stone (cf. Pettinato 1972; Heimpel 1987). Most of these goods may be classified as luxuries, for which the contexts of consumption are best known for Mesopotamia, where most carried heavy burdens of ideological significance activated in cultic or secular elite practice. For instance, the connotations of divinity and authority embedded in lapis lazuli are well known (cf. Cassin 1968:114–119). Even a commodity such as linen, which Dilmun exported to Mesopotamia, must be considered a luxury: linen clothed kings and

divine images (see Waetzoldt 1983 and Pettinato 1972:94 for uses of linen and imports from Dilmun).

Similar analyses of the other goods of the trade could be undertaken, but there is little purpose to such a piling up of cases. The point is simple: the vast majority of the goods, both raw materials and (semi-) finished products, in the Gulf trade are classifiable as luxuries, to be stockpiled and (rhetorically) consumed within elite contexts. This broad characterization is essentially static, and applies throughout the history of the Gulf trade. At the same time, changing structures of consumption guaranteed that the specific content of trade in luxuries did shift through time. Two sorts of changes may be distinguished: one in which a luxury appeared in or disappeared from the trade, and one in which a luxury was transformed into a necessity (i.e., a category shift).

A clear example of the first kind of changing structures of consumption is provided by several categories of shell objects in 3rd-millennium Mesopotamia. Conch shells carved into lamps or cups are a common small find in 3rd-millennium Mesopotamian sites (see Aynard 1966). These vessels were often decorated with incised geometric or naturalistic motifs, or less frequently with painted lines, inlays, or modeled elements; copies of these vessels also occur in metal or stone. Taxonomic identification of the shells is poorly developed, but they seem to belong to *Lambis truncata sebae*, *Lambis lambis*, and *Turbinella* cf. *pyrum* (Gensheimer 1984:71; Kenoyer 1984:59; D. Reese, personal communication, 1986). *Turbinella pyrum* occurs only on the coasts of the Indian subcontinent and does not extend north of the Indus delta, while both *Lambis truncata sebae* and *Lambis lambis* enjoy a wide distribution in the Indo-Pacific, including the Gulf of Oman but not the Arabian Gulf (cf. Walls 1980:maps 10, 11).

In Mesopotamia the conch lamps/cups appear in graves, temples, palaces, and, more rarely, residential quarters. The earliest well-dated example comes from the Sin Temple of the Jemdet Nasr period at Khafadje, while the latest examples come from several burials at Ur and the foundation of the Sinkasid palace at Uruk belonging to the early 2nd millennium B.C. The majority of datable lamps/cups from nonmortuary contexts fall in the Early Dynastic II–III periods, found at Susa, Ur, 'Ubaid, Tello, Fara, Abu Salabikh, Kish, Khafadje, Tell Agrab, Mari, and other sites. The presence of conch lamps/cups in grave lots permits a more controlled quantitative expression of their chronology. Figure 3 indicates the proportion of grave lots in which the lamps/cups occur relative to the total reported graves at three sites—Ur, Kish, and Khafadje—for which adequate mortuary information spans most or all of the 3rd millennium B.C. These relative proportions reflect three factors: (1) synchronic variation of burial practices reflecting different interment patterns or different ranges of wealth and social status for each sample of graves; (2) regional diachronic change in mortuary practices, with later burials generally exhibiting a narrower range of wealth than those of the Early Dynastic period; and (3) fluctuation in the rates at which burial goods included these shell objects. Lack of space prevents a detailed analysis of the three factors. But the Early Dynastic II–III peak of the lamps/cups from mortuary contexts is congruent with the chronological distribution of the vessels from nonmortuary contexts, and these two patterns together indicate that the importation of the shell to Mesopotamia and the manufacture and consumption of the vessels were most active during Early Dynastic II–III times.

The sharp reduction of the lamps/cups in the late 3rd millennium occurred simultaneously with intensifying commerce through the Gulf, during a period in which direct contact with Magan and Meluhha first appeared in the Mesopotamian textual sources and during which the Harappan area was itself using and exporting these shells onto the Iranian plateau (Durante 1979). The reduction thus does not reflect a disruption of commerce but, rather, a change of consumption within Mesopotamia. Third-millennium Mesopotamian manufacturies consumed large amounts of shell in turning out shell jewelry, inlays, carvings, and cylinder seals. This production also declined toward the end of the 3rd millennium, as shown by the relative frequency of cockle shells from the Arabian Gulf used as cosmetic containers and of shell columellae from the Indian Ocean (see

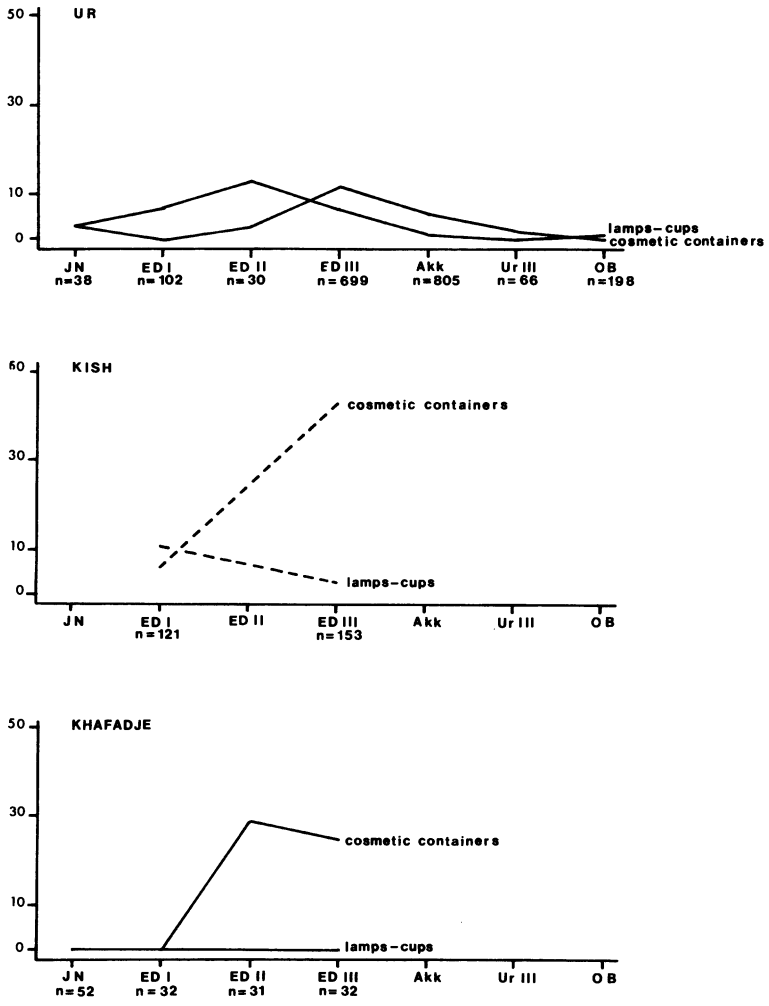

Figure 3
Relative frequencies of shell lamps-cups and cosmetic containers in mortuary contexts.[1]

Gensheimer 1984) used as the raw material for cylinder seals. Both kinds of shell objects were most popular in the Early Dynastic III and Akkadian periods, after which they virtually disappeared (Figures 3 and 4). These trends reflect a general reduction in the variety of cultural expression based on shell and a restriction of the kinds of shell used in that expression during the terminal 3rd millennium and afterward. The history of conch shells in Mesopotamia fits this pattern of reduced variety of expression, and their disappearance from the Mesopotamian record is *not* referable to the vicissitudes of foreign trade, but rather to changes in the rhetorical uses of these objects. In the case of cylinder seals, the sharp reduction of shell falls on the more general shift from softer to harder materials in Mesopotamian seal production that Gorelick and Gwinnett (1990) trace over 5,000 years as a response to shifting presentation of status and mobilization of skilled labor. Similar accounts for shell lamps/cups and cosmetic containers might also be entertained.

This analysis indicates that the Gulf trade in luxuries responded to altering states of consumption in particular societies. In the example of shell, the redefinition of consump-

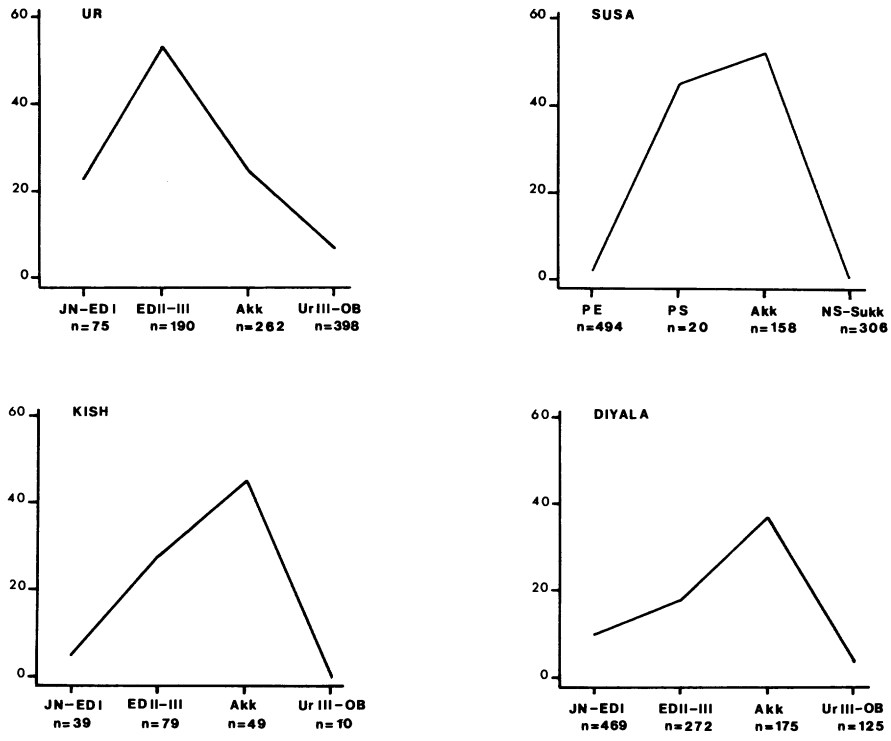

Figure 4
Relative frequencies of shell cylinder seals.[2]

tion in turn reveals structured changes of status value, symbolic power, and belief, which were related to the transformations of the Mesopotamian political economy attendant on Akkadian and later imperialism (considered more directly in the next section). For the Gulf trade, and its place in center-periphery relations of western Asia, such redefinition of luxuries was secondary to the consequences of category shifts, where a few luxuries became necessities. The category shifts of two commodities, copper and cereals, generated powerful forces of change in the joint histories of the societies connected in the Gulf trade.

Mesopotamia and Copper

Among the various goods entering Mesopotamia through the Gulf, copper was the most important. In the mid-3rd millennium relatively small amounts of copper entered Mesopotamia, exemplified by the Early Dynastic III Lagash texts that itemize individual shipments of around 100 kg (e.g., RTC 26, VS 14 30; Lambert 1953:60–61). By the early 2nd millennium, individual texts specify up to 18 metric tons of copper coming through the Gulf (UET 5 796; Leemans 1960:38). This expanding traffic was correlated with increasing embeddedness of copper in the Mesopotamian political economy.

Metallurgy in southern Mesopotamia had greatly expanded, in terms of productive technology and application, during the Uruk and Jemdet Nasr periods (Moorey 1982). By the beginning of the Early Dynastic period, Mesopotamian coppersmiths produced a wide variety of objets d'art, vessels, personal objects, and tools; the combined archeological and textual evidence indicates that the latter included weapons, agricultural tools, and other productive equipment (Deshayes 1960; Salonen 1968). At this time, however, most productive equipment was made of stone, which continued in general use through-

out the 3rd millennium for some activities—for example, stone equipment for making stone beads (e.g., Muller 1963) and stone vessels (e.g., Eichmann 1987). In other productive spheres, copper progressively replaced stone equipment during the 3rd millennium. Textual references to the variety and number of metal tools reveal a major expansion in the consumption of copper in utilitarian context during the Akkadian period and after (Limet 1960, 1972a).

The replacement of stone with copper sickles serves as a rough index of this shift, as Moorey (1982:32) suggests. Denticulated flint blade segments, set in a wooden handle with asphalt, are a frequent element of Early Dynastic lithic assemblages (Crowfoot-Payne 1978, 1980 and the literature cited there). This stone equipment sharply declined in importance in subsequent periods, when copper sickle blades become more evident. Copper sickles are occasionally found in Early Dynastic contexts (see Crowfoot-Payne 1980:112–113), but beginning with the Akkadian period and continuing thereafter the finds of metal sickles are more frequent (see Deshayes 1960; Moorey 1982; Tallon 1987:182–184, etc.). Since metals and metal objects were subject to stringent bureaucratic accounting in all periods (cf. Limet 1960:ch. 4, 1972a:11–12; Powell 1978:17–18 for agricultural tools), the increasing frequency of copper sickles in the archeological record reflects the greater abundance and the wider social distribution of these implements rather than changes in preservation biases.

Another indication of the expanding stocks of copper in 3rd-millennium Mesopotamia is the shift from copper to silver as a measure of value during the Early Dynastic III period (see Edzard 1968 for textual sources). This shift implies the action of a dual process. The amount of silver in circulation increased to the point where it was sufficiently available to serve this function, while the stock of copper expanded at a proportionately faster rate. In the latter regard, the textual sources mention progressively greater masses of copper (Limet 1960, 1972a; Leemans 1960). This process involved more than just accumulation by large institutions: archeological and textual evidence reveals fairly large amounts of both silver and copper in private contexts by the Akkadian period (Westenholz 1984:26–27).

These several textual and archeological indications outline a basic change in the Mesopotamian uses of copper during the 3rd millennium, and especially toward the end of the Early Dynastic and into the Akkadian periods, when, as Limet (1972a:30) puts it, copper was becoming an industrial metal. This period was one of fundamental sociopolitical change, in which the balance between palace, temple, and corporate lineages as the institutional containers of political and economic power shifted decisively in favor of the palace (Diakonoff 1982; Gelb 1969). A number of fundamental economic changes occurred with this shifting balance, especially in institutional economies of scale that integrated dependent labor, means of production, and materials in an expanding commodity production (Zagarell 1986). As part of this change, the period also saw attempts at regional political integration and imperialistic expansion into neighboring regions, attempts that culminated in the Akkadian empire. In this context, the shift from stone to copper was not merely a technological transformation in response to the greater availability of metal but, rather, was a contributing factor in the larger sociopolitical reconfiguration. Institutional administrative sponsorship of traders and smiths ensured greater control over the means of agricultural production, thus reinforcing the institutional accumulation of land. The shift to copper itself implies an extension and expression of power.

Following this analysis of changing Mesopotamian consumption of copper, Mesopotamia's involvement in the Gulf trade may be partitioned into two rough segments—the pre-Sargonid phase, during which copper was imported largely as a luxury, and a post-Sargonid phase, when copper was a necessity. All the goods imported during the earlier phase were basically luxuries, consumed largely as expressions of power and ideology. Following Moorey's suggestion (1982:30–33), Mesopotamian dependence on copper imports occurred largely in the means of expression and maintenance of elite power. In the

later phase, as copper increasingly replaced stone in the means of production, Mesopotamian economic production became dependent on traffic in that metal. The consumption of copper in southern Mesopotamia traced a shifting balance between symbolic and economic capital within a political economy that itself was experiencing fundamental reconfiguration.

Gulf Societies and Barley

Wool, textiles, and grain formed the greater part by bulk of the goods that flowed from Mesopotamia into the Gulf. In contrast to copper in Mesopotamia, the Gulf contexts of consumption for these materials are not readily apparent, since these goods number among Mesopotamia's "invisible exports" (Crawford 1973) and are highly perishable and impossible to source. Even so, the Mesopotamian texts together with local archeological information do allow an assessment of consumption.

Wool and textiles can be considered probable luxuries. Economic texts report relatively small amounts of textiles exported into the Gulf, generally listing 15–70, and usually 30–50, garments throughout the history of the Gulf trade. Although often of poor quality (Waetzoldt 1972:72), these textiles may have served in gift exchange between elites, as explicitly stated in Early Dynastic III shipments (Lambert 1953:63). Greater amounts of Mesopotamian wool, up to two metric tons (60 talents) at a time, entered the Gulf; although not gift exchange, this wool may have remained within local elite circles.

The place of grain was fundamentally different. Ur III period texts report massive amounts of barley entering the Gulf from Mesopotamia, listing 70 *kur* (21,000 liters) and, probably, 2,380 *kur* (714,000 liters) in different documents (ITT 2 776 and UET III 1666, respectively; Leemans 1960:20–22). These figures may be placed in perspective by juxtaposing inferred community sizes in the Gulf with the per capita cereal consumption rates of the Ur III ration system in Mesopotamia. Daily rations to laboring individuals usually included 1–2 liters *(sila)* of grain per day (Gelb 1965), or a minimum of 600 liters (600 *sila*, or 2 *kur*) per year (Jones and Snyder 1961:253, 286). The Qala'at al Bahrain is the largest known Bronze Age town in the Gulf, being roughly 20 hectares in extent and containing perhaps 5,000 people (assuming 250 people per ha, twice the conventional ratio used in western Asia). A volume of 2,380 *kur* of barley could sustain this population for ten to twenty weeks, or roughly a quarter of the population for the entire year. Elsewhere, as in southeast Arabia, the impact even of smaller deliveries would be profound. The coastal settlement at Umm an-Nar (roughly 4 ha in size), for example, contained perhaps 500 people; a delivery of 70 *kur* would support nearly half of this population for two months. In effect, then, the barley brought from Mesopotamia into the Gulf in exchange for copper potentially represents a subsistence staple rather than simply an item of rhetorical consumption during certain periods of the Gulf trade.

The size of these grain movements through the Gulf at the end of the 3rd millennium were substantially larger than those in mid-millennium. The Early Dynastic III economic texts from Lagash refer to no more than 80 *kur* of cereals (VS 14 38), and occasionally as little as 10 *kur* (inferred from RTC 26), being exported to Dilmun (Lambert 1953). These figures contrast strongly with the larger amounts being sent to Elam at the same time (e.g., 270 *kur;* Nik 85, Lambert 1953), as well as to the Ur III period figures mentioned above. Moreover, some of this grain (25% in VS 14 38) is explicitly designated as gifts, presumably destined for elite gift exchanges that facilitated and routinized trade. These changes in scale suggest that, as with copper in Mesopotamia, a category shift occurred by the end of the 3rd millennium such that cereals imported into the Gulf transformed from largely a luxury into a necessity. At the same time, this category shift was unevenly distributed through the Gulf, since the disparate landscapes of Bronze Age Gulf societies entail divergent consequences of Mesopotamian grain.

Southeastern Arabia. Settlement in southeastern Arabia formed two distinct zones, littoral communities distributed along both margins of the Oman peninsula, and interior

settlements placed along the *bajada* zone of the Oman mountains. These two zones differ with respect to agricultural potential and settlement pattern. In the interior, settlement was normally near wadis and irrigable land, and the associated water-control installations are becoming increasingly well known (Hastings, Humphries, and Meadow 1975:11; Weisgerber 1981:197; Berthoud and Cleuziou 1983:241; Frifelt 1985:99–101). Settlements formed enclaves of domestic structures and towers interspersed with agricultural land. This settlement pattern is best documented for Hili, where some nine enclaves totaling something less than 7 ha in size occur within an area of about 140 ha (cf. Cleuziou 1980:fig. 4). The suite of crops, best known at Hili 8, included emmer, barley, sorghum, dates, jujube, and melon (Cleuziou and Constantini 1980; Cleuziou 1982). The presence of sorghum, a summer crop, indicates fairly intensive agrarian production that involved water management and double cropping.

Coastal settlements tended to be more nucleated and to possess smaller agricultural potential. A site such as Umm an-Nar contained relatively dense architecture, but poor water sources and no agricultural land; subsistence seems to have been heavily oriented toward maritime resources and pastoralism. Other coastal sites, such as Ras Ghanadha, were seasonal encampments corresponding to aspects of this mixed subsistence strategy. Some settlements (e.g., Shimal or Tell Abraq) did incorporate some agricultural potential, but these settlements are still nucleated. At the same time, these settlements were heavily oriented toward trade, best seen at Umm an-Nar and Ras al Junayz, where pottery assemblages reveal strong Mesopotamian and Indian connections, respectively.

In addition to regional settlement and economic heterogeneities, southeastern Arabia was further distinguished by multiple semi-autonomous polities, reflected in the Akkadian reference to the 32 cities and kings of Magan (Sollberger and Kupper 1971, text IIA3b). These polities seem to have been only weakly centralized. Two characteristic features of settlements in the region—scattered towers with associated extramural architecture, and repeatedly used tombs—were focal points of the cultural landscape. This landscape probably reflects communities organized as multiple kinship groups, each controlling one or more towers, a group of tombs, and agricultural land (Cleuziou [1984:381–382] makes a similar suggestion, based on analogy with organization in the Omani interior of the recent past). The senior members of these groups controlled copper ore smelting, exchange of this copper, and allocation of goods gained in return.

Economic and social competition between lineages within a single community and between groups of lineages in different communities is endemic to such segmented societies. Competition guaranteed a degree of social stress within and between communities, and sometimes also open hostilities—thus, the tower was the social focus, not some more open architectural form. The centrifugal forces of conflict in southeastern Arabian society of the 3rd millennium counteracted the centripetal force of a common economic interest in the copper trade and its benefits. Furthermore, the regional geography of copper production and access to interregional exchange entails that polities along the coastal strip and on the mountain passes possessed considerable leverage over those in the interior actually producing the Magan copper. Under these conditions imported Mesopotamian barley could never become a staple to the region as a whole, though some of the nucleated and presumably more centralized coastal communities may have come to rely on such imports.

Central Gulf. On Bahrain the situation is much different, at least for the final centuries of the 3rd and the opening centuries of the 2nd millennium. Here settlement shows a large range in size, with the walled town at the Qala'at al-Bahrain, together with other major settlements, falling at the high end of the range and various small unnamed sites at the low end (see C. Larsen 1983:77–78). This pattern suggests a differentiation of the island's population into urban and rural segments, and a corresponding spatial differentiation of wealth, status, and authority. Within major settlements, variations of architecture and activity mark the social and economic differentiation of a complex society. Agricultural

production encompassed date orchards, mixed gardening, and cereals, supported by the abundant artesian water of the region. While direct evidence for agrarian production is still minimal, Larsen suggests that these components presented a zonal distribution of land use with respect to distance from major settlements (C. Larsen 1983:96–98); these zones of land use were then integrated by channels of regional circulation. In sum, the island was the setting of a town-centered complex society that integrated the entire island and extended onto the Arabian mainland.

Larsen's settlement survey indicates significant population growth on Bahrain through the 3rd millennium (C. Larsen 1983:77–78 and appendix II). During the same span. urban centers and other special-function loci emerged. Urban development is most clearly documented at the Qala'at al-Bahrain, where excavations in various parts of the site show that a major expansion of occupation occurred at the end of the 3rd millennium, coeval with construction of the city wall; at Diraz, more limited exposure indicates a similarly expanded occupation at this time. The trends of expanding number of sites and increased urbanism indicate a real growth in population at the end of the 3rd, continuing into the 2nd millennium. Concurrent with the twin trends of population growth and urbanization, the Mesopotamian texts specify increasing amounts of barley being exported into the Gulf, as previously discussed.

The coincidence of population growth, urbanization, and emerging social complexity in Dilmun, on the one hand, and expanding cereal movements through the Gulf, on the other, expresses a probable causal relationship. The relatively small amount of archeological work on urban sites, and the absence of indigenous archival sources, leaves ill-defined the contours of Dilmunite society. The consequent vagueness can provisionally be alleviated by more abstract formulations on the Dilmun political economy. The coastal towns of Dilmun both concentrated and generated population, wealth, and political authority. Simultaneously, these same towns, or rather the political and economic elites within the towns, had the most direct access to and control over imported cereals. The connection between commerce and urban life is a well-worn theme, and need not be rehearsed here. In the present instance, imported cereals arguably played a dual role, helping to sustain the growing populations of towns by a concentrated supplement to the local food supply, and helping to amplify the socioeconomic position of the elites under whose control the cereals reached the urban populations.

This analysis suggests a dialectical relationship between Dilmunite political economy and the flows of Mesopotamian cereals in the Gulf. The urbanization, emerging complexity, and political integration on Bahrain were direct manifestations of the growing scale of the Gulf trade; these changes in turn expanded the demand for cereals, and amplified the political as well as economic uses to which the imports could be put. This relationship is a common one throughout the history of the Gulf, even in well-watered zones such as Bahrain where imported foodstuffs often sustained the political economy. For example, in the 19th century A.D., Bahrain imported rice and other staples in bulk from India, part of which import was consumed on the island, the rest being transshipped to other communities in the Gulf (Whitelock 1844:48; Pelly 1865:69; Lorimer 1915:246). The Mesopotamian literary sources count the flow of cereals and sesame as one of the blessings of Dilmun (Pettinato 1972:90–91, table 4); this flow was also a blessing to southern Mesopotamia, as it underwrote the exchange system that gave Mesopotamia its access to Arabian copper.

Systemic Implications of Changing Consumption

During the 3rd millennium, the consumption of goods changed in the different societies involved in the trade. In most cases these changes responded to new rhetorical demands, leaving the trade largely unaffected as a system. In other cases, notably copper and grain, the changes were systemic, in response to newly emerging sociopolitical realities. These latter changes had more profound implications for the place of the Gulf trade as an economic dimension of western Asian center-periphery relations. The exchange of copper

and barley was fundamental to the Gulf trade precisely because their contexts of consumption changed so dramatically through time. The changing consumption of copper and barley constitutes the dynamic structure of the Gulf trade, the structure that mediated the endogenous and exogenous social changes of the various communities linked by the trade. This mediating structure itself reveals the Gulf trade as a field of action centrally embedded in Mesopotamian center-periphery relations.

The diachronic examination of the Gulf trade reveals three related properties of that trade:

1. The consumption of some materials changed (called here category shifts), whereby these materials were more deeply embedded in regional economic and political structures. The most important instances of this process are the place of copper in southern Mesopotamia and that of grain in Dilmun.
2. Trade held different consequences for the various societies involved in it. For Magan, the trade may have supplied to regional elites important means of rhetorical comment and competitive display, but its immediate economic effect was secondary, especially in the interior. In southern Mesopotamia, imported copper came to hold a central economic place as the principal means of agricultural production additional to the role of a medium for conspicuous consumption by elites. For Dilmun, the trade lay at the heart of the urban expression—and consequently the entire economic and political character—of that society by the beginning of the 2nd millennium.
3. The requirement to trade was increasingly unevenly distributed around the Gulf; consequently, the effects of disengagement from, reorientation of, or general collapse of, the trade would have been experienced differently.

Stability and Change in the Gulf Trade

The historical outlines of Mesopotamia's trade with Dilmun, Magan, and Meluhha during the 3rd and earlier 2nd millennia are relatively well known from the point of view of Mesopotamia itself, as first presented by Oppenheim (1954) and elaborated by various scholars for specific periods (e.g., Lambert 1953; Leemans 1960, 1968; Neumann 1979). From this perspective, the post-Akkadian history of the Gulf trade is marked by, in Oppenheim's phrase, "a process of gradual and slow restriction of the geographical horizon" (1954:14); that is, by a sequential reduction in the scope of *direct* commercial relations. So viewed, the sequence of direct contacts forms a three-stage chronological progression whereby first Meluhha and then Magan disappear from the economic texts.

This historical sketch is one-sided, and built on a narrow foundation of documents that are few in number and disparate in context (palace and temple administrative accounts, private contracts and letters, royal inscriptions, literary compositions). The economic documents reflect Mesopotamian but not foreign enterprises (i.e., accountancy of cargo in Mesopotamian but not in foreign holds); other sources indicate the arrival of foreign vessels but do not reveal their cargos. The textual evidence for the Gulf trade is thus fundamentally incomplete in its scope, since it describes only selectively the mechanisms by which merchandise reached Mesopotamia, and also seriously underreports the regularity, scope, and scale of the traffic. Therefore, Oppenheim's sequence may be a reflection more of Mesopotamian administrative standards than of any wider economic reality.

The textual evidence nevertheless provides an indication of relational patterns changing through time that may be combined with regional archeological patterns to attempt a processual history. This history takes the form of a chronological sequence of "moments," each of which represents a period of time as if it were a single structure of relations between and within regions. These structural moments are connected by the dynamic properties of the trade that are defined by the changing consumption of copper and of barley, elucidated in an earlier section of this article.

Moments of Trade

1. Prior to ca. 2500 B.C., trade was relatively small in bulk and centered on a variety of luxuries. Archaic texts (i.e., dated ca. 3200–2900 B.C.) from Uruk mention Dilmunite

copper (Englund 1983), implying that some Magan copper reached Mesopotamia *via* Dilmun; this textual allusion is matched by the presence of Jemdet Nasr and Early Dynastic Mesopotamian pottery in graves and settlements in southeastern Arabia and the central Gulf (reviewed by Potts 1990). According to a sourcing study at Susa, Arabian copper appeared here by the middle of the 3rd millennium, replacing copper from Iranian sources (Berthoud 1979). The evidence of the conch shells, summarized earlier, also indicate fairly steady connections between the Indian Ocean and Mesopotamia through the Gulf. The evidence is insufficient, however, to judge the nature, scope, and intensity of these connections. Although oasis communities had developed by the end of the 4th millennium B.C. in southeastern Arabia, copper production there is still little known during this period and was probably small scale and directed principally at local (regional) consumption. The scarcity on Bahrain of material referable to this and the subsequent moment, compared with seemingly much more abundant material on the Arabian littoral, suggests that "Dilmun" may denote the latter rather than the former area during this time (as also suggests Potts 1983), perhaps indicative of the weakness of trade as a socioeconomic force.

2. During the period ca. 2500–2350 B.C., the structure of the Gulf trade continued largely unchanged, though with several important emergent features. Copper decisively entered the trade as an additional item of elite consumption, and thereby satisfied the conditions necessary to the operation of the dynamic in subsequent moments. At the same time, other goods later associated with Magan and Meluhha achieve increasing prominence, even while neither of these geographical designations directly appear in the textual evidence (cf. Edzard, Farber, and Sollberger 1977); the terminological differentiation between varieties of purified copper may reflect Iranian versus Arabian sources (Waetzoldt and Bachmann 1984:nn. 23, 25). Archeological evidence provides only slender and ambiguous corroboration of these relations through the Gulf, but does point to intensifying intercourse. Most of the evidence, particularly that of the Early Dynastic IIIb Lagash economic texts, describes Dilmun as the intermediary between southern Mesopotamia and more distant sources of materials, including Arabian copper. The Akkadian king, Sargon (late 24th century B.C.), boasted that he brought the boats of Dilmun, Magan, and Meluhha to dock at the newly founded imperial center at Agade, a statement of power over the southern ports (Lagash and Ur) that had previously benefited from the trade. Sargon's boast contains the oldest direct naming of Magan and Meluhha, but also implies that boats from these places were present in Mesopotamia prior to his reign. This implication shows the Gulf trade to have been increasingly transparent to all three regions just prior to the reign of Sargon. The trend toward transparency is correlated with, and contributed to, the emerging imperial order in Mesopotamia, on the one hand, and the crystallization of new social organizational forms in Oman (the Umm an-Nar) and perhaps the Indus (the Mature Harappan), on the other.

3. The period ca. 2350–2000 B.C. is characterized by direct relations between the principal participants in the trade, and by a transformation of the nature of the trade. The latter transformation stemmed from the consumption patterns discussed in the previous section: the trade shifted from one predominantly in luxuries to a mixture that now included necessities, and the latter goods grew to dominate in bulk and social importance. The active participation of the Indus in the Gulf trade is marked by direct or indirect adoption of Indian commercial and administrative devices (weight system and seals) to southeastern Arabia and the central Gulf (summarized by Edens 1992; Indus weights and seals also occur in southern Mesopotamia, but as rare and alien forms). Meluhhan and Maganite groups may have formed villages in southern Mesopotamia (Parpola, Parpola, and Brunswig 1977; Limet 1972b:133–134), though these claims remain contentious. The moment witnessed expansion of settlement on Bahrain and in southeastern Arabia, and large-scale copper extraction in southeastern Arabia, where smelting operations are well documented by the archeological work at Maysar (Weisgerber 1983; Hauptmann 1985) and elsewhere.

4. The period ca. 2000–1750 B.C. was the period of the Dilmun trade par excellence, during which Dilmun was Mesopotamia's entrepôt in the Gulf trade. On Bahrain this period represents the culmination of trends in population growth and urbanization, as well as the period of greatest geographical distribution of the Barbar culture. Although Dilmun was the entrepôt of the trade, the mechanisms by which copper and other goods reached the island from further east remain obscure. With the concentration of traffic through Dilmun, the emphasis on copper as a staple of the trade, and the fragility of relations engendered by redundancy of goods exportable to southeastern Arabia, the foundation of the collapse of the trade in the succeeding period was established.

5. Following ca. 1750 B.C., the Gulf trade was greatly diminished in the volume and nature of goods exchanged and perhaps in its geographic scope as well. Archeological sequences were interrupted for at least several centuries throughout the Gulf (including southern Babylonia), marking a period of regional social disruption. Copper was coming into Babylonia from the west and north by the 18th century B.C. (cf. Millard 1973; Leemans 1968:216); at the same time, luxuries characteristic of the Gulf trade disappear from the cuneiform sources (Leemans 1960:125–126; 1968:216–217). Mesopotamian involvement with Gulf societies revived later in the 2nd millennium B.C., when Kassite Babylonia seems directly to have controlled Dilmun for several centuries. In contrast to the earlier situation, however, Mesopotamian political and economic interests were directed to the north and west, and little trade through the Gulf can be documented.

Gulf Trade and the Bronze Age "World System"

These five moments trace a historical trajectory founded in the interplay of consumption and production in their social contexts, the changing sociopolitical character of communities, and mechanisms of exchange. The trajectory, like the trade itself, was interregional in scope, but it was played out against the backdrop of Gulf geography. In regional terms, the history of the trade unfolded as a tension in economic geographical configuration, namely southeastern Arabia as producer of copper and other materials and Bahrain as entrepôt because of its location within the Gulf and its abundant fresh water. The regional play of historical forces resulted in episodic cyclicality, the alternation of channeling and nonchanneling of commerce through Dilmun. These three aspects—the dynamic relations of consumption, the geography of trade, and the structured cyclicality of relations—characterize the Gulf trade as an economic dimension of a center-periphery system. But this system encompassed more than the Gulf trade, in terms both of its spatial extent and of its constituent fields of social action. In order more fully to describe the Gulf trade, these other aspects of the system must also be considered.

Mesopotamian overland and maritime access to commerce are often seen as alternative options in response to technical, political, and cultural contingencies. Maritime trade offered the advantages of lower transportation costs and of bulk movements. Further, sea traffic was less easily blocked by hostile polities that occupied routes of overland movement. In this respect, many commentators invoke the long-term enmity between southern Mesopotamia and Elam as a stimulant to the Mesopotamian sea trade in an effort to circumvent the strategic location of Elam on trans-Zagros routes to the Iranian plateau (e.g., Muhly 1973:321; Alden 1982:624; Lamberg-Karlovsky 1986:204).

This description greatly oversimplifies a complex series of social relationships in southwestern Asia during the mid- to late 3rd millennium. Warfare, particularly in the form of quasi-annual campaigns typical of imperial states in western Asia, had a decidedly acquisitive impulse. Glassner (1986:23) suggests that the Akkadian imperialism exhibited new attitudes toward war, where warfare outside the zone of direct political control became an instituted economic activity driven by a search for booty and tribute. Indeed, according to Glassner, regular military campaigning effected an enormous decline in Mesopotamian participation in interregional trade at this time simply because looted highland communities satisfied the greater part of the Akkadian need for raw materials

and labor. Akkadian imperialism on the Iranian plateau encountered the resistance of politico-military coalitions that included coastal regions, and Akkadian kings twice raided Magan across the Gulf (Steinkeller 1982:256–259; Heimpel 1987:43–44); Ur III expansionary pressures on the Iranian plateau penetrated the Gulf less directly (cf. Steinkeller 1982).

The cuneiform record attests to other extra-economic modalities of interregional action, including diplomatic prestations and exchange of messengers, royal marriages, and military service and other forms of labor. All of these fields of action involved, centrally or peripherally, a flow of materials between regions, and structured explicitly economic forms of exchange. This constellation of economic, military, and political fields of action offered to Mesopotamian elites great flexibility in their acquisition of foreign materials. Prestation, marriage, campaigning, and extortion, as well as trade, could bring these goods from regions to which expansionary pressures could regularly be applied, without consideration of more routinized commercial arrangements. But when imperial pressures could not regularly be applied, Mesopotamia could engage in routinized commercial arrangements, as in the Gulf trade. In other words, maritime and overland trade were as much political as economic alternatives.

The political contextualization of trade has an additional aspect in the case of the Gulf trade. Southern Mesopotamian states exerted major imperialistic pressures on eastern highland communities during the Akkadian and Ur III periods, which correspond exactly to the third structural "moment" described above for the Gulf trade. This moment stands apart from the other four in several related, fundamental ways. The four regions, including the Indus during the Akkadian period, were in direct contact with one another, and Dilmun did not serve as entrepôt in the manner found before and after this moment. At the same time, Gulf societies experienced basic reconfiguration during this moment, particularly in the emergence of a complex urban society on Bahrain, while Indian involvement in the region, especially with southeastern Arabia, is prominently visible.

All of these aspects of the third moment may be related to Mesopotamian imperialism. Mesopotamian military pressure on the Iranian plateau and the Gulf created strong political structures of resistance that overrode earlier interregional arrangements. Magan entered coalitions in opposition to Akkadian imperialism and was itself invaded, whereas Dilmun, which produced few goods and possessed no valuable raw materials, was largely ignored by, and was not involved in political opposition to, Akkadian imperialism. Resistance in southeastern Arabia involved strengthened ties with the Indus, which provided an alternative to the Mesopotamian center: precisely at this time, Mesopotamian objects on archeological sites disappear, while those of Indian origin or emulation appear in quantity (Edens 1992). Further, the effects of imperialism were not all destructive, since resistance at its peripheries involved intensification of production and mobilization of labor in the contexts of secondary state formation, often using symbols of power and administrative instruments borrowed from the imperialist state. These processes are evident in Gulf societies. In sum, trade during the third moment was carried out as a part of strongly political interregional relations; economic calculation was secondary under these circumstances.

At the same time, the centers were not themselves stable and perdurable—the centers experienced regional cycles of political and economic integration and disintegration. These cycles are best known for southern Mesopotamia and Susiana, in which regional political entities (e.g., the Akkadian, Ur III, and Old Babylonian empires) developed from and then disintegrated into multiple contending city-states and small kingdoms. The economic security of political integration promoted the Gulf trade, and much of the textual evidence for the trade comes from these contexts. During periods of competing states, however, the trade also flourished, as the principal Mesopotamian ports of entry contended for access to the Gulf trade. In this respect, Mesopotamian access to foreign materials had ramifications additional to reproducing a mode of production. These materials also acted in Mesopotamia to provide rhetorical and substantive circuits of power,

to generate wealth, and to manifest a just kingship that resulted in economic prosperity. Literary compositions reflect this multivalent situation of foreign materials, by recounting the exotic and expensive materials used to adorn temples or palaces and by exalting in the distant lands that supplied these goods; royal inscriptions boast of wealthy trade under the guidance of just kings. While ostensibly announcing the benefits of rich trading relations, both these sorts of elite statements were essentially claims of local ideological validation and political authority. These claims sharpened into strategic weapons during periods of contending states, and often occurred at the beginnings of political dynasties: the rhetoric of Sargon, Gudea, and Urnammu in the last third of the 3rd millennium is a well-known illustration of this proclaimed control of the Gulf trade for its multiple benefits to rule.

Conclusion

The substantive burden of this article has been the double contextualization—by structures of consumption and by interregional political action—of the Bronze Age trade in the Arabian Gulf as a dimension of Mesopotamian center-periphery relations. This analytic undertaking is founded in a description of agrarian states that emphasizes the priority of authoritative over allocative forces in sustaining social hierarchy and relations of domination. The Mesopotamian ability to exert a violence of scale over neighboring regions structured transregional relations of domination that were fundamentally political and military in nature; this domination by violence could extract large amounts of wealth and labor from the peripheries. Trade itself was often an aspect of diplomacy, was usually an alternative to force, and was in any case circumscribed by changing political relations. Moreover, trade simply as economic transaction was embedded in elite competition for power, and the systemic consequences of trade were effected by the political activation of commodities in that competition.

Appeals to Wallersteinian world systems in precapitalist settings fail precisely on this point: the inseparable combination of political and economic forces together determined the shape and consequences of interregional actions. Following Giddens's emphasis on sociopolitical over economic forces in class-divided societies, the political incentives to trade and the political benefits of wealth generated by trade often configured societies more deeply than the economic generation and use of that wealth. This language, of course, sets up a false opposition between "sociopolitical" and "economic" actions: aspects of each are always present, though in differing measures in different systems. Giddens (1987) forcefully makes this point with respect to the emergence of the modern world system, which was shaped jointly by political (the formation and actions of nation-states) and economic (transregional division of labor and capitalist markets) forces rather than the latter alone.

Center-periphery relations in antiquity simply were not adequately encompassing, even leaving aside logistical problems, to create "world systems." Kohl's view is doubtless correct, that precapitalist world systems were too unstable and too multiplex to permit the growth of deeply structured transregional relations of dominance and inequality (Kohl 1987). This paper has argued that center-periphery structures nonetheless did exist in the ancient world, where multiple political and economic forces defined and articulated, strongly or weakly, centers and peripheries. Centers and peripheries share a history that expresses the interplay of the conditions of their interactions, and of the processes of change internal to each society. Within this perspective, trade is not a causal force either by itself or as part of a "multiplier effect" in a systems view of society. Trade, rather, is a single aspect of a totalizing center-periphery structure and cannot be elucidated without equal regard for warfare, diplomacy, cultural hegemony and resistance, and social contexts of production and consumption.

Notes

Acknowledgments. This paper has a long genesis, with a first version completed in 1983 and a second in 1988. The early version owes much to the conversations and comments of numerous people, including Serge Cleuziou, Mark Kenoyer, Curtis Larsen, Richard Meadow, Martha Prickett, David Reese, Rita Wright, and especially Carl Lamberg-Karlovsky and Philip Kohl. The more recent versions are the consequence of advice and considerable encouragement from Norman Yoffee, to whom I am particularly grateful. Three anonymous reviewers offered extremely valuable suggestions of conceptual clarification and substantive correction. I have not always been acute enough to accept the wisdom of these colleagues, but have certainly profited by their company; needless to say, any errors in fact or formulation are my own.

[1]The Ur sample includes the "early" graves (Woolley 1955), the Royal Cemetery (Woolley 1934 and Nissen 1966), and the Isin-Larsa graves (Woolley and Mallowan 1976). Nissen's dating of the Royal Cemetery is followed, as is that of Kolbus (1983) for the "Jemdet Nasr" cemetery (including only the sample from Pit X); Woolley's assessments of the later materials are provisionally accepted. The Kish samples (cemeteries Y and A) are taken from Moorey 1978 (microfiche). The Khafadje graves are reported in Delougaz, Hill, and Lloyd 1967. A note of caution: many of the Kish specimens incorporated here are not specified as being lamps/cups, but rather are simply registered as "large shell," and the like. These may not be morphologically identical with true lamps/cups, but probably do belong to the appropriate molluscan genera.

[2]The Ur seals are published in Woolley 1934, Legrain 1951, and Nissen 1966. In addition to these, Woolley indicates in various catalogs of grave lots numerous instances of seals that are not otherwise formally published. These are usually described as "decayed shell," particularly in Woolley 1955, but may be of other materials as well. All the seals that appear only in these catalogs are included here, and are dated on the basis of the *presumed* date of the grave (which provides only a *terminus ante quem*). Where possible, the dates of the more fully published seals are corroborated with the work of art historians. The Diyala and Susa counts are taken from Frankfort 1955 and Amiet 1972, respectively. The Kish counts, included here for the sake of comparability with Table 1, are taken from Buchanan 1966, and are seriously incomplete (Mackay [1929:190], for example, states that roughly two-thirds of his sample from the A cemetery are of shell). The Susa periodization runs parallel to that of the Mesopotamian sites, where PE is Proto-Elamite, PS is Pre-Sargonic, Akk is Akkadian, and NS-Sukk is Neo-Sumerian and Sukkalmah.

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