

XIII. MESOAMERICAN TRADE AND ITS ROLE IN THE EMERGENCE OF CIVILIZATION

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It has long been recognized that commerce, trade, and market systems were institutions integral to the fabric of Mesoamerican civilization in the Late Postclassic period. Blom (1932) notes that the first Spanish contacts with the Indians of Middle America were with Maya traders off the coast of Yucatan. Ethnohistoric sources citing the instrumental role of long-distance commerce in the establishment and maintenance of the Aztec Empire are exceptionally rich (e.g. Sahagun 1959, Diaz del Castillo 1958). The relationship of trade to social complexity has been noted by, among others, Julian Steward, who considered trade comparable to irrigation in stimulating centralized political control and empire formation during the Classic (Steward 1955). The principal concerns of this paper will be developmental: how did these very striking Postclassic patterns emerge? We feel that trade relations between populations living in closely juxtaposed ecological zones of widely different characteristics and potentials probably existed virtually from the initial human settlement of Mesoamerica. But we also consider that at different times, with the growth of population and the evolution of complex society, the cultural patterning of this trade would have been very different. This paper will thus be a diachronic consideration of the relationship between trade and other sociocultural institutions.

By Early and Middle Preclassic times (1500-600 B.C.), commercial networks, on the basis of evidence to be presented later, were well developed; in many regions of Mesoamerica the critical steps toward the emergence of civilization had already been taken. The framework we shall use to analyze these developments will be that of the co-tradition, on Bennett's (1948) and Armillas' (1948) models (cf. also Parsons 1964). We thus have locally specialized sequences of cultural evolution crosscut periodically by pan-Mesoamerican horizon styles. The first of these was the Olmec, following subsequently by Teotihuacan, Toltec, and Aztec; all involved widespread diffusion of artifacts, raw materials, iconography, and ideology. Because all these constitute horizon styles, however, does not imply that the cultural patterning of the diffusion was the same in each instance. We shall reconstruct the Formative institutions as quite different from the Classic and Postclassic ones. To varying extents in each case, commercial contacts, military conquests, or interchange of religious and other specialists may have been involved. Trade in objects and commodities would have been accompanied by the diffusion of the religious and sociological complex common to the Mesoamerican co-tradition. For periods prior to the Late Postclassic we must rely exclusively upon archaeological evidence to infer and reconstruct the

total cultural context of interregional trade.

Understanding of the geography of Mesoamerica is essential to understanding its entire evolutionary sequence. The simplest and most fundamental dichotomy is between highland and lowland areas; throughout the archaeological sequence the ecological differences between the Mexican highlands to the northwest and the Maya lowlands to the southeast were significant dimensions of cultural contrast. As will be discussed subsequently, each of these areas is in turn culturally complex and internally diversified, particularly the highland region. Besides these two major zones, there is a third perhaps equally important one, a transitional area called the "peripheral coastal lowlands" (Parsons 1967, 1969). Included in this long continuous region is the Gulf Coast of Mexico and the southern Pacific Coast of Chiapas-Guatemala-El Salvador; the Isthmus of Tehuantepec is the geographic link between these two coastal plains. Throughout the course of Mesoamerican history these linked coastal strips served as channels of cultural transmission. Evidently also, important steps in the development of civilization were taken in this transitional region during the Preclassic: it was the heartland of both the Olmec and the subsequent Izapan cultures, and of the still enigmatic Monte Alto culture of the Pacific Coast of Guatemala (Parsons and Jenson 1965). It is, furthermore, this well-watered region which provided the best lands for the growing of cacao, which was a major pan-Mesoamerican medium of exchange.

The close proximity of different ecological zones in Mesoamerica was of major importance to the evolution of complex societies which at no time in their history possessed any means of overland transport or communication more efficient than the human foot and back (Sanders and Price 1968). Both the highlands and the lowlands supported high civilizations, but civilizations of different types, stimulated by different causes. In the highlands microgeographic zoning fostered, with increasing populations, specialized cultural adaptations in adjacent subregions offering different resource potentials. Local symbiotic trade relations developed between such specialized ecological niches (Sanders 1956). This intra-regional trade involved local-level exchange of basic subsistence and craft commodities. The geographical diversity provided both permissive and, with population growth even forcing, conditions stimulating local commerce and the probable early development of markets--a situation linked intimately and causally with the growth of cities (Coe 1961, Sanders and Price 1968). Trade in the highlands was thus local, as well as long-distance or interregional.

By contrast with the highlands, the Maya lowlands are relatively undifferentiated ecologically. Intra-regional trade in subsistence staples was thus comparatively undeveloped; virtually all usable lands produced more or less the same things, and there were few differences of harvest times within the lowland zone. With the evolution of complex society, however, long-distance trade in exotic sumptuary goods is well-documented (cf. Roys 1943, Chapman 1957). Sabloff and Tourtellot (1969) correlate this long-distance

trade with a pattern of direct exchange between elite personages of distant territories, primarily of prestige or luxury goods--goods which would have been sufficiently valuable in small enough quantities to permit regular exchange. Maya utilitarian imports included salt, obsidian, and basalt.

At least by Postclassic times there are striking differences in the sociological patterning of long-distance trade in the Mexican highlands and the Maya lowlands: these are different kinds of civilization. Chapman (1957) observes that while the Aztec used professional merchants, Maya trade was the prerogative of the nobility. This distinction in personnel may be a function of the relative importance of and degree of reliance on the trade network in these two areas--i.e. a function of market size and volume of trade. The Aztec maintained networks of sufficient scope and volume to both warrant and support a group of full-time professional middlemen. Maya trading contacts were, however, more restricted and could thus be handled perfectly well by the small group which would itself ultimately consume the luxury goods in question. There probably would not have been enough business to maintain a sizable class of professional traders.

Through the course of Mesoamerican cultural development the intensity and volume of interregional trade varies quite markedly. Periods of relative local retrenchment alternate with what seem to be bursts of commercial activity and cultural expansion. These latter constitute the horizon styles which periodically unify an extraordinarily diverse area into a single co-tradition. Well crystallized by the Middle Formative (Parsons 1969: Ch. 5), this co-tradition based on trade among culturally diverse units provided a mechanism for the spread of many other culture traits as well.

Since the topic of this symposium concerns the emergence of civilization, it may seem odd to begin with the Postclassic. Yet it is here that our evidence is most complete; further, the Postclassic represents the maximal development and greatest complexity of Mesoamerican exchange systems. One of our aims is to clarify the relative chronology of various aspects of the system, and it thus seems advisable to begin here. We have mentioned the differences between the Aztec and the Maya institutional arrangements for long-distance commerce, and their correlation with different types of civilization. The Aztec long-distance trade pattern cannot be understood except in the context of the Aztec state and its policy of militaristic expansion. Professional merchants--the *pochteca*--were a hereditary class of considerable wealth and high, though non-noble, status, who directly served the ruling elite and received protection from them in return for supplies of luxury goods. In much the fashion of medieval European guilds, they had their own deities and rituals. Perhaps their most noteworthy structural characteristic was the fact that they were in large part directed and controlled by a well-developed state; they served as one arm of an expansionist political hierarchy, and their economic activities were part of state economic policy. Chapman's hypothesis is that trade precedes tribute. Aztec *pochteca* would enter an area, conduct

commerce in politically neutral ports of trade (established at ecological and/or political frontier zones), and spy out the land. The trade routes were protected by military garrisons, and the merchants frequently acted not only as spies but as agents-provocateurs. Once an area was conquered and consolidated into the Aztec Empire, its goods were channeled into Tenochtitlan not by trade, but rather by taxation and tribute. Presumably not all groups of professional merchants shared these structural characteristics; we would consider it misleading to call them pochteca. Unless merchants exist in this kind of relationship to a state, they are functionally and probably structurally a very different kind of organization. We feel it probable, on the basis of archaeological evidence to be discussed below, that the origins of the pochteca are probably in Teotihuacan times. There is little evidence that the Lowland Maya ever possessed a comparable institution.

In all periods land transport was primitive, dependent on foot porters. This acted as a severe limitation on the kinds of goods that could be exchanged profitably over long distances, restricting these to items valuable in relatively small quantities. It has been suggested that the subsistence staples imported to feed Tenochtitlan came from a radius of only about 200 km., though the Empire as a whole was much larger (Sanders and Price 1968). Bulky and heavy subsistence goods such as grain could not have been adequately handled; thus the sustaining areas for population clusters remained local ones. Land routes followed lowland trails, open plateaus, and mountain passes. Coastal, riverine, and lacustrine navigation were practiced; Thompson (1964:20) quoting Ponce de Leon notes

A sea route for commerce from Tehuantepec and points beyond to the province of Soconusco, and thence one may suppose, to Guatemala, existed, the canoes traversing the coastal lagoons sheltered from the sea by long spits of land.

Scholes and Roys (1948) discuss the evidence for coastal trade routes around the Yucatan peninsula, from the Gulf of Mexico to the Gulf of Honduras. The use of boats was known as well in local trade where geographical conditions permitted; Cortes could starve out Tenochtitlan by his control of Lake Texcoco.

It is probable that the major trade routes, by land and water, were established during the Formative and continued in use thereafter. As previously mentioned, by Aztec times politically neutral ports of trade were established at strategic junction points along these routes, often at ecological or political boundaries or on coastlines (Chapman 1957). Among the major ports of trade at the time of the Conquest were Xicalango on the Laguna de Terminos, the inland town of Acalan at the base of the Yucatan peninsula, Chetumal on Yucatan's east coast, and the coastal areas along the Gulf of Honduras. Soconusco, along the Pacific side of Chiapas and Guatemala, was only in part a port of trade; part of this area had already been incorporated into the Aztec Empire.

Ports of trade, known from various parts of the world [Guinea (Arnold 1957); the eastern Mediterranean (Revere 1957); India (Leeds 1961)], were distinct from markets in physical location, function, and personnel. Those engaged in long-distance commerce met there directly; warehouses were provided for the storage of goods awaiting transshipment, as were living quarters for merchants. The areas in question constituted politically neutral territory, presumably because it would have been profitable for all concerned to maintain this status; nonetheless, the neutrality must have been at best precarious, a function of balance-of-power relationships among the parties involved at any given time. As one party gained advantage over the other, the neutrality of their meeting place would be lost, in that the stronger would in all probability absorb it, thus pushing back the buffer zone between the polities. Most of the goods so exchanged were elite or luxury commodities, destined ultimately for consumption by an upper class; this seems to have been true particularly for the Lowland Maya, where local markets for the exchange of utilitarian produce were undeveloped. Where the ports of trade were adjacent to cities with markets, they were at the outskirts, with physical separation between long-distance and market trade and their respective participants. For Tenochtitlan-Tlatelolco the separation between the administered trade and the market system seems rather less clear. Bernal Diaz' description of the daily market at Tlatelolco (1958:215-217) implies that at least some of the exotic goods imported into Central Mexico either by pochteca or by the tribute system found their way into the market, where they could presumably be purchased by anyone able to afford them. In his partial inventory he includes, for instance, precious stones, gold, silver, copper, skins, slaves, cacao, feathers, cotton cloth, dyes for sale. Few if any of these items are local utilitarian produce of the Basin of Mexico. Exchanges in ports of trade were primarily by treaty, while in markets copper axes, quills of gold dust, and cacao beans served as forms of currency.

The institutional patterning of Postclassic commerce is in both highlands and lowlands a context of fully developed civilization, what Service (1962) calls state organization. We have earlier observed that these civilizations were of different types, and that the distributions of these types correlate with geographical and ecological differences. Since this paper will deal with the problem of the emergence of civilization, it may be that the differences observed synchronically in the Postclassic have diachronic implications. Coe (1961) links social typology to the degree of environmental differentiation. Relatively heterogeneous environments tend to stimulate the growth of "organic" societies, composed of many interdependent specialized groups. More homogeneous areas, such as the Maya--or the Olmec--lowlands, tend to be correlated with what he calls "unilateral" (Durkheim's "mechanical solidarity") societies, where specialization of component groups is weak or lacking. Both types are hierarchically organized, but their settlement patterns differ. The growth of nucleated settlements, a necessary condition for urbanism (Sanders and Price 1968), is characteristic of the "organic" society in the heterogeneous environment. It may in part

be the relationship between economic specialization on the one hand and the concomitant symbiosis between groups that makes nucleated settlement adaptive: where even rural producers are dependent on regular access to markets for necessities of daily life they do not themselves produce, this settlement pattern may facilitate such access (Price 1968). In Coe's unilateral, Sanders' and Price's nonurban civilization, the typical settlement pattern is instead one of dispersed rural populations serving ceremonial or cult centers governed by elite rulers and controlled by a dominant religion. Given more generalized rural producers and weakly developed markets, no advantage would accrue to nucleated settlements. In the lowlands, moreover, the agricultural system would have militated quite strongly against such settlements, while in the highlands permanent and often irrigated cultivation acted to permit them.

Coe (1961:84) considers that

....these poles might also represent different points of origin of the state; one based on the necessity for trade regulation (organic societies), the other on the authoritarian control of tribute and corvee (unilateral societies).

This, we feel, is open to question as stated. Steward (1955) considers the regulation of trade to have been a major power base for the Teotihuacan elite, while for the Maya trade would not have been as critical to the total economy. It is evident that trade and all kinds of associated institutions reached a greater complexity in the highlands than was the case in the lowlands. So too did the total societies, of which these institutions are parts. By the Postclassic, highland societies were characterized by a complex system of social classes, with the *pochteca* as a possibly emerging true middle class. While Maya society was also stratified, there were fewer classes, and the relationships between and among such classes appear simpler. The unilateral or nonurban civilization is thus simpler--fewer parts and relationships among parts. This does not necessarily imply that it is earlier. Sanders and Price (1968) have suggested that it may represent rather a secondary state in Fried's (1960) terms, derivative from neighboring fully urban states which reached this level considerably earlier. The Sanders and Price interpretation would fit at least Coe's two examples, Classic Maya and Classic Khmer.

This problem will become acute as we turn to a discussion of the Middle Formative, clearly a threshold period in the evolution of Mesoamerican civilization. We will subsequently consider this question of institutional continuity between the Preclassic and the Classic-Postclassic. Our problem is complicated first by the absence of documentary data--we must rely exclusively on archaeological evidence to reconstruct cultural institutions. Second, we cannot assume that all elements of the Postclassic complex, particularly of the highland variety, are of equal time

depth; this begs the question we wish to investigate. Coe (1965a:122-123) has suggested that the essential features of the Aztec system of foreign trade originated in Olmec times and continued as a basic pattern throughout the history of Mesoamerican civilization. The succeeding discussion will indicate our very real disagreement with this point of view.

We will begin with a consideration of the substantial archaeological evidence of long-range trade among the Olmec. The principal non-perishable Preclassic trade commodities--obsidian, jade, serpentine, magnetite, and ilmenite--will be discussed below; it is these that are most easily documented on the basis of purely archaeological evidence unaided by the written sources of later periods. It is highly probable that many of the perishable commodities listed below as of known importance in the trading networks of later times were significant in the Preclassic exchange systems as well. Of known importance in Postclassic times were the following: herbs, dyes, tobacco, copal, salt, honey, wax, rubber, cotton, textiles, feathers, animal skins, shark teeth, stingray spines, marine shells, lime, flint, amber, cinnabar, hematite, pyrite, mica, semiprecious stones, volcanic and metamorphic rocks, and captive slaves.

It is significant that probably the earliest trade network thus far documented for the Olmec involves the procurement of obsidian from a number of sources. The green obsidian at La Venta derives from the lava flow at Pachuca, Hidalgo (Heizer et al. 1965:96): "Since the La Venta site is three hundred miles distance from Pachuca we have clear evidence of long-range trade." Two samples of black obsidian found at La Venta have as their probable source the famous deposit at El Chayal in the eastern highlands of Guatemala (Stross et al. 1968:61). As early as the Ojochí phase at San Lorenzo imports of obsidian from a number of sources have been established by X-ray fluorescence spectroscopy (Coe and Cobean 1970)--including the Pachuca and El Chayal deposits and the deposits at Teotihuacan itself. This last-named source is interesting because the associations of this obsidian at San Lorenzo antedate the evidence of significant occupation at Teotihuacan Valley itself (cf. Sanders 1965). The demographic history of the areas of Pachuca and El Chayal is not well known. Some obsidian may thus have been imported into the Olmec heartland by expeditions sent into unpopulated or relatively unpopulated areas, as well as by exchange with local populations which controlled these resources. At this time it is difficult to say. We shall, however, later return to the question of the cultural implications of trade in this very basic commodity--one of the earliest known trade goods and one which remains significant through the entire Mesoamerican sequence.

Olmec centers are known to have transported quantities of volcanic rock (basalt) and metamorphic rock (such as greenschist) from specific sources as far away as the Tuxtla Mountains and the Sierra Madre del Sur, respectively (Williams and Heizer 1965). Raw materials for manufacturing Olmec

concave mirrors--magnetite, ilmenite, hematite--had to be imported from the Sierra Madre del Sur (the highlands of Oaxaca and Chiapas) some one hundred kilometers to the south. Williams and Heizer (1965:12) believe that the source of ilmenite was the vicinity of Niltepec on the southeastern margin of the Isthmus of Tehuantepec. Flannery (1968) presents strong evidence that the Olmec obtained magnetite and possibly even finished mirrors from sources near the Valley of Oaxaca where workshops and even small magnetite mirrors identical to those at San Lorenzo were excavated. Something like 5000 tons of serpentine are known to have been carried to La Venta alone (Heizer 1961:44). That author suggests that its source also was Niltepec. However, deposits of serpentine are fairly widely distributed in the highlands, and it is noteworthy that serpentine and jadeite may be expected to occur together geologically. Serpentine deposits may be found in many localities in the Guatemalan highlands, and also near Tehuitzingo in southwestern Puebla (Foshag 1957). It may be significant that Tehuitzingo is not far, as Coe (1965a:123) notes, from the Olmec outpost of Las Bocas.

Surprisingly there is to date only one positively known source of jadeite in Middle America--the Manzanal region in the Sierra de las Minas, on the edge of the Motagua Valley in eastern Guatemala, where displaced jade boulders have been found in quantity in stream beds. Since jade was the most highly prized Olmec luxury substance, commerce in this material especially may have been responsible for much of the observed distribution of Olmec materials in various parts of Mesoamerica. Raw jade was probably imported to the Olmec heartland from more than one locality; finished portable jade sculptures in Olmec style became widely distributed, perhaps as re-exports, throughout Middle America--from the Central and Western Mexican Highlands as far south as Costa Rica. Unfortunately, most known examples of carved Olmec jade celts and figures from localities outside the Gulf Coast come from unknown archaeological contexts. Other possible sources of native jade are the Maya Mountains in British Honduras (Thompson 1964:27), the Guatemalan Highlands, Costa Rica, and the Rio Balsas Valley in Guerrero. Carved jade artifacts are especially abundant in the last two regions, including the translucent blue-green variety so highly prized by the Olmec. Coe (1965a:123) proposes that the Olmec established and maintained a Jade-Serpentine Route leading through Puebla and Morelos to Guerrero for the purpose of importing these raw materials and perhaps finished artifacts; he suggests that the principal Olmec export may have been rubber and ball game paraphernalia.

Costa Rica is an even more likely source of the Olmec blue jade, as Stirling (1961:46) observes; this view is strongly endorsed by Easby (1968:87), who proposes that the prolific jade working tradition in Costa Rica developed because of Olmec stimulus in the Middle Preclassic. The mechanisms of such stimulus will be discussed below. However, in Costa Rica, besides a few objects of pure Olmec style, there is also an indigenous Olmecoid style. According to Easby's evidence, trade contacts between Middle and Central America continued to be strong through the Late Preclassic and Early Classic, when jade working gave way to craftsmanship in gold.

There is no doubt that Olmec was thus capable of maintaining a regular, patterned and fairly far-flung network of import-export trade in a number of commodities. It is probable that most of the goods involved in such networks in later times were already being exchanged in the Middle Formative. But it remains for us to analyze the probable sociopolitical matrix of this commerce, and thus of Olmec culture as a whole. Any ultimate statement of the unquestionably critical role of Olmec in the evolution of Mesoamerican civilization is incomplete without an attempt to infer the causal parameters.

As we have previously mentioned, Coe (1965a) hypothesizes that Olmec trade networks were ancestral to the Aztec institutions:

A more mundane explanation of the Classic and Pre-Classic states of Mesoamerica shows structural unity between the earliest--the Olmec, and the latest--the Aztec. I do not believe the Aztecs were very different from all the peoples who preceded them in central Mexico. (1965a:122).

and

Specifically, it is proposed that the Olmec ruling class, in its role as the allocator of scarce goods in a redistributive economy, had certain needs for rare raw materials and other luxuries which could only be met by long-distance trade beyond the frontiers of the Olmec state, and that a professional trading class satisfied these needs, carrying the culture and art style, along with Olmec religion, to remote lands. (1965a:123).

Coe speaks (cf. also Coe 1965b) of Olmec *pochteca*, ports of trade, and colonies established by missionaries (1962) and by military conquest (1962, 1965a). In effect he is projecting documented Aztec institutions back into the Middle Formative in what we consider to be an uncritical and somewhat misleading fashion. It is our view that the Postclassic pattern indeed represents continuity with the past, but that it does not crystallize until the Classic, following which it was maintained and probably expanded but without major change in principle.

Evidence for long-term, as opposed to intermittent, Olmec presence in regions well outside their Gulf Coast heartland is incontrovertible. Non-portable stone monuments and carvings are found from Morelos to the southern Pacific Coast. Sites with heavy Olmec influence include Tlatilco, Tlapacoya, Las Bocas, Chalcatzingo, and Gualupita in Central Mexico; Padre Piedra and Pijijiapan in Chiapas; San Isidro Piedra Parada and Sin Cabezas in Guatemala; Chalchuapa in El Salvador. The relationships between the location of these

sites and probable trade routes has been noted by Grove's recent work in Morelos and southwestern Puebla (Grove 1968). Las Bocas, Chalcatzingo, and other similar sites are situated strategically at the bases of cliffs and at the outlets of principal mountain passes. Coe's suggestion of a Jade Route is accepted by Grove, who considers these sites as Olmec garrisons to protect and maintain the route to the Rio Balsas and that

Olmec sites in Morelos and western Puebla served as commercial control centers, directing the flow of goods from Guerrero and Central Mexico to the east and ultimately the Gulf Coast. (Grove 1968:183).

The Coe-Grove model is thus based on a direct projection of the Aztec pattern. The Olmec-influenced sites in question are taken to represent anything along the continuum between ports of trade and outright colonies. Our view is that they are in all probability trade-connected, but that this need not imply that the Aztec model is applicable. There is no direct evidence of militarism apart from the distribution of the Olmec style, and to invoke this distribution as evidence of military activity is circular. There is similarly no evidence of any proselytizing religion anywhere in Mesoamerica prior to the Spanish Conquest.

Actually, another model, proposed by Flannery (1968) would seem to fit the observed data rather better. This is thus far one of the most sophisticated attempts to explain and interpret the economic institutions of the Middle Formative, and it pictures a total society very different in structure and function from those of the Classic and Postclassic. Not only is it smaller, but its principles of organization appear to have been dissimilar. Flannery's model is capable of explaining the nature of the Olmec influences on neighboring areas, of clarifying the parameters relevant to the spread of this first of the Mesoamerican horizon styles.

During the Middle Formative there are clear indications of the cultural precocity of the Gulf Coast Olmec relative to the rest of Mesoamerica. The explanation of this precocity lies in the ecological and demographic situation of the time (Sanders and Price 1968: Ch. 7). At a time prior to the development of the technology of intensive, permanent cultivation, given a population whose economic base was one or another variant of swidden agriculture, the most favorable, the most productive area for such a population would have been the Gulf Coast plain. The same technology applied to most highland areas would yield less return, per unit of land and probably also per unit of labor input. Phrased another way, the carrying capacity of the Gulf Coast was greater; it had higher demographic potential than did other areas. The relationship between population size and social complexity has been noted elsewhere (Sanders and Price 1968, cf. also Stevenson 1968). Add to this the probability of differential land use within the Gulf Coast (Coe 1968), with riverine floodplains capable of supporting permanent agriculture, a permanent agriculture requiring little labor input (contrast

the highland areas, where permanent cultivation usually requires a heavy investment of labor); the Gulf Coast in the Middle Formative constitutes a clearly nuclear area.

But in explaining the impact of this nuclear area on other regions it is neither necessary nor accurate to assume that other areas, perhaps somewhat smaller, perhaps somewhat less complex, were static. They cannot be viewed as mere passive receivers of Olmec civilization, contributing nothing themselves to cultural development. This is why viewing the Olmec as the mother-culture is misleading (Price 1970). Various techniques to augment agricultural production were being developed in the Highlands (Flannery et al. 1967; Fowler 1969), which ultimately permitted these areas to overtake and surpass the initial Olmec precocity. Sanders and Price (1968:118-119) have observed that the Olmec or Olmec-influenced highland styles of the Middle Formative seem to contain a sophisticated and not inconsiderable indigenous component they call Amacusac.

These are the considerations underlying Flannery's interpretation of cultural patterns in Middle Formative Mesoamerica. Based on recent work in the Valley of Oaxaca, his conclusion is that it is because Olmec-contemporary cultures elsewhere had independently reached a nearly comparable level of complexity that they could maintain regular relationships of mutual trade. The trading contacts, moreover, affected, again quite explicably, all parties concerned. Many, if not most, of the elite goods found in the Olmec heartland originated elsewhere, and thus represent imports. The wide distribution of portable Olmec objects throughout Mesoamerica represent exports (probably also the perishable goods rubber and cacao). This implies that population groups outside the Olmec heartland controlled certain resources that the Olmec wanted. It was profitable for the Gulf Coast Olmec to obtain such goods through trade, which involved the maintenance of regular ties with the populations in question.

We cannot thus regard the achievement of a relatively high degree of social complexity by non-Gulf Coast peoples as due to Olmec contact. This is not to deny that such contact was without repercussions on these local economies. What Flannery adumbrates, though does not develop fully, is that Olmec trade contacts further stimulated local processes of economic growth. People who already used a given local resource were encouraged to exploit such resources more fully, since they had a ready market for their goods or raw materials. In turn, this provided the base for the expansion of these local economies, opportunities for increased specialization of production and a resultant increase in internal social differentiation. Thus, the working of magnetite in the Valley of Oaxaca; thus also the working of jade in Costa Rica: business in such commodities was booming.

On the basis of the archaeological evidence and reasoning from ethnographic analogies, Flannery infers a sociological pattern quite unlike the

Postclassic. His trade networks are seen as resembling in principle a more elaborate development of, say, Northwest Coast potlatching, or Melanesian Kula ring exchanges. Key individuals in each local group collected the surplus production from that group, for reciprocal exchange with key individuals from other local groups. These nodal points in the economic network were positions of high status; it is possible that sumptuary rules existed to govern the consumption of certain elite goods. It is likely that non-luxury goods were similarly collected and redistributed among groups; the nodal individual would collect these, like the luxury goods, from his followers, and then redistribute among them what he himself received in exchange. We have then a combination of reciprocal and redistributive exchanges. Formalized trading partnerships and/or intermarriage may have regulated this system. Flannery describes the system as follows (1968:105):

First, it seems that the upper echelon of each society often provides the entrepreneurs who facilitate the exchange. Second, the exchange is not "trade" in the sense that we use the term, but rather is set up through mechanisms of ritual and so on. Third, there may be an attempt on the part of the elite of the less sophisticated society to adapt the behavior, status trappings, religion, symbolism, or even language of the more sophisticated group--in short, to absorb some of their charisma. Fourth, although the exchange system does not alter the basic subsistence pattern of either group, it may not be totally unrelated to subsistence. It may, for example, be a way of establishing reciprocal obligations between a group with an insecure food supply and one with a perennial surplus.

And (p. 108);

And the overall function of the whole system may have been to create one big economic sphere where previously many small ones had existed--to set the stage, in a way, for the great interregional symbiotic networks which Sanders (1956) describes for late periods of Mesoamerican prehistory.

Our reluctance to infer Preclassic institutions from Postclassic ones thus stems from a number of considerations. Beyond the trade network itself--which is what we are attempting to reconstruct--there is no evidence, for instance, of a Formative period empire in Mesoamerica. Trade and commerce proceed in the absence of empires, in fact clearly antedate such empires and are instrumental to their formation--but will be very differently patterned. The Formative demographic, settlement, agricultural and other productive systems, on the basis of archaeological evidence, were demonstrably different from those of the Classic and Postclassic; it seems reasonable to suppose that these observed differences may be closely correlated with other institutional differences.

Although there is thus far no indisputable evidence of significant long-range trade postdating the fall of Olmec and prior to the rise of Teotihuacan--the Mesoamerican Late Formative seems to be a period of relatively local cultures without major horizon styles--we postulate the continuation of at least parts of the Middle Formative network during this period. Such continuity would be especially probable in the types of commodities exchanged (though with a decline likely in total volume), and in the principal routes. Teotihuacan may thus have incorporated parts of the older system, but transformed the existing structure into one more consonant with centralized control, a state policy of imperial expansion, and a postulated intimate relationship to military conquest (Sanders and Price 1968: 202-204). The trading networks inferred for Teotihuacan would thus parallel in structure those documented for Aztec times, although quite probably on a somewhat smaller scale, in that the total demographic base for the former seems to have been considerably smaller than the Postclassic maximum. We will thus regard the institutional setting of Classic trade as similar to the Postclassic, but quantitatively and qualitatively different from those we have described for the Preclassic. The discussion which follows will provide the justification for an approach using a model for the spread of the Teotihuacan horizon style different in principle from that which explains the diffusion of Olmec.

We consider Teotihuacan to represent the first empire of virtually pan-Mesoamerican extension. While we will not discuss in detail the components of this horizon style (cf. Parsons 1969: Ch. 5), it is nonetheless our impression that its spread involved a far heavier blanketing of local traditions than was the case with the Olmec style. Teotihuacan objects, including essentially utilitarian or semi-utilitarian ceramic wares and forms, have a far wider distribution in Mesoamerica than even the Olmec luxury items. Local ceramic traditions were profoundly influenced by Teotihuacan styles; Tiquisate ware on the Pacific Coast of Guatemala, for example, includes figurine and pottery types in relatively free copies of Central Mexican types. In the Maya Lowlands, Teotihuacan covered cylindrical tripods have long been considered a diagnostic of the Late Tzakol ceramic complex along with Peten polychrome basal flange vessels; they often occur together in the same tombs. By contrast, Olmec influence on local styles outside the heartland seems largely confined to sculptures (portable and nonportable), and to luxury goods; more utilitarian items seem to remain essentially localized. Furthermore, though Olmec influence is widespread, it appears to be far more spotty, more selective, in its overall distribution--limited to what were probably the peaks of the site stratification hierarchy in the region in question in the Middle Formative--as though, hypothetically, we found considerable foreign influence at Tikal but none at nearby Uaxactun. This is an initial indication of a probable difference in the patterning, the institutional matrix, of the diffusion.

This does not imply, however, that the Teotihuacan influence was quantitatively uniform throughout Mesoamerica. Nor do we suggest that it

constituted a territorially contiguous empire. Rather, the impact of Teotihuacan upon local societies varied according to certain specifiable factors: How distant, geographically, was one from the other? Given primitive transport and communications, all else being equal, the more distant an area was from Central Mexico, the more effort must have been expended to incorporate it. What did the local society have, produce, or control that Teotihuacan wanted? This would determine whether and to what extent it was worthwhile or profitable to control it. What kind of social structure was present in the society in question, and how large was it? This would exert tremendous effects on the patterning of social and political relationships between the groups, including competitive relations. Not all these questions are necessarily answerable at present. However, we may recall that the Aztec Empire itself was equally selective in its expansion, that conquered territories and peoples differed among themselves in relationships with the center, that the empire itself was not geographically continuous in extent. We do feel it probable, on the basis of archaeological evidence to be presented below, that Teotihuacan trading patterns, like Aztec ones, involved institutionalized merchant systems, ports of trade, and the trade-precedes-tribute cycle of succession, in at least some areas. Additionally, this evidence suggests actual colonization of selected areas, which very probably involved militarism and conquest. There is no evidence of anything comparable on the Olmec horizon.

Our best evidence comes from Kaminaljuyu in the Guatemala Highlands. In Esperanza-Amatle I times, a massive civic complex representing a comparatively huge investment of capital and labor was built (the "Yankee Stadium"-Acropolis area), or rebuilt in pure Teotihuacan style. Elite burials in Mounds A and B are associated with Teotihuacan grave goods (Kidder, Jennings, and Shook 1946)--but this, as shall be demonstrated later, represents a different level of influence from the architectural evidence. The construction of a Mexican civic center in Guatemala is an operation involving the use of resources on a scale that imitation of foreign charisma alone cannot adequately explain:

The reasons for stressing the diffusion of architecture as evidence of expansion of states are obvious: a local group may well purchase foreign objects as exotic household furniture or even bury them with their dead but (particularly where the local society has a highly evolved religious system) such a group does not voluntarily supply the manpower required for the construction of monumental civic buildings to serve foreign gods. The introduction of large-scale ceremonial architecture of a foreign style in a local sequence, therefore, is evidence that the foreign power in some manner has secured control over the surplus labor of a local population. (Sanders and Price 1968:166).

Sanders and Price moreover consider intervention on such a scale to have been improbable without military support, particularly when the distance between Kaminaljuyu and Teotihuacan and the nature of the intervening topography are taken into account. Control by a foreign elite of the surplus resources of a given area, including labor supply, seems as good a definition as any of colonialism. A perhaps comparable situation to the postulated Classic relationship of Teotihuacan and Kaminaljuyu might be the Postclassic relationship between Tula and Chichen-Itza in Yucatan. There is, to our knowledge, nothing comparable for the Middle Formative.

During the Late Formative, Kaminaljuyu was already a large site and probably the dominant center of the Guatemala Highlands. Sanders (personal communication) has noted probable Teotihuacan influence in ceramics, pre-dating the massive rebuilding of the civic center. In other words, Kaminaljuyu was already a going concern, and already in contact with the Mexican Highlands. It may be that the pre-Esperanza-Amatle I Teotihuacan influences represent heavy, intensive, and concerted commercial relationships with later incorporation of Kaminaljuyu into the Teotihuacan empire.

Why Kaminaljuyu? Sanders and Price (1968) have postulated the existence of a Cacao Route, analogous to Coe's Middle Formative Jade Route discussed above. It may be that the Late Formative-Protoclassic dominance of Kaminaljuyu in the Guatemala Highlands may derive from its early pre-Teotihuacan control of cacao production of the Pacific Coast and adjacent piedmont--the Aztec Soconusco. Its location, controlling the major pass through the mountains, via Amatitlan and Escuintla to the Cotzumalhuapa area is suggestive. Military pressure exerted at Kaminaljuyu itself would have thus provided an efficient and economical means for Teotihuacan to control cacao production and transshipment from the area, merely by controlling what may already have been the dominant center. Teotihuacan influence is strong, significantly, along the natural trade route in the Amatitlan area (Borhegyi 1966; Price, unpublished field notes). And on the Pacific Coast, the Cotzumalhuapa sculptural style is heavily Teotihuacan influenced in its formal and iconographic characteristics (Parsons 1969).

It is not unlikely that cacao was coveted as early as Preclassic times. Thompson (1956:109) notes its role in the stimulation of trade and thus in the spread of ideas. A suggestion of the possible Preclassic importance of cacao lies in the fact that the earliest known Long Count dates (Cycle 7) come from the peripheral coastal lowland regions that are known from later times to be major cacao-producing zones. If precocity in calendrical developments is taken to indicate precocity in other aspects of culture-- and thus relative wealth--this edge may have derived from cacao export. The model proposed by Flannery and discussed above would be applicable; these local economies were permitted to expand on the basis of their control of a resource desired by others. Parsons (1969:160) suggests that the use of cacao as a means of exchange may originate, however, in the Classic, retaining the

ritual associations of earlier times but assuming a different function in the overall economic system. Certainly the ritual context of cacao is well documented. The Cotzumalhuapa style stresses an anthropomorphized-deified cacao-pod motif (Parsons 1969: Pl. 31, 43d). The Maya deity Ek Chuah, a god of trade, was also, more specifically, a god of cacao (Dockstader 1964: fig. 24). Direct evidence for the use of cacao in the Basin of Mexico in Classic times is lacking, but little else could explain the massive Teotihuacan penetration of Highland and Pacific Coastal Guatemala. While other commodities produced in this latter region--feathers, skins, other tropical products--were likely imported concomitantly into Central Mexico, it was probably cacao that was chiefly responsible for the maintenance of the system and that thus provided the principal motivation for Teotihuacan colonization. Cacao, valuable enough in small quantities to defray the considerable costs of import, was nonetheless required in regular and consistent rather than occasional fashion. By Post-classic times its general use was widespread--if it was used in market transactions it was therefore necessarily in the hands of virtually the entire Central Mexican population. Furs and feathers were, on the other hand, consumed almost entirely by a small elite class. It is this commodity, cacao, that can bridge the gap between administered (redistributive) and market trade: demand would have been greater and more constant, and the whole point is that it was in general circulation.

Kaminaljuyu is strategically located, furthermore, with reference to two other commodities discussed previously. We consider it highly probable that prior to the Teotihuacan penetration it already controlled the nearby El Chayal obsidian deposit. As by Classic times cacao was very likely in general circulation not restricted to the elite, this seems to have been the case also for obsidian from at least Olmec times on. Obsidian, like cacao, would have been passed back down through the hierarchy. Teotihuacan, by controlling Kaminaljuyu, would thus have had a monopoly of at least three of the major Mesoamerican obsidian sources: its own mines, the Pachuca deposits, and the El Chayal flow as well. Although jade, a sumptuary good, would probably not have had this kind of powerful social-integrative effect postulated for obsidian and cacao, its importance as an early trade commodity is undeniable. The pass on which Kaminaljuyu is situated extends east into the Motagua Valley and thus the Manzanal jade source previously mentioned. There would thus appear to be an almost overwhelming economic and geopolitical motivation for the Teotihuacan takeover at Kaminaljuyu.

If a hypothesis of military conquest and colonization appears to fit the Middle Classic relationship between Teotihuacan and Kaminaljuyu, it fits far less well the data of Lowland Maya sites such as Uaxactun and Tikal. In the Peten Teotihuacan influence occurs primarily in portable objects, stone sculpture, and in luxury or semi-luxury commodities. The Central Mexican presence is altogether less pervasive and was presumably very different in patterning. Even where, as at Tikal, there is some architectural evidence, this is non-comparable with the Kaminaljuyu data, suggesting a different model

from the one applicable to the Guatemala Highlands.

There is considerable evidence of trade in Classic Peten. Elite burials include, along with Maya ceramics, diagnostic Teotihuacan horizon markers. We have mentioned that such evidence could reflect relative charisma, of a Paris-fashions type, patterned by exchanges among elites. More to the point, however, is the fact that any obsidian recovered in Peten is necessarily imported. The sources of the Peten obsidian have not been analyzed or traced: it is therefore a guess that the black obsidian ultimately comes from the El Chayal deposit and the green from the Pachuca flow. (Some green obsidian, parenthetically, has been recovered from Kaminaljuyu and from the nearby Amatitlan area). The use of cacao in Peten is not extensively documented, but the presence of a cacao god suggests that the commodity was both known and valued. None of the principal luxury goods known from later times, including cacao, originates in the Peten rain forests, with the single exception of copal.

The lack of easily exportable resources in the Peten presents certain difficulties for the explanation of the observed data, and of the unquestioned Central Mexican presence especially at Tikal. One fully excavated structure (5D-43) at Tikal, probably part of a small compound, while of somewhat equivocal date, seems to us to be built in a modified Teotihuacan architectural style, with talud-tablero platform and a Tlaloc-eye decorative motif. William Coe (1965:40) considers it Early Toltec, but the latest ceramics are Ik (late Middle Classic) in date, and the structure seems closer in style to Teotihuacan and Tajn than it does to Tula. Stela 31 from Tikal, among others, bears a Mexican warrior figure with a Tlaloc shield--interesting in that the stela cult was lacking at Teotihuacan itself. Moreover, between the Tzakol and Tepeu phases at Tikal there is a temporary hiatus in the erection of dated stelae altogether.

These, then, constitute data relevant to the analysis of the relationships between Teotihuacan and Tikal. It seems to us likely that the 5D-43 structure and its associated compound represent some sort of resident foreign group, presumably of Teotihuacanos or of some other population under heavy Teotihuacan influence. While these buildings are not far from the major Tikal acropolis, they do not comprise part of the civic center itself; the latter is Peten Maya in style. This is in contrast with the situation at Kaminaljuyu and does not suggest that colonialism was involved: Teotihuacan-type buildings constitute only a small fraction of the total construction activity at Tikal at the time. That these foreigners were presumably of high status can be inferred from the proximity of this compound to the acropolis, and from both the quantities of Teotihuacan imports (or local copies) and the generally elite associations of such goods (status tombs, stelae, etc.). Probably a model of mercantile (pochteca) and/or diplomatic contact would best explain these data. But, as Sanders and Price observe (1968:169), there must have been a balance of payments problem of

no mean proportions. What were the inhabitants of Tikal using to pay for their imported goods? They suggest copal incense, and possibly also personnel--both religious-calendric specialists and also perhaps slaves--as partial answers, but the question is still open. In any case, however, we have an indication why there is less Mexican influence in Peten than we find in the contemporary Guatemala Highlands and Pacific Coast: Peten had much less of what Teotihuacan wanted. Thus there would have been little inducement to actual conquest and colonization; it would not have been economically worthwhile.

Classic Teotihuacan was a fully urban center, the largest in contemporary Mesoamerica, with an area of some 20 sq. km. and a population between 85 and 100,000. Millon (1967) presents ample evidence not only of its size and density, but of the internal differentiation of its population. This population was, according to the archaeological evidence especially in housing, highly stratified (compare, e.g. Linne's Tlamimilolpa complex with, say, the Viking Group). The more elite residences are those nearest to the civic center. There was also internal differentiation of population by occupation, with wards of potters and of obsidian workers (Millon 1967), presumably also of weavers, woodworkers, featherworkers, and other craftsmen dealing with perishable materials unlikely to leave direct archaeological evidence. In addition, there seems to have been a substantial percentage of farmers living in the city, particularly in areas away from the center; Sanders (1965) notes the paucity of contemporary rural settlement in the best agricultural zone of Teotihuacan Valley, thus supporting the conclusion that much of this land was cultivated by city residents. The internal symbiosis of this settlement is striking. Expectably, in such a socioeconomic setting, markets are of fundamental importance: full-time specialists, particularly those in non-food-producing occupations, must purchase much, if not all, of what they consume. Sanders (1956) has suggested that the size and frequency of markets constitute convenient indices of specialization and of urban life. Thus it is not surprising that a large market is located in the heart of the city as a part of the principal civic center, opposite the Ciudadela. Very probably Bernal Diaz' description of the Tlatelolco market could be plugged in here virtually unchanged.

Millon also notes the presence of what seem to be foreign barrios at Teotihuacan. Linne (1934, 1942) and Gamio (1922) had cited the occurrence of Maya artifacts, often in sizable concentrations, in various parts of the city; Millon has recently located a probable Oaxacan ward. In other words, Teotihuacan not only sent out merchant groups to other Mesoamerican centers, but accepted such foreign groups as well. It is interesting to note that at Teotihuacan these barrios are located at some remove from the center of the city, perhaps a security measure. In that long-distance administered trade was often physically separated from local market exchanges (cf. Arnold 1957a, b), such separation at Teotihuacan would serve to insulate the local population from the foreigners. Unfortunately, no comparable barrio of

Teotihuacanos has yet been identified at Monte Alban, though one very probably existed.

While for purposes of analysis it is often convenient to separate administered from market trade, especially in that there often is physical separation within the settlement of these activities and that different personnel are involved, there is clearly some overlap. Particularly if cacao constituted a means of exchange in the market, as it did in Aztec times and presumably in Classic times as well: in the Basin of Mexico any cacao in circulation is necessarily an import, since cacao will not grow here. Either long-distance trade, in the hands of the *pochteca*, or the tribute system, or a combination of both, must have been the mechanism responsible for the imports. We have previously mentioned the luxury goods for sale in the Tlatelolco market. Thus, at least some of the fruits of administered trade passed into general circulation, necessarily so in the case of cacao. The analytical "separation" is probably more apparent than real, in terms of its ultimate results. What it means is that goods obtained in administered trade would have had to pass through one or more additional transactions once they were imported, prior to their general release.

In this context, the location of the presumed Teotihuacan compound at Tikal, near the civic center, is noteworthy, and may indicate that something other than solely administered trade was perhaps involved at that site. William Coe (1967:73) notes the presence at Tikal of what he terms the "Market Place," in the East Plaza bounded by range structures 5E-32 through 36. Although he adduces little concrete evidence of its function, he considers its central location ideal for a market; it is interesting to note that it is not distant from the Teotihuacan compound. The Tikal market place measures 200 x 280 feet on its outer perimeter (ca. 70 x 90 meters). By contrast, the Great Compound at Teotihuacan measures approximately 500 x almost 700 meters on its outer perimeter: its surface area is thus some 55 times as large in total area as the Tikal "Market". This alone might be the material expression of the relative importance at the two sites, and would correlate with our prior discussion of the inhibiting effects of a relatively uniform environment upon the development of local symbiosis. Tikal and the Peten Maya generally represent a nonurban civilization, Coe's unilateral, Durkheim's mechanical solidarity type. In spite of arguments to the contrary (cf. Haviland 1969), we consider Tikal an essentially nonurban site. Sanders and Price (1968:204-206) suggest that Maya civilization may be what Fried (1960, 1967) calls a secondary state, occurring in response to pressures emanating from the earlier, more complex, fully urban states of Central Mexico. The urban vs. nonurban status of Kaminaljuyu during the Classic is thus far unclear.

Subsequent to the fall of Teotihuacan, there seems to be another period of comparative localism in Mesoamerica, without an integrating horizon style. Politically there was an interregnum in Central Mexico, with competition

among smaller local states in a feudal-like power struggle resembling Western Europe after the breakup of the Roman Empire. In much of the rest of Mesoamerica, the impression is of emphasis on local styles (Parsons 1969:164ff), often representing local syntheses of Teotihuacan influences. This Teotihuacanoid phase witnessed the persistence of interregional contacts and, presumably, exchange; but without major supra-local political structures.

In Central Mexico Tula ultimately succeeded to the mantle of Teotihuacan, while the Peten Maya collapsed entirely. The major Lowland Maya cultural centers shifted to the Yucatan Peninsula. Again, as in the Middle Classic, in the Early Postclassic we are dealing with an expansionist empire and a major horizon style. The relations between Tula and the Toltec phase at Chichen-Itza seem to parallel those we have inferred for Teotihuacan and Kaminaljuyu in the Classic. Little is concretely known for the Toltec horizon, in that the supposed "colony" at Chichen is far better known archaeologically than is the mother city in the nuclear area. Another interregnum separates the fall of Tula and the rise of Tenochtitlan. We postulate, however, the essential continuity of both state institutions and of trading networks from Teotihuacan times until the Spanish Conquest. On the Meseta Central the state, once crystallized, was never wholly lost; institutional changes throughout the Classic and Postclassic are viewed as waxings and wanings of scale rather than as changes in principle of organization. In our view, the major organizational change occurs between the Formative and the Classic.

The principal problem in the emergence of civilization is the generation of a non-egalitarian society. Under what circumstances will a population produce a surplus at all above their own consumption and replacement needs? Furthermore, under what circumstances will they voluntarily cede that surplus to others? It seems clear to us that, possibly barring massive inputs of force, this can occur only when all segments of a population concerned in some way profit from the arrangement. Wittfogel (1957) has observed that people will tolerate even an extraordinarily exploitative pattern of social stratification on the basis of the increased productivity possible with large-scale hydraulic agriculture. In other words, there is some advantage for everyone in the system (though some individuals or groups may profit more than others).

Ranking (Fried 1960, 1967) is associated with the development of systems of economic redistribution. The ranked positions derive their status as nodes, at various levels, of the process of centralized collection of local surpluses. In our view, much of the literature has emphasized this process at the expense of the complementary process: the reallocation of other goods -- local surpluses from other areas -- back down through the hierarchy. Those who contribute their surplus of Commodity X ultimately receive in return a share in Commodity Y obtained from elsewhere through reciprocal exchanges between ranked individuals (Flannery 1968, Sabloff and Tourtellot 1969).

Many of the commodities recognized archaeologically as trade items are

evidently luxury or elite goods, the distribution of which would presumably be restricted by sumptuary regulations of various kinds (cf. Service 1962). Olmec jades would fall into this category. Their occurrence in archaeological deposits is sufficiently infrequent and their style sufficiently distinctive that they immediately rivet the attention. Within a total economic system, however, their function parallels that of the coppers of the Northwest Coast, or the shell armbands and necklaces of the Trobriands. Harris (1968:562-567) notes that in at least the Melanesian example, other less spectacular commodities were regularly exchanged along with the sumptuary goods; and further, that it is goods of the former type, often neglected by investigators, that act to maintain the exchange system. This is what people receive in return. Archaeologically the distribution of the elite goods is merely the indication that we are dealing with a ranked society based economically on a system of redistributive exchanges. Such an indication cannot be analytically regarded as in any sense the cause of that system.

Similarly the literature tends to emphasize the formal separation of redistributive (=administered) trade and local trade (whether market or not). This too is misleading in that analytically it is the points of intersection between the two that seem to us to be critical. Neither is a closed system. As observed in the foregoing pages, certain commodities in Mesoamerican trade systems seem unusually significant in bridging this analytical gap. These include most especially obsidian and cacao. Obsidian, even in areas in which it constitutes an exotic import, comprises a part of the basic technology of production. It is clearly an item passed back down through the hierarchy, no matter how obtained. Cacao, probably at least by Classic times, constituted a virtually pan-Mesoamerican medium of exchange at even the local level; this implies that no matter how procured, its circulation was general in all segments of the population.

To return to the problem of the genesis of ranking, we must view nonegalitarian socioeconomic structures as adaptive. Ranking would seem to be an extremely efficient means of procuring a regular and consistent supply of certain commodities needed in a society which did not itself produce the goods in question. Particularly with local population growth, egalitarian mechanisms to obtain these items would tend to break down; they would be unable to handle the increased demand. Trade in luxuries would accompany, though not cause, this transformation. The resulting expanded economic systems of redistribution thus act as a further stimulus to local economic growth and development: as demand for specialized production, whether subsistence or luxury goods, increases, local specialization, internal socioeconomic differentiation, would be encouraged. Continued increases in overall size and complexity, in the system as a whole and in its component parts, can thus be viewed as a positive feedback, as self-reinforcing. Far from an inexplicable Great Leap Forward, the emergence of complex society in Mesoamerica is capable of intelligible explanation on the basis of specifiable demographic and economic factors, the functional implications of which are clear and analyzable.

Bibliography

Armillas, Pedro

- 1948 A sequence of cultural development in Mesoamerica. In A Reappraisal of Peruvian Archaeology, Wendell C. Bennett, ed. Society for American Archaeology, Memoir No. 4:105-112.

Arnold, Rosemary

- 1957 A port-of-trade: Whydah on the Guinea Coast. In Trade and Market in the Early Empires, Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson, eds., Glencoe, Ill.: The Free Press:154-176.
- 1957 Separation of trade and market: Great market of Whydah. In Trade and Market in the Early Empires, Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson, eds. Glencoe, Ill.: The Free Press: 177-187.

Bennett, Wendell C.

- 1948 The Peruvian co-tradition. In A Reappraisal of Peruvian Archaeology, Wendell C. Bennett, ed., Society for American Archaeology, Memoir No. 4:1-7.

Blom, Frans

- 1932 Commerce, Trade, and Monetary Units of the Maya. New Orleans: Middle American Research Series, Publication No. 4.

deBorhegyi, Stephan F.

- 1966 Shell offerings and the use of shell motifs at Lake Amatitlan, Guatemala, and Teotihuacan, Mexico. Actas del XXXVI Congreso Internacional de Americanistas (Sevilla 1964), Vol. 1:355-371.

Chapman, Anne M.

- 1957 Port of trade enclaves in Aztec and Maya civilizations. In Trade and Market in the Early Empires, Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson, eds. Glencoe, Ill.: The Free Press: 114-153.

Coe, Michael D.

- 1961 Social typology and the tropical forest civilizations. Comparative Studies in Society and History, Vol. 4, No. 1:65-85.
- 1962 Mexico. New York: Praeger, Ancient Peoples and Places Series.
- 1965a The Jaguar's Children: Pre-Classic Central Mexico. New York: The Museum of Primitive Art.
- 1965b The Olmec style and its distributions. In Handbook of Middle American Indians, Vol. 3, Robert Wauchope and Gordon R. Willey, eds. Austin, Texas: University of Texas Press:739-775.

Coe, Michael D.

- 1968 San Lorenzo and the Olmec civilization. In Dumbarton Oaks Conference on the Olmec, Elizabeth P. Benson, ed. Washington D.C.: Dumbarton Oaks Research Library and Collection: 41-78.

Coe, Michael D., and R. Cobean

- 1970 Obsidian Trade at San Lorenzo Tenochtitlan, Mexico. Paper presented at the XXV Annual Meeting of the Society for American Archaeology, Mexico, D. F.

Coe, William R.

- 1965 Tikal: Ten years of study of a Maya ruin in the lowlands of Guatemala. Expedition, Vol. 8, No. 1.

- 1967 Tikal: A Handbook of the Ancient Maya Ruins. Philadelphia: University Museum.

Diaz del Castillo, Bernal

- 1958 The Discovery and Conquest of Mexico. New York: Grove Press.

Dockstader, Frederick J.

- 1964 Indian Art in Middle America. Greenwich: New York Graphic Society.

Easby, Elizabeth K.

- 1968 Pre-Columbian Jade from Costa Rica. New York: Andrew Emmerich, Inc.

Flannery, Kent V.

- 1968 The Olmec and the Valley of Oaxaca: A model for interregional interaction in Formative times. In Dumbarton Oaks Conference on the Olmec, Elizabeth P. Benson, ed. Washington D.C.: Dumbarton Oaks Research Library and Collection: 79-117.

Flannery, Kent V., Anne V. T. Kirkby, Michael J. Kirkby, and Aubrey W.

- 1967 Williams, Jr. Farming systems and political growth in ancient Oaxaca. Science, Vol. 158, No. 3800: 445-454.

Foshag, W. F.

- 1957 Mineralogical studies on Guatemala jade. Smithsonian Miscellaneous Collections, Vol. 135, No. 5.

Fowler, Melvin L.

- 1969 A preclassic water distribution system in Amalucan, Mexico. Archaeology, Vol. 22, No. 3: 208-215.

Fried, Morton H.

1960 On the evolution of social stratification and the state. In Culture in History: Essays in Honor of Paul Radin, Stanley Diamond, ed. New York: Columbia University Press: 713-731.

1967 The Evolution of Political Society. New York: Random House.

Gamio, Manuel

1922 La Poblacion del Valle de Teotihuacan, Mexico. 3 vols. Mexico: Secretario de Agricultura y Fomento.

Grove, David C.

1968 The pre-classic Olmec in Central Mexico: Site distribution and inferences. In Dumbarton Oaks Conference on the Olmec, Elizabeth P. Benson, ed. Washington D.C.: Dumbarton Oaks Research Library and Collection: 179-185.

Harris, Marvin

1968 The Rise of Anthropological Theory. New York: Thomas Y. Crowell Co.

Haviland, William

1969 A new population estimate for Tikal, Guatemala. American Antiquity, Vol. 34, No. 4: 429-433.

Heizer, Robert F.

1961 Inferences on the nature of Olmec society based upon data from the La Venta site. Kroeber Anthropological Society Papers No. 25: 43-57. Berkeley.

Heizer, Robert F., H. Williams, and J. A. Graham

1965 Notes on Mesoamerican obsidians and their significance in archaeological sites. Contributions of the University of California Archaeological Research Facility, No. 1: 94-103. Berkeley.

Kidder, Alfred V., Jesse D. Jennings, and Edwin M. Shook

1946 Excavations at Kaminaljuyu, Guatemala. Washington D.C.: Carnegie Institution of Washington, Publication No. 561.

Leeds, Anthony

1961 The port-of-trade in pre-European India as an ecological and evolutionary type. In Proceedings of the 1961 Annual Spring Meeting of the American Ethnological Society, Viola E. Garfield, ed. Seattle: University of Washington Press: 26-48.

Linne, Sigvald

1934 Archaeological Researches at Teotihuacan, Mexico. Stockholm: Ethnographical Museum of Sweden, n.s., Publication No. 1.

Linne, Sigvald

- 1942 Mexican Highland Cultures. Stockholm: Ethnographical Museum of Sweden, n.s., Publication No. 7.

Millon, Rene

- 1967 Teotihuacan. Scientific American, Vol. 216, No. 6: 38-48.

Parsons, Lee A.

- 1957 The nature of horizon markers in Middle American archaeology. Anthropology Tomorrow, Vol. 5, No. 2: 98-121.

- 1964 The Middle American Co-Tradition. Ph.D. dissertation, Harvard University.

- 1967- Bilbao, Guatemala: An Archaeological Study of the Pacific Coast
1969 Cotzumalhuapa Region (2 vols.) Milwaukee Public Museum, Publications in Anthropology, Nos. 11, 12.

Parsons, Lee A., and Peter S. Jenson

- 1965 Boulder sculpture on the Pacific coast of Guatemala. Archaeology, Vol. 18, No. 2: 132-144.

Polanyi, Karl

- 1957 The economy as instituted process. In Trade and Market in the Early Empires, Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson, eds. Glencoe, Ill.: The Free Press: 243-270.

Price, Barbara J.

- 1968 Cause, Effect and the Anthropological Study of Urbanism. Paper presented at the XXXVIII International Congress of Americanists, Stuttgart, Germany (in press).

- 1970 Review of Dumbarton Oaks Conference on the Olmec, Elizabeth P. Benson, ed. American Antiquity, Vol. 35, No. 3: 392-394.

Revere, Robert B.

- 1957 No man's coast: ports of trade in the eastern Mediterranean. In Trade and Market in the Early Empires, Karl Polanyi, Conrad M. Arensber, and Harry W. Pearson, eds. Glencoe, Ill.: The Free Press: 38-63.

Roys, Ralph L.

- 1943 The Indian Background of Colonial Yucatan. Washington, D.C.: Carnegie Institution of Washington, Publication No. 548.

Sabloff, J. A., and G. Tourtellot

- 1969 Systems of Exchange among the ancient Maya. Paper presented at the 68th Annual Meeting of the American Anthropological Association, New Orleans.

Sahagun, Fray Bernardino de

- 1959 General History of the Things of New Spain. Florentine Codex, translated by Charles E. Dibble and Arthur J. O. Anderson in Thirteen parts. Book 9, The Merchants. Santa Fe: School of American Research.

Sanders, William T.

- 1956 The Central Mexican symbiotic region. In Prehistoric Settlement Patterns in the New World, Gordon R. Willey, ed. New York: Viking Fund Publications in Anthropology, No. 23: 115-127.
- 1965 Cultural Ecology of the Teotihuacan Valley. Pennsylvania State University, Department of Anthropology (multilith).

Sanders, William T., and Barbara J. Price

- 1968 Mesoamerica: The Evolution of a Civilization. New York: Random House.

Scholes, France, and Ralph L. Roys

- 1948 The Maya Chontal Indians of Acalan-Tixchel. Washington D.C.: Carnegie Institution of Washington, Publication No. 560.

Service, Elman R.

- 1962 Primitive Social Organization: An Evolutionary Perspective. New York: Random House.

Stevenson, Robert F.

- 1968 Population and Political Systems in Tropical Africa. New York: Columbia University Press.

Steward, Julian H.

- 1955 Some implications of the symposium. In Irrigation Civilizations: A Comparative Study, Julian H. Steward, ed. Washington D.C.: Pan American Union, Social Science Monographs I.

Stirling, Matthew W.

- 1961 The Olmecs: artists in jade. In Essays in Pre-Columbia Art and Archaeology. Cambridge: Harvard University Press: 43-59.

Stross, F. H., et al.

- 1968 Analysis of American obsidians by X-ray fluorescence and neutron activation analysis. Contributions of the University of California Archaeological Research Facility, No. 5: 59-79. Berkeley.

Thompson, J. Eric S.

- 1956 Notes on the use of cacao in Middle America. Notes on Middle American Archaeology and Ethnology. Washington, D.C.: Carnegie Institution of Washington, No. 128.

Thompson, J. Eric S.

- 1964 Trade relations between the Maya highlands and lowlands. Estudios de Cultura Maya, Universidad Nacional Autonomia de Mexico: Seminario de Cultura Maya, Vol. IV, 13-49.

Williams, H. and R. F. Heizer

- 1965 Sources of rocks used in Olmec monuments. Contributions of the University of California Archaeological Research Facility No. 1: 1-39. Berkeley.

Wittfogel, Karl A.

- 1957 Oriental Despotism: A Study in Total Power. New Haven: Yale University Press.

ADDED REMARKS by L. Parsons

There is one compelling realm of inquiry which was touched upon, but not pursued, in the various discussions at the conference which not only relates to the present paper, but the whole concept of the definition of, and the recognition of, "the emergence of civilization" in Mesoamerica. This is the matter of ethnological parallels between known Polynesian and, to a lesser extent Northwest Coast Indian, social-religious-economic structures and archaeological inferences about Olmec culture. Superficially the parallels seem extremely close insofar as one could judge by material remains. Polynesian society in the ecologically diverse high volcanic islands, for example, had ranked non-egalitarian social structure, a "state" religion, a rigidly (and ritually) controlled redistributive system, long distance trade, "great" cohesive art style, and monumental stone architecture and stone sculpture (e.g., the ceremonial marae of the Marquesas). The last satisfies the vital criterion of a sense of permanence. Whether or not one classifies both Polynesian and Olmec culture as "chiefdoms" or as "states", the evidence seems to us to merit careful comparative analysis. Most probably both historic Polynesian culture and prehistoric Olmec culture might best be defined as truly transitional (i.e., "emergent") civilizations.