

THE ROLE OF THE MARKETING SYSTEM IN AZTEC SOCIETY AND ECONOMY: REPLY TO EVANS

Michael E. Smith

The major disagreements between Evans and me stem from our very different characterizations of the nature of the Aztec socioeconomic system. Against her picture of a politically controlled, uncommercialized, and fragmented economy I argue for a complex, open, highly commercialized, and integrated economic system. Markets and marketplace trade played a larger role in this system than Evans would allow. From this perspective the central place analysis is elaborated and defended.

Evans objects to use of the central place model in the analysis of settlement patterns in the Aztec Valley of Mexico. Her critique has two components: (1) she does not share my view of the complex and open nature of the Aztec economy and the place of the market system within that economy; and (2), she criticizes certain technical aspects of the central place analysis. The former issue is by far the more important one, for if Evans' view of the Aztec economy is correct, then central place theory (CPT) is not an appropriate model to apply to the Valley of Mexico. Therefore, I begin with a discussion of some problems with Evans' interpretation of the Aztec economy and market system. The following points are criticized: (1) Evans' contention that supply and demand did not influence distribution in the Valley of Mexico; (2) her view of the whole Aztec economy as "politically determined"; (3) her repeated assertions to the effect that "market exchange was politically regulated"; (4) her questioning of the integrated nature of the valley-wide market system; and (5) her tendency to artificially separate and isolate long-distance trade from marketplace trade. Once I have argued that (1) the Aztec economy was more complex and commercialized, and (2) that the market system played a larger role than Evans would maintain, several relatively minor points concerning specifics of the central place analysis will be addressed.

THE AZTEC ECONOMY

One of my primary disagreements with Evans on the nature of the Aztec economy concerns her statement that "supply and demand did not affect the distribution of goods." I cannot agree; there is no known economic system anywhere in the world, industrial or preindustrial, in which distribution is not affected in some way by supply and demand. As a source for this assertion, Evans cites Carrasco (1978:51), where he states that "La oferta y la demanda no efectúan la distribución de los bienes . . ." (emphasis added). This is a quite different situation. *Cassell's Spanish Dictionary* defines the verb *efectuar* as "to effect, effectuate, accomplish, carry out" (1968:355), as opposed to the verb *afectar*, which means "to affect, influence" (1968:26); Evans evidently confused the two verbs. A literal translation of Carrasco's statement would be, "Supply and demand do not carry out distribution of goods," i.e., distribution is not *controlled* by supply and demand. Furthermore, Carrasco is not even talking about the Aztec economy in the passage cited (note that *efectúan* is in the present tense). The statement comes from a discussion of a general model or ideal type that Carrasco calls the "administered market model" (1978:50-54). He later goes on to evaluate the degree of fit of the Aztec distributive system to this and other general models (1978:45ff; see also Carrasco 1980).

Carrasco (1978) suggests that supply and demand did not completely determine the patterns of distribution in the Aztec economy, and he is almost certainly correct. However, the *degree* to which they *did* influence distribution (and prices) is an important matter for our understanding of the Aztec economy. An investigation of this issue would seem to be a more reasonable course of

action than a theoretically naive dismissal of supply and demand as active economic forces. Unfortunately, the available documentary sources for the Valley of Mexico do not yield much direct evidence on this subject. We can approach the matter, however, through consideration of comparative data. Carol Smith (1976:314) has noted a cross-cultural correlation among: (1) the extent of the division of labor in a society; (2) the spatial range of the economic system; and (3) the "degree to which a price-setting market allocates commodities and factors of production" (which is closely related to the importance of supply and demand in the economy). These variables define the "degree of commercialization" of a society (Smith 1976:314), which Smith uses to characterize three broad, nonevolutionary levels: *uncommercialized* (tribal societies, chiefdoms, feudal manors), *partially commercialized* (administered solar and dendritic central place systems), and *fully commercialized* (complex interlocking market systems) economies (see also C. Smith 1974; M. Smith 1978:17-39). Neale (1971) points out that in addition, level of commercialization is associated with importance of money in a given society.

The use of various items as money is well documented for the Aztecs (e.g., Motolinía 1971:374; Díaz del Castillo 1956:217; Clavigero 1945:283ff). Recent analyses (Durand-Forest 1971; Litvak 1971:112-118; Berdan 1975:217-228; Calnek 1978:110-112) suggest that while there was not complete standardization of value among Aztec currencies, the "medium of exchange" aspect of money was highly developed (see Schneider [1974:157ff] on the concept of money). Extensive *division of labor* in the Aztec Valley of Mexico is well known (e.g., Sanders 1971:11-16, 27; Katz 1966:47-55; Davies 1973:78-82); its development is comparable to that in other known fully commercialized agrarian states. The *spatial range* of the Aztec economic system was extensive (Sanders 1971:15); while the market system integrated the whole Valley of Mexico (see below and M. Smith 1978, 1979a), long-distance trade and tribute systems tied much of the rest of Mesoamerica into the Aztec economy (Berdan 1975, 1977; M. Smith 1979b). The relatively high score of the Aztec economy on these three variables (importance of money, division of labor, spatial range of the economy) tends to favor a high score on the fourth variable, the importance of supply and demand. These relationships are not deterministic; they do, however, indicate definite tendencies and patterns, strongly suggesting that supply and demand were important in the Aztec economy.

In addition to such comparative arguments, my central place analysis was designed to shed some light upon the problems of level of commercialization and role of supply and demand in the Aztec economy as expressed in certain aspects of retail marketing behavior. Evans criticizes me for not establishing *a priori* the degree to which CPT's behavioral assumptions are met in Aztec society. However, if this were known beforehand, the central place analysis would be superfluous. I was attempting to *investigate* the presence of certain behavioral characteristics among the Aztecs (such as those leading to profit maximization on the part of merchants) by looking for a particular settlement pattern that is known to be produced largely through the operation of those characteristics (M. Smith 1979a:113, 121-122; see Crissman 1976 on this method of analysis. The mechanisms of how such behavioral traits produce specific settlement configurations are discussed in Christaller [1966], Marshall [1969], Crissman [1976], and C. Smith [1974]). When the Aztec settlement pattern was found to conform generally to the predicted $k = 3$ central place model, I concluded that the behavioral assumptions of CPT were indeed operating in the Aztec Valley of Mexico (M. Smith 1979a:121ff). This conclusion, of course, does not deny the role of non-marketing factors in the settlement system and economy in general (1979a:118-121).

Another problem with Evans' interpretation of the Aztec economy is her assertion that "clearly, economic organization, including the market system, is politically determined." In other passages she is more moderate, calling market exchange "politically regulated" and the overall economy "politically administered." There are two issues here: the degree of administrative control over marketing, and the degree of administrative control over the economy in general. The latter issue is of broad scope and involves fundamental theoretical issues concerning notions of property, mode of production, exchange, consumption, stratification, and the like. These go far beyond the scope of the present paper; I will simply point out that two noted authorities, considering the same data base (and publishing in the same book) reach very different conclusions on the

role of the state in controlling the Aztec economy. Carrasco (1978:23) states that "the most important [characteristic] of the economy of ancient Mexico was the fact that it was an economy directed and regulated by the political organization," while Calnek (1978:112) concludes that "the evidence of direct state intervention in the primary processes of production and distribution is, in large part, negative" [author's translations]. Clearly more research is needed in this area before firm conclusions can be drawn.

THE MARKET SYSTEM

Turning to the more manageable question of the degree of administrative control over marketing, I ask, what exactly does Evans mean by "politically regulated" market exchange? All known marketing systems in agrarian states are politically regulated to some degree. They range from the highly controlled type that Carol Smith (1974, 1976) calls a "solar marketing system" to the open competitive type she calls "complex interlocking." *Solar market systems*, usually found in isolated regions, contain a single dominant marketplace politically controlled by a resident elite. These systems are characteristically small in size and exhibit limited division of labor (M. Smith 1978:21-26; see Siverts 1969; Vogt 1969; Aguirre Beltrán 1953:97-147; Bromley and Bromley 1975; C. Smith 1974, 1976). *Complex interlocking market systems*, on the other hand, are larger and more open. Rural producers have opportunities for trading at a number of easily accessible markets, and the resulting spatial competition often leads to a Christallerian arrangement of central places. Administrative control over these systems is generally limited to keeping order in the marketplaces, while the regional movements of persons and goods are not regulated (M. Smith 1978:28-39; see Skinner 1964, 1977; C. Smith 1976, 1977).

Where would the Aztec market system fall on the scale of political control over distributive mechanisms? Evans argues for a high degree of such control. She is probably basing this opinion on the many reports by Spanish chroniclers of the regulation of trading practices in Aztec marketplaces (the majority of the data are from the central Tlatelolco market, probably the most heavily regulated of the Valley of Mexico markets). We are told of the maintenance of law and order in the marketplace (e.g., Cortés 1971:104f; Sahagún 1950-1969, book 8:67, book 9:24; Torquemada 1969:560); the collection of market taxes (e.g., Durán 1971:277; Zorita 1963:161); the checking of weights and measures (Cortés 1971:104f; Sahagún 1950-1969; book 8:67); the enforcement of hygienic and quality standards (Cortés 1971:104f); and the like.

However, concerning administrative control over regional processes of exchange, there is very little evidence of political control over movements of goods or people between markets in the Valley of Mexico. While it is known that such movements took place (M. Smith 1979a:111ff and below), they were *not* under state control. The following types of political control over regional marketing processes characteristic of most administered solar market systems (C. Smith 1976:318ff) were *not* present in the Aztec Valley of Mexico: lack of competition between adjacent large market centers; lack of competition between large and small market centers; adjacent markets meeting on the same day of the week; enforced limited regional division of labor. Evans is right in emphasizing the need to consider political organization within the valley in order to understand the settlement system and overall economic organization. However, there is simply no evidence that administrative control over marketing was exerted above the level of the city-state (M. Smith 1978:47-50, 55-57, 98-99). "Confederations" of city-states regulated tribute flows, but they were evidently not strong enough (or had no desire) to control the market system. As Carrasco (1978:49) puts it, "The lack of political unification must be seen as a fundamental factor to explain the importance of the market [system] in ancient Mexico" [author's translation].

Evans states that "there is good reason to question whether this market 'system' actually existed as an integrated system," yet she does not substantiate this argument. Briefly, evidence supporting the integration of the various markets into a single system includes:

1. Existence of itinerant merchants traveling from market to market buying and selling;
2. Staggering of market schedules such that adjacent markets convened on different days of the week;

3. Existence of community specialization in the Aztec Valley of Mexico (documentation for these three points is provided in my original article [M. Smith 1979a:111–112]; see also M. Smith [1978:47–53]);

4. Recent findings of Brumfiel (1976) showing that the individual city-states were *not* important units of economic symbiosis, but rather that the whole Valley of Mexico must be considered in order to understand Aztec patterns of specialization and exchange (this is discussed in M. Smith [1978:48–50]; see also Sanders et al. [1979:179ff]);

5. Easing of political relations and the dramatic decline in local warfare among the city-states of the valley in the century prior to the Spanish conquest (Davies 1973:86ff; Bray 1972:177ff);

6. The relative ease of travel throughout at least the central and southern portions of the valley. Evans implies that the lake was a hindrance to travel and hence to market trade between Tenochtitlan and the Texcoco region. However, the many Spanish references to extensive canoe traffic do not support such an interpretation. For example, “. . . and we beheld on that great lake a great multitude of canoes, some coming with supplies of food and others returning loaded with cargoes of merchandise” (Díaz del Castillo 1956:218; see also Torquemada 1969:556; Gibson 1964:361ff; Armillas 1964:321).

On this basis I argue for the existence of a single interconnected marketing system that integrated the economies of the many city-states in the Valley of Mexico (see also Calnek 1978). If markets only integrated “local regions” (city-states?), as Evans claims, then how did Otumba obsidian—not a tribute good—get to rural Huexotla (Brumfiel 1976:183ff)? Brumfiel shows that the obsidian was almost certainly obtained through the market system. She interprets the increase over time in Otumba obsidian relative to other obsidian as evidence of market intensification (1976:183–187, 206–208), and I would agree.

Finally, Evans suggests that long-distance trade and not marketplace trade was the more important force influencing Chiconautla's location and functions on the old lakeshore. However, rather than stress differences between Aztec long-distance trade and marketplace trade (as Chapman [1957] did), I would emphasize their interconnections. *Pochteca* traded in the marketplaces and even served as market judges and administrators (Sahagún 1950–1969, book 9:24, book 10:59; M. Smith 1978:84–86; Carrasco 1980). Long-distance trade was indeed important at the city of Chiconautla, as Evans says, but as the Tlatelolco market was probably the end point of much of this trade, a sharp distinction between long-distance trade and market trade is not useful in this situation. The two institutions were closely interconnected, and the case of Chiconautla supports my general argument for the importance of trade in the dynamics of the Valley of Mexico settlement system.

SOME SPECIFICS OF THE CENTRAL PLACE STUDY

Several aspects of Evans' critique of my use of CPT are answered above, but I would like to address three further points: (1) the assumptions concerning settlement dynamics that underlie CPT; (2) applicability of Christaller's $k = 7$ administrative principle to the Valley of Mexico; and (3) the importance of the immediate hinterlands of high-order central places.

1. Evans states that many settlements in the Valley of Mexico were initially established “as political centers situated to have maximum access to the most productive agricultural land.” This may or may not be so. However, her next statement—that trade was “a minor factor in the establishment and development of such centers” (emphases added)—does not follow logically from the previous sentence. The factors influencing the founding or initial placement of a settlement are not necessarily the factors that contribute most heavily to the growth and development of a settlement. Evans does not provide any evidence for the supposed lack of importance of trade in the growth of Valley of Mexico central places.

From the central place perspective, the initial placement of a settlement is assumed to result from any number of reasons; in fact nonsystematic or chance factors are often more important than systematic economic, political, or environmental considerations (L. Crissman, personal communication). It is *not* assumed that new settlements are founded because an empty space existed

between three market towns. However, once settlements are founded and start growing, CPT argues that in an area of retail-market trading (e.g., the Aztec Valley of Mexico), the economic importance of an optimally located settlement will increase more rapidly than that of a less favorably located settlement. The locational advantages will, over time, translate into economic growth (measured by the number of central functions performed) as well as population growth in most cases. CPT does not attempt to explain why a given settlement is located where it is; rather it tries to explain the (economic) size and complexity of settlements, given their locations relative to one another.

Thus the fact that various towns and cities in the valley were founded in zones with good agricultural potential and that many took on political significance early in their development, as Evans argues, is not at all inconsistent with the principles of CPT. I argue, however, that once the settlements were established, commercial factors took on increasingly greater significance in the differential development of the central places. The result of this process was the settlement pattern as it was emerging at the time of the Spanish conquest.

2. Evans suggests that Christaller's "administrative" or "separation" principle (producing the $k = 7$ settlement pattern) may provide an apt model for the Aztec settlement system. Such an argument cannot be sustained. The hallmark of this kind of system is the isolation and separation of small, discreet, administered market systems (Christaller 1966:77-80). In each small system, there is "toward the edge of the region a thinning population density—and even uninhabited areas" (1966:77). Evans presumably has the city-states in mind as the basic units described by Christaller; if such is the case, then this model does not at all describe the Aztec settlement pattern (see Sanders et al. 1979: map 18). Christaller's $k = 7$ model describes virtually the same kind of regional economy that Carol Smith calls the solar market system (small, isolated, heavily administered exchange systems). My arguments above for a complex interlocking market system thus do not support a $k = 7$ or solar model for the individual city-state economies. Brumfiel's demonstration (1976) that the city-states were not important symbiotic units shows the inadequacy of such a formulation.

3. Finally, Evans suggests that the fact that Tenochtitlan had a largely empty, nonproductive hinterland (Lake Texcoco) is inconsistent with the expectations of CPT. Quite the contrary! The size of the largest centers is not assumed by CPT to be due to their (market-oriented) interaction with their immediate hinterlands, but rather to their interaction with other large centers. A center does not grow to be the largest in a region through its function in supplying close neighbors but rather through its function as a node of retail trade for many large and small centers distributed over a large area (Christaller 1966; Marshall 1969:15-28).

Evans objects to my interpretation that commercial factors were primary in the growth of Tenochtitlan. However, a look at any map of Aztec settlements in the Valley of Mexico will show that Tenochtitlan was located in the best possible place to trade effectively with the many important cities ringing the lake system (cf. Armillas 1964:321). Evans argues that the growth of Tenochtitlan is better attributed to "its own productive environmental zone and its proximity to similar zones south and west of the city." However, Calnek (1972:114) has shown that Tenochtitlan's own *chinampas* could support only a tiny fraction of the city's population. If access to *chinampas* was such an important factor in the location and development of urban Tenochtitlan, then why was this largest Aztec settlement not located in the heart of the main Xochimilco-Chalco *chinampa* zone, some distance to the south (Armillas 1971)? I do not mean to imply that the *chinampas* were not important suppliers of food to Tenochtitlan (see Parsons 1976). However, from a comparative perspective, intensive agriculture is often a prerequisite for urbanization, but it is not in any sense a dynamic generating factor (M. Smith 1979b). The cities of Cuiclahuac, Mixquic, and Xochimilco were the ones optimally located in terms of access to *chinampa* cultivation, while the twin cities Tenochtitlan/Tlatelolco were optimally located with respect to retail trading opportunities.

CONCLUSIONS

Central place theory provides a model for the analysis of Aztec settlement dynamics in the Valley of Mexico, giving an explanation for the relative size and importance of the various settlements that I feel is superior to vague appeals to "political control" and "environment" as dominant forces in the settlement system. The significance of the central place analysis, however, goes beyond the relatively narrow domain of settlement sizes and relative locations. The behavioral implications of the study (that marketing and marketing-related behavior were important determinants of settlement pattern) point toward a large role for the market system and commercial activity in overall Aztec economy and society. Evans would not agree with this conclusion, and neither would Sanders et al. (1979:403-405). Yet the central place analysis, together with arguments presented here and elsewhere (M. Smith 1978, 1979b), fits remarkably well with the results of a number of recent studies of the Aztec economic system. Calnek (1978), who has undertaken documentary analyses far more extensive and detailed than my own, argues strongly for the importance of markets and commerce in the Aztec Valley of Mexico. Brumfiel (1976) provides crucial archaeological data on specialization and exchange; she too sees a more open and commercialized economy than Evans' interpretation would allow. Litvak (1971), viewing the Valley of Mexico from the perspective of extra-valley tributary provinces, reaches similar conclusions. This view fits well with comparative data from other preindustrial empires (Eisenstadt 1969:95-97; see M. Smith 1979b), showing its appropriateness.

A picture is thus emerging of a highly complex and dynamic Aztec socioeconomic system. The "strongly rooted" (Calnek 1978:112) market system is now being viewed as one of the primary institutions in the transmission of both information and goods throughout all social strata of the Valley of Mexico. The central place study was not an end in itself but rather an additional method of analyzing the Aztec socioeconomic system and hopefully a contribution to our emerging understanding of that system.

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