

Economic Change in Morelos Households

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How did the various large-scale processes of the Postclassic Mesoamerican world system affect people's lives? And how did the actions of individuals in turn influence world-system processes? In this chapter I examine the linkages between large-scale world-system dynamics and individual households in an affluent production zone of central Mexico. Morelos was an area of rich farmland whose grains and cotton—as well as bark paper, cotton textiles, and other products—were exported to the Basin of Mexico throughout the Middle and Late Postclassic periods. Most of the archaeological data presented here come from my excavations of Postclassic residential structures, both elite and commoner, at the sites of Yautepec in north-central Morelos, and Cuexcomate and Capilco in western Morelos. I also draw on a study of ceramics from Postclassic sites throughout the state of Morelos (Smith 2003).

EXCAVATIONS

I use the following designations for Postclassic time periods (see table 1.1): Middle Postclassic (A.D. 1100–1300; Temazcalli phase in western Morelos, and Pochtla phase at Yautepec); Late Postclassic-A (A.D. 1300–1430; Early Cuauhnahuac in western Morelos; Atlan phase at Yautepec); and Late Postclassic-B (A.D. 1430–1550; Late Cuauhnahuac and Molotla phases).

CUEXCOMATE AND CAPILCO

Located near Xochicalco on the huge alluvial fan known as the Buenavista Lomas, the sites of Cuexcomate and Capilco were first reported by Kenneth G. Hirth's Xochicalco Mapping Project (Hirth 2000) in 1978 (figure 32.1). In 1986, Cynthia Heath-Smith and I excavated a large number of houses and other structures at these rural sites (Smith 1992a; Smith and Heath-Smith 1994).

Because house foundation walls were visible on the surface, we were able to map most of the architecture and conduct energetic analyses of construction costs. We tested a large number of houses and excavated several structures completely. These houses had been abandoned gradually, probably as part of the *Congregación de Indias* policy of resettlement (Gerhard 1977, 1993b), and the inhabitants moved to the nearby village of Tetlama in the early or mid-sixteenth century; consequently, few artifacts were left on the house floors. Our excavation sampling emphasized midden deposits located with the help of soil phosphate tests. These middens furnished good samples of ceramics, obsidian, and other artifacts. A refined Postclassic chronology was developed for these sites (Smith and Doershuk 1991), resulting in a detailed picture of economic and social change in the Postclassic period. In addition to houses, we excavated several agricultural terraces and did reconstructions of regional population and carrying capacity in the vicinity of these sites.

Capilco was founded in the Middle Postclassic period as a tiny hamlet of a few commoner houses (the following reconstruction is based on Smith and Heath-Smith 1994). The founders may have come from the western edge of Xochicalco, where a small settlement had survived the eighth-century collapse of Xochicalco and continued in existence through the Spanish conquest. Regional population expanded greatly in the Late Postclassic-A period. Capilco grew in size, and Cuexcomate and numerous other settlements in the region were first settled. Agricultural terracing was initiated at this time in the form of hillside terraces and cross-channel terraces (check dams). An elite group built an impressive palace structure at Cuexcomate across a public plaza from a modest temple-pyramid. Imported goods from the Basin of Mexico increased in frequency, as did household production of cotton cloth and bark paper. Exotic imports—

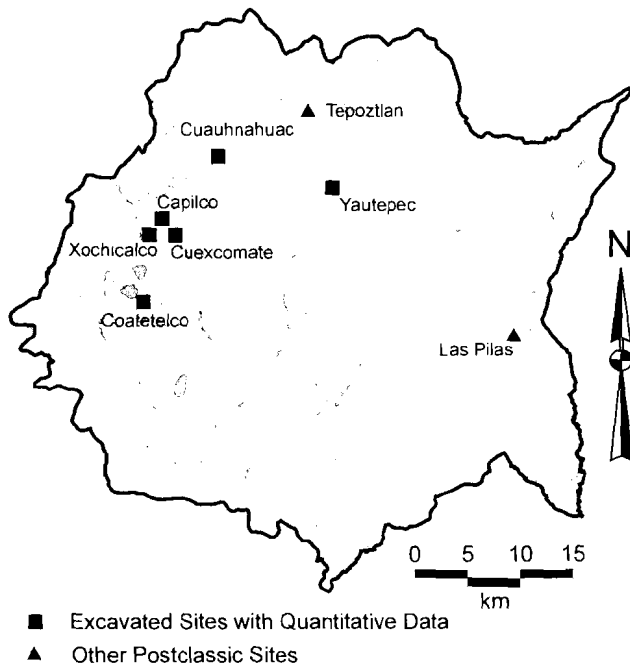


Figure 3.2.1 Map of Morelos sites mentioned in the chapter

ceramics, obsidian, jade, and bronze—were present in almost all residential middens, indicating that both commoners and elites had ready access to valuable goods. Elsewhere I have argued that this distribution pattern is indicative of the prevalence of marketplace exchange in provisioning these goods (Smith 1999). The overall impression at these sites is that the Late Postclassic-A period was a time of prosperity.

In the Late Postclassic-B period, population growth continued: Capilco became a village of 20 houses, and Cuexcomate a town of 150 houses. This growth was accompanied by terrace construction. The expansion of check-dam cultivation indicates that soil erosion was increasing upstream, and a reconstruction of agricultural productivity suggests that the population may have been approaching the carrying capacity. The elite compound at Cuexcomate was abandoned, and a much smaller and more modest elite compound was built in its place. Imported goods declined in frequency, but production of cotton cloth increased (as measured by frequencies of spindle whorls and spinning bowls). Artifactual wealth indices point to a decline in standard of living for both social classes, as well as a decrease in elite-commoner differences.

What caused the economic troubles in Late Postclassic-B times? Two likely processes are implicated. First, the demographic and agricultural processes suggest the presence of a regional agrarian crisis. The Buenavista Lomas, an upland area with little good alluvial land, was transformed from a pioneer situation of abundant land and limited labor to an overdeveloped situation of limited land and overabundant labor. This kind of agrarian

cycle has been documented for various parts of medieval and early modern Europe, with similar social consequences (Le Roy Ladurie 1972; Miller and Hatcher 1978). The second relevant process is the conquest of Morelos by the Aztec empire. Although imperial tribute was relatively modest compared to the population levels of Morelos (Smith 1994b), Aztec conquest had indirect effects that allowed local and regional elite to increase their own tribute demands under the empire. The net effect was probably a major increase in exploitation of the commoner class in provincial areas such as Morelos.

Neither of these overall processes—demographic increase and agricultural crisis, and imperial conquest—was unique to Morelos. Famines, malnutrition, and other crises became commonplace in the Basin of Mexico under the Aztec empire (chapter 30), whose imperial conquest affected large parts of Mesoamerica, both directly and indirectly (chapter 11). In order to investigate the effects of Aztec conquest in a broader zone of Morelos, we next undertook excavations at Yautepec.

YAUTEPEC

In 1992 we moved to Yautepec, an Aztec urban center in central Morelos, to excavate more houses. The goals of the project included the evaluation of the effects of conquest by the Aztec empire, along with the reconstruction of urban economic and social patterns. In Late Postclassic times, Yautepec was a powerful political capital whose king was lord over several smaller city-states in the Yautepec River valley (Gerhard 1970; Smith 1994b). Because the Aztec-period city lies under the modern town of the same name, it was much more difficult to sample this 200 hectare site with excavations. Through extensive test-pitting in open urban lots, we managed to excavate seven residences and a number of other midden deposits without associated architecture. The Postclassic deposits at Yautepec contained very dense middens, and we recovered more than a million sherds plus many thousands of obsidian artifacts.

We do not have much information about Yautepec's local agricultural context. Today it is in an area of major canal irrigation where sugarcane, maize, and other crops are grown. Documentary sources indicate that irrigation was widespread in Postclassic times (Maldonado Jiménez 1990; Smith 1994b), but we have yet to reconstruct the likely extent of Postclassic irrigation. Attempts to locate Postclassic canals through excavation were unsuccessful. Remnants of agricultural terraces are present near Yautepec, but these have not been excavated, and it is difficult or impossible to date these features, many of which are probably modern. Our full-coverage survey of the Yautepec Valley will provide far better regional context than we have in western Morelos, but the analysis of the survey data is not far enough along to describe here.

A Postclassic chronology parallel to that in western

Morelos was constructed for Yauatepec (Hare and Smith 1996). As the results of quantitative and other analyses began to appear, there did not seem to be major changes concurrent with the Aztec conquest of Yauatepec. In fact, the transition between the Middle and Late Postclassic periods seemed to mark greater economic changes, particularly in the realm of foreign trade, than the transition between the Late Postclassic-A and -B periods that signaled Aztec conquest.

My initial hypothesis to account for these changes at Yauatepec was that the Mesoamerican world system expanded greatly in the Late Postclassic period, encompassing Yauatepec at this time. In another work (Smith 2001c) I tried to distinguish the processes of the world system from those of Aztec imperialism. The timing of economic changes at Yauatepec suggests that the economic processes of the Mesoamerican world system may have had greater impacts on local households in Yauatepec than the conquest of this area by the Aztec empire. My interpretations of the Yauatepec data are somewhat provisional, since analytical research on the artifacts is still in progress (Fauman-Fichman 1999; Norris n.d.; Olson 2001).¹

PROCESSES OF CHANGE

The following discussion focuses on the Middle and Late Postclassic periods in Morelos. A major problem in interpreting Postclassic changes in Morelos is the absence of excavated Early Postclassic sites and the resulting lack of quantitative data for that period. My impression from survey results and from very limited excavations at Xochicalco (Smith 2003) is that the level of exchange was much lower in Early Postclassic times, and that the Middle and Late Postclassic periods witnessed tremendous increases in population, exchange, and economic activity in general.

DEMOGRAPHY AND AGRICULTURE

The Middle and Late Postclassic periods witnessed a major surge of population in all parts of central Mexico for which data are available. My demographic reconstruction for the area around Cuexcomate and Capilco indicates significant sustained population growth throughout the Postclassic sequence at the regional scale and at these sites (table 32.1). Every house occupied in the Middle Postclassic period continued to be occupied in later phases, and every house occupied in the Late Postclassic-A period was also occupied in Late Postclassic-B times. The only exception to this pattern of sustained growth is the Late Postclassic-A elite compound, Group 6 at Cuexcomate, which was abandoned in the Late Postclassic-B period.

The same pattern of sustained growth of households (none were abandoned during the sequence once they were occupied) is also found at Yauatepec (Smith Heath-

Table 32.1
Population estimates for excavated rural sites

	Middle Postclassic	Late Postclassic-A	Late Postclassic-B
Capilco	30	70	120
Cuexcomate	—	240	800

Smith, and Montiel 1999), although our sample of excavated houses is neither as large nor representative as the samples at the rural sites. The Yauatepec Valley Survey also found a pattern of major, sustained population growth at this time, but the demographic data have yet to be calibrated into population estimates. The inception of the Middle Postclassic period falls during the twelfth century A.D., which is when a five-century period of drought in central Mexico came to an end (Metcalfe et al. 1991; O'Hara et al. 1994).

I have applied Netting's (1993) model of smallholder intensive agriculture to terracing at Capilco and Cuexcomate (Smith and Price 1994). Population pressure led to the adoption of intensive farming methods at the household level, but probably did not lead to political centralization or other large-scale changes as argued by the population-pressure theorists of the 1970s and 1980s.

POLITICAL CHANGE

As described in chapter 9, the Middle Postclassic period was a time of city-state formation in Morelos and the Basin of Mexico. In the Late Postclassic-A period, several Morelos polities expanded at the expense of their neighbors, and by the Late Postclassic-B period, these more powerful polities—Cuauhnahuac, Yauatepec, Huaxtepec, Totolapan, Yacapitzlan, and Ocuituco—controlled a total of about 60 subject city-states (Gerhard 1970; Smith 1994b). The larger conquest-states were in turn subject to the Aztec empire through the tributary provinces of Cuauhnahuac and Huaxtepec (Smith 1994b). The Cuauhnahuac province corresponded closely to the extent of the Cuauhnahuac conquest-state, whereas the Huaxtepec imperial province included several local polities. Sources are clear that this arrangement did not imply that the polity of Huaxtepec was dominant over the other polities, such as Yauatepec or Yacapitzlan; the latter merely paid their imperial tribute through a calpixqui in Huaxtepec. There is some evidence that even after the Morelos polities were conquered by the Aztec empire and incorporated as imperial tributary provinces, they continued to expand their territories through conquest. For example, Cuauhnahuac was conquering new lands in northeastern Guerrero long after their own conquest by Tenochtitlan (Smith 1986). This suggests a pattern of imperial support for the subject kings and polities incorporated into the tributary provinces.

Table 32.2
Intensity of craft production at Morelos sites

	Cuexcomate/Capilco	Yautepec
Cotton textiles	Heavy	Moderate to Heavy
Chert tools	Low	Low
Smoothed items	Low to Moderate	Low to Moderate
Obsidian blades	—	Moderate to Heavy
Obsidian jewelry	—	Low
Ceramic figurines	—	Low to Moderate
Ceramic whorls	—	Low
Ceramic censers	—	Low
Bark paper	Moderate	Low
Bark beaters	Low	—
Painted items	Low to Moderate	Traces

CRAFT PRODUCTION

Our excavations uncovered evidence for a variety of craft production activities in domestic contexts. There were few differences between Cuexcomate and Capilco in the presence and quantities of craft activities, but these rural sites present a contrast with Yautepec. Table 32.2 presents my subjective impressions of the intensity of craft production at these three sites. I have divided the crafts into three categories: those with equivalent expression in the two areas, those found exclusively at Yautepec, and those found predominantly at the rural sites.

Cotton Textiles

The production of cotton textiles was by far the dominant craft activity in Postclassic Morelos. Morelos was the only area of highland central Mexico with an appropriate climate to cultivate cotton, and a distinctive local tradition of small spindle whorls can be traced back to the Epiclassic period at Xochicalco (Smith and Hirth 1988). Ethnohistoric sources describe irrigated cotton cultivation, production of cotton mantas, and an active trade in mantas and raw cotton. Cotton spinning is indicated by ceramic spindle whorls and small tripod spinning bowls, artifacts that are ubiquitous and abundant in excavations of Postclassic houses. These items have been documented in quantitative studies of ceramics at a number of sites (Smith 2003), and the basic data are presented in figure 32.2. (More extensive and refined analyses of textile production in Morelos can be found in Fauman-Fichman 1999.) There is a pattern of increasing frequencies at all sites, with only a single exception (the Postclassic hamlet at Xochicalco from Late Postclassic-A to Late Postclassic-B times). Also notable are the higher frequencies at Cuexcomate and Capilco relative to Yautepec in all time periods.

Cotton-Spinning Artifacts

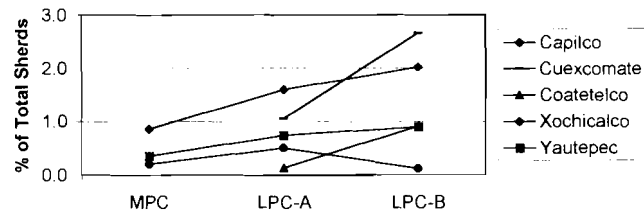


Figure 32.2 Frequencies of cotton-spinning artifacts at five Postclassic sites. (Data from Smith 2003.)

Chert Tools

Chert is a minor part of chipped-stone inventories at Postclassic sites, and a small amount of tool production evidently took place at most sites (Norris n.d.; Sorensen 1988).

Smoothed Items

This category is based upon worked sherds and water-worn sherds, which are found consistently in low numbers at most sites. These may have been used to smooth ceramic vessels, or perhaps they were used in other craft activities.

Obsidian Blades

There is little evidence for obsidian blade production at Cuexcomate and Capilco sites (Norris, in process; Sorensen 1988). Inhabitants of these sites probably obtained obsidian from the nearby settlement of El Ciruelo, just north of Xochicalco, where a Postclassic obsidian blade production industry has been identified (Sorensen et al. 1989). Yautepec, in contrast, has abundant evidence for the production of obsidian blades, including debitage, small percussion blades and flakes, and exhausted and broken cores. This material is found in most of the excavations, but in higher concentrations in some locations. It is premature to talk of workshops or specialized production, however. Susan Norris (n.d.) is currently analyzing the obsidian from Yautepec, Cuexcomate and Capilco, focusing on the technological and social aspects of this industry.

Obsidian Jewelry

The Yautepec excavations uncovered a few pieces of obsidian broken in the process of making earspools and other jewelry; these were identified on the basis of Otis Charlton's (1993) reconstruction of the obsidian lapidary industry at Otumba. Although we cannot identify the place of origin of the finished earspools and labrets found at Yautepec, it is interesting that both forms of obsidian labret are present: the short, thick, polished cylindrical type manufactured from exhausted cores, and the long,

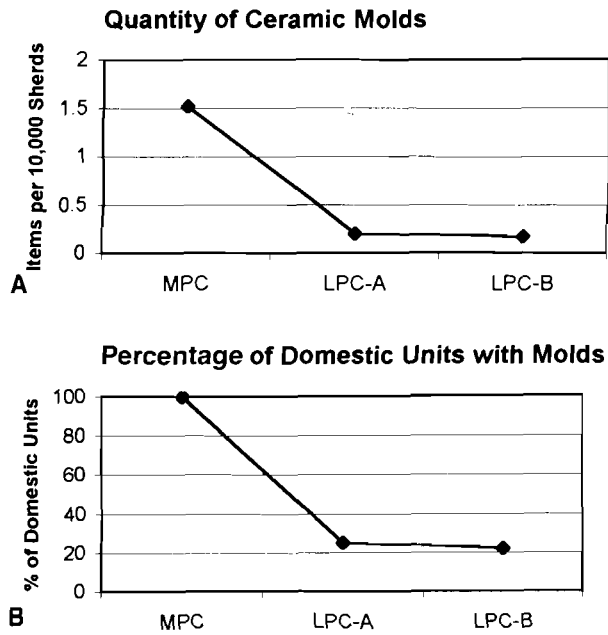


Figure 32.3 Quantities of ceramic molds (for figures and spindle whorls) at Yau-tepec: (a) mean frequencies per 10,000 sherds; (b) percentage of domestic units with molds.

thin, cruder type made from blades (Brumfiel et al. 1994; Otis Charlton 1993).

Ceramic Objects

Small numbers of ceramic molds were recovered at Yau-tepec, but not at the rural sites. There are 22 molds for figurines, 5 for spindle whorls, and 2 for ladle-type censers with molded decoration. These molds provide evidence for the same sorts of ceramic production described at Otumba, but at a much lower level (Charlton et al. 1991). The figurine molds pertain to two categories of figurine: local styles found only at Yau-tepec, and figurines of the general Aztec style found in Morelos, the Basin of Mexico, and perhaps other areas (Olson et al. 1999). The molds for spindle whorls are for the small, cotton-spinning variety, and we also found a partially formed whorl. In addition, surface collections at another Postclassic site in the Yau-tepec Valley produced a mold for a larger maguery whorl. The two censer molds are for the standard Aztec ladle-type censer often classified as Texcoco molded.

Quantities of ceramic molds at Yau-tepec are portrayed in two ways in figure 32.3 (because of the difficulty in obtaining reliable quantitative interpretations for rare categories). The first graph shows the mean quantity of ceramic molds per 10,000 sherds in each phase, and the second shows the ubiquity of molds, or the frequency of domestic units yielding at least one mold. The two forms of quantification show the same pattern: a major reduc-

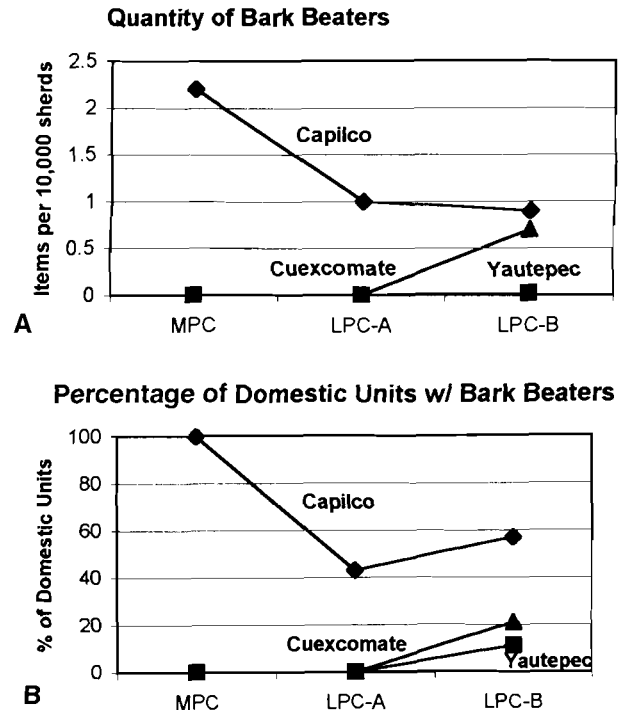


Figure 32.4 Quantities of bark beaters at three sites: (a) mean frequencies per 10,000 sherds; (b) percentage of domestic units with bark beaters.

tion in molds between the Middle Postclassic and Late Postclassic-A periods.

Bark Paper

Bark paper was produced from the inner bark of the *amatl*, or wild fig tree. Fibers were stripped off, soaked, and then pounded into paper with the grooved stone implements known as bark beaters (von Hagen 1944; Wylie 1994). Bark beaters are far more common at the rural sites, particularly at Capilco, than at Yau-tepec. Figure 32.4 shows the quantities of bark beaters through time. Morelos populations gave bark paper as tribute to the Aztec empire.

Bark Beaters

We found two types of evidence for the manufacture of bark beaters at Cuexcomate and Capilco. Bark-beater blanks are basalt preforms the same size and shape as beaters but without the characteristic grooves. Obsidian groovers consist of prismatic blades with heavily abraded edges that were probably used to cut the grooves.

Painted Items

This category pertains to paint or pigments recovered in excavations. Lumps of hematite (red), limonite (yellow), and graphite (black) are relatively common at Cuexcomate and Capilco, but much rarer in the Yau-tepec excavations. One patio group at Cuexcomate (Group 10)

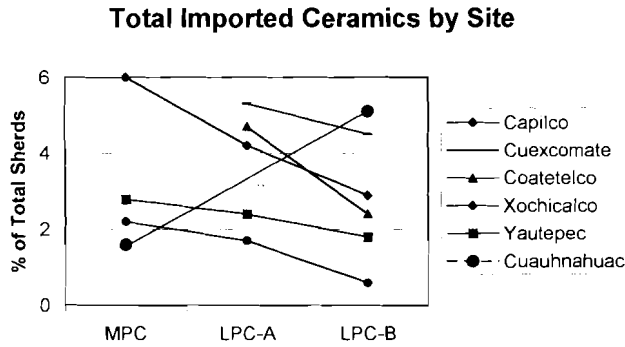


Figure 32.5 Trends in the quantities of imported ceramics

produced unusually high frequencies of both bark beaters and pigments in the Late Postclassic-B period, suggesting a possible specialization in the production of paper and painted manuscripts. This group was located near the Late Postclassic-B elite compound.

Discussion

There are clear differences in emphasis between the rural sites and Yauatepec in terms of their craft production activities. All sites were heavily involved in cotton textile production, although the rural sites had greater quantities of production artifacts. The urban site had ceramic and obsidian industries lacking at the rural sites, which engaged in more craft activities relating to paper and perhaps manuscript production. Two quantitative trends in these data stand out. First, there was a steady increase in frequencies of cotton-spinning artifacts at all sites over all three periods. This was probably the result of both an increasing commercial use of cotton textiles and an increase in the economic exploitation of commoners by increasingly powerful elites (cotton textiles were the predominant item of tribute). Second, there is a large drop in frequencies of molds (at Yauatepec) and bark beaters (at Capilco) after the Middle Postclassic period. One possible cause of this pattern could be a growing economic interdependence among settlements and regions in Late Postclassic-A times that might have reduced the need for specialized local products in some regions; however, this hypothesis is difficult to evaluate with our present sample of excavated sites.

EXCHANGE

Several lines of evidence indicate that market systems were important institutions in the regional economies of Late Postclassic Morelos. Documentary sources mention markets in Morelos communities of all sizes, from the largest cities to small villages (Smith 1994b); the high volume of imported goods at all sites points to active commercial exchange (Smith 2002), and the distribution of high-value imports among both elite and commoner houses is consistent with the operation of a market sys-

tem (Hirth 1998; Smith 1999). Ceramics are a particularly useful class of commodities for monitoring market exchange since they are generally not included in imperial tribute documents. Ceramic vessels were probably part of the tributary receipts of local lords, but it is unlikely that they were included in long-distance tribute payments (Berdan and Anawalt 1992; Rojas 1993). The overall trends in the quantities of imported ceramics are given in figure 32.5.

Exchange within Morelos

Distinctive regional ceramic types comprise the main category of evidence for exchange within Morelos, particularly the geometric polychromes of the Tlahuica Polychrome style found outside of their presumed locus of production. These trade sherds are a low-frequency but consistent component of most of the domestic inventories in Postclassic Morelos. I have suggested places of origin for many of the ceramic types of the Tlahuica Polychrome style based on distributional data (Smith 2003), and recent neutron-activation studies have confirmed these hypotheses for the tested types (Smith, Neff, and Fauman-Fichman 1999).

There was a steady decrease at most sites in the frequencies of imports from other parts of Morelos. A large part of this decline is probably due to the chronological situation of the Teopanzolco ceramic complex. The site of Teopanzolco has a large twin-stair pyramid dating to the Middle Postclassic period, and this was probably the Middle Postclassic capital of Cuauhnahuac. Ceramics at this site exhibit a tremendous variability in decoration within the Tlahuica Polychrome style (Smith 2003), and several of these types are the predominant Morelos trade wares (i.e., numerically most abundant at other sites). The Teopanzolco phase, when these types were made and used, dates to the Middle Postclassic period and the first half of the Late Postclassic-A period. At the same time, there was a trend toward greater regional uniformity of non-Teopanzolco Polychrome types, making it much more difficult to identify imported sherds without characterization data. Nevertheless, there is other evidence that suggests declining ceramic trade between Yauatepec and western Morelos apart from these two factors. Imports of the Yauatepec type B-7 at Cuexcomate and Capilco declined between Late Postclassic-A and -B times, perhaps suggesting hostilities between the expanding Cuauhnahuac and Yauatepec polities. Another trend was a reduction in the number of regionally distinct ceramic complexes, and a corresponding increase in the areal extent of ceramic complexes. This was most notable in western Morelos, where two or three ceramic complexes in Middle Postclassic times were reduced to the single Late Cuauhnahuac complex in the Late Postclassic-B period (see chapter 16).

Exchange with the Basin of Mexico

Almost all sites in Morelos engaged in active exchange with the Basin of Mexico in all periods. The trend of basin ceramic imports at Morelos sites is one of initial increase (Middle Postclassic to Late Postclassic-A) followed by decline (Late Postclassic-A to -B). The most abundant-imported type was the Texcoco Fabric-marked basins used to produce and transport salt from the basin's saline lakes (chapter 19). This is followed by various individual types of the Aztec Black-on-orange category. The basin origin of the latter types has been confirmed by neutron activation (Smith, Neff, and Fauman-Fichman 1999b). Most of the Aztec Black-on-orange at Yau-tepec (types Aztec II and III) is from the Tenochtitlan production area. In Late Postclassic-B times, the Aztec III/IV type appears, and tested sherds fall into the Texcoco production group. It is difficult to determine whether this signals a reorientation of Yau-tepec's ceramic exchange from Tenochtitlan to Texcoco, or the addition of Texcoco ceramics to existing imports from Tenochtitlan. Other imported types include Xochimilco Polychrome, an uncertain number of Chalco polychromes (see discussion below), and some figurines.

Very small quantities of Morelos sherds have been found at sites in the Basin of Mexico, including Xaltocan, Culhuacan, Tlahuac, Amecameca, and Tenochtitlan (these are reported in Smith 2003: table 16.8).

Obsidian Quantities and Sources

The data described here are highly provisional, pending completion of current research. Some preliminary data were presented in Smith and Heath-Smith 1994 and in Smith et al. 1996. The data in table 32.3 show lower quantities of obsidian at the village site, Capilco. Quantities at Yau-tepec drop by half in the Late Postclassic-B period, whereas Cuexcomate has even greater amounts in that period.

We collected an excellent sample for sourcing at Yau-tepec, consisting of pseudo-random samples of gray and green blades selected from each well-dated domestic unit, but the results of sourcing through x-ray fluorescence are not yet available. We did complete the sourcing of a preliminary sample of artifacts by NAA and XRF (Smith et al. 1996), and the basic chronological trends are that Basin of Mexico gray sources decline in frequency through time, whereas other central Mexican sources increase.

Exchange with More-Distant Areas

Three categories of artifacts were imported from areas other than Morelos or the Basin of Mexico: obsidian, ceramics, and rare valuable goods. The people of Yau-tepec made considerable use of obsidian sources from the northern frontier of the Aztec empire and in the Tarascan

Table 32.3

	Frequency of obsidian by period		
	Middle Postclassic	Late Postclassic-A	Late Postclassic-B
Capilco	1.5	2.0	2.1
Cuexcomate	—	3.5	4.2
Yau-tepec	3.4	3.6	1.8

Note: Frequencies expressed as number of items per 100 sherds.

area. The most common area of origin for ceramic imports, after the Basin of Mexico, is a large zone west and northwest of Morelos. This category includes ceramics from the Toluca Valley, the Valle de Bravo area on the Tarascan border, and parts of northeast Guerrero. As might be expected, these are more common in western Morelos than in Yau-tepec or eastern Morelos, but their frequencies do not show any clear trends through time. The neutron-activation research revealed some interesting patterns. Of the 10 complex polychrome sherds we classified as Chalco-Cholula polychromes, only one was sourced to Chalco, and none to Cholula (Smith, Neff, and Fauman-Fichman 1999). Most were assigned to the Huexotzinco and Ocotelulco source areas of the Puebla/ Tlaxcala area (see discussion in Neff et al. 1994). Furthermore, a number of spindle whorls included in that analysis were assigned to a southern Puebla source in the Late Postclassic-A and Late Postclassic-B periods.

Valuable, low-frequency imported goods included bronze objects and exotic jewelry. These are both quite rare, and they are quantified (figures 32.6, 32.7) following the two methods described above for ceramic molds. Most of the bronze objects are sewing needles; there are also other tools (awls and an axe) and a few elite objects (bells and tweezers). Research by Hosler (chapter 21) shows that the bronze objects were imported from Michoacán and Jalisco. Exotic jewelry consists of beads and ornaments of greenstone, rock crystal, and shell imported from distant areas. The quantified data in figures 32.6 and 32.7 suggest that these exotic imports were more common at Capilco and Cuexcomate than at Yau-tepec, where both categories were absent in Middle Postclassic times.

STYLISTIC INTERACTION

There are several kinds of evidence for stylistic interaction with areas outside Morelos. Many ceramic traits are shared with Postclassic sites in the Basin of Mexico. Some of these are items of food preparation and serving suggestive of similar food habits (e.g., thin, flat comals and basic forms of cooking and storage jars), and others pertain to the realms of ritual (e.g., figurines and ladle-type censers). There are architectural similarities between

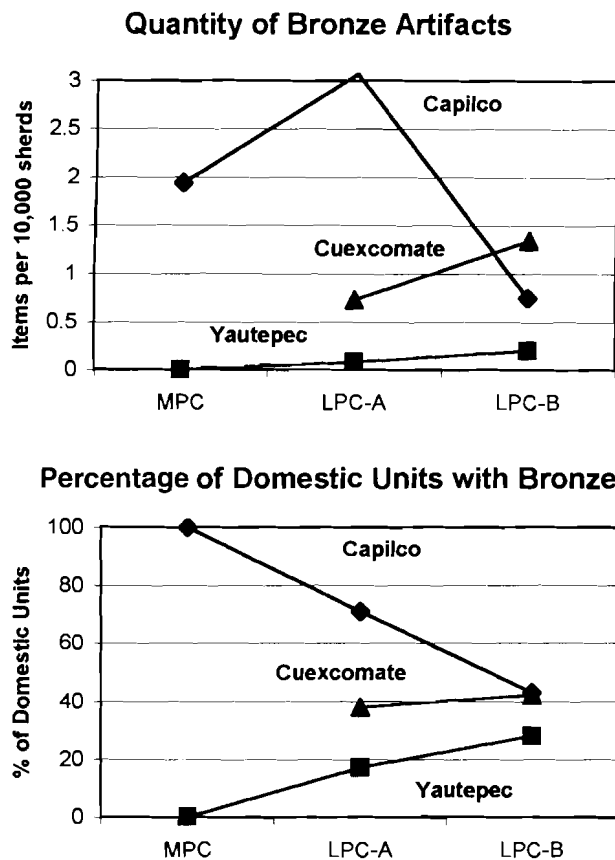


Figure 32.6 Quantities of bronze artifacts at three sites: (a) items per 10,000 sherds; (b) percentage of domestic units with bronze

Postclassic palace plans in the two areas, suggesting some kind of common elite culture, or at least interaction. Early Colonial-period lienzos and codices from Morelos are very similar to those from the Basin of Mexico and pertain to the same artistic tradition (Boone 2000; Robertson 1959). The iconography and style of carved stones at several sites are identical to the Aztec style of the Basin of Mexico; these include the pulque reliefs at the temple of Tepozteco (Nicholson 1991; Seler 1990–98, v.4:266–280) and the Los Reyes rock carvings in the rural Yautepec Valley (Krickeberg 1969). No polychrome murals are known from Postclassic Morelos.

DISCUSSION

This section contains observations on how the data presented above relate to some of the wider processes of the Postclassic Mesoamerican world system.

POPULATION GROWTH

The Postclassic population surge in Morelos described above was a major force driving some of the changes observed archaeologically, including the spread of popula-

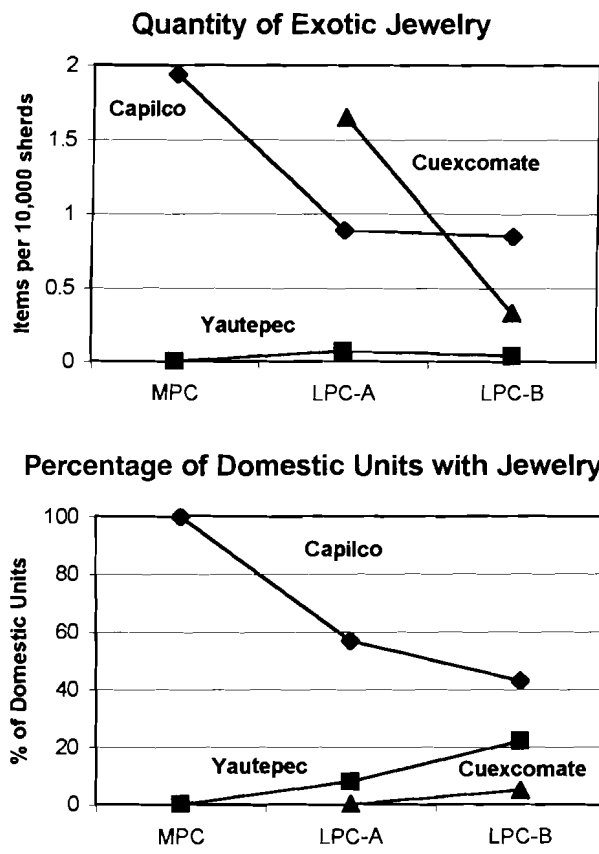


Figure 32.7 Quantities of exotic jewelry (greenstone, rock crystal, shell) at three sites

tions into marginal areas like the Buenavista Lomas, the intensification of agricultural practices, urbanization, and perhaps political expansion.

PROLIFERATION OF SMALL POLITIES

Postclassic Morelos was united ethnically and commercially, but fragmented politically. This situation, also found in many other parts of Postclassic Mesoamerica (see chapters in part 2), is typical of many ancient and historical city-state cultures around the world (Hansen 2000b). Several aspects of Hansen's model are relevant to the present discussion. First, political fragmentation in city-state cultures is not a barrier to trade. This certainly fits Morelos, where trade in ceramics, obsidian, cotton, and other goods was generally not restricted by political boundaries. Second, city-state cultures tend to develop in periods of economic prosperity, which also fits Postclassic Morelos in the Middle Postclassic and Late Postclassic-A periods.

The data presented above also demonstrate trade across imperial borders (chapter 14). Sherds from Valle de Bravo (one of the Aztec border towns) at Xochicalco and Coatetelco provide evidence of commercial links between Morelos polities and the border area. There is no reason to think that the Tarascan artifacts arrived via

Tenochtitlan or the Basin of Mexico; in fact it is more likely that trade across the imperial borders was accomplished outside of state controls through smuggling operations. The small polities of Postclassic Morelos were conducive to the operation of a vigorous market-based and multilevel exchange system.

INCREASED VOLUME OF EXCHANGE

The period of greatest expansion of exchange in Morelos—the Early-to-Middle Postclassic transition—is also the most poorly documented, due to the lack of excavations at Early Postclassic sites. Based on very limited Early Postclassic samples from Xochicalco (Smith 2003) and preliminary judgments from a survey of the Yauatepec Valley (Hare et al. n.d.), it appears that there was only very limited trade between Morelos polities and outside areas (such as Tula) during Early Postclassic times. Beginning with the initial documented Middle Postclassic occupations at Yauatepec, Capilco, and other sites, the peoples of Morelos engaged in active exchange with a large number of areas for a wide variety of goods. Patterns of imported ceramics and other materials changed in various ways during Postclassic times in response to both local factors and wider world-system processes.

GREATER DIVERSITY OF TRADE GOODS

The same difficulty noted above for the volume of exchange applies to the diversity of trade goods. My subjective impression is that there were fewer types of imports in Early Postclassic Morelos, but the lack of quantified data from excavated contexts prevents firm conclusions on this point.

COMMERCIALIZATION OF THE ECONOMY

One indication of the importance of commercialization in Postclassic Morelos is the degree to which major sectors of the economy were outside of elite control. There is little evidence from our excavations to suggest that elites exerted much control over those aspects of the economy described here (agriculture, crafts, and commercial exchange). Cross-culturally, terraced agriculture is almost always organized at the household level, without elite or state control (Netting 1968, 1993). The elites may have owned or controlled the land around Capilco and Cuexcomate, and “rented” it to farmers, as in the Morelos communities covered in early sixteenth-century census documents (Carrasco 1972; Cline 1993), but it is likely that labor and its products were under the control of the individual farming households. The situation with irrigation agriculture in the Yauatepec Valley may have been different, but there is little empirical evidence on this.

Documentary sources mention cases in Morelos where commoner women went to elite households to spin and

weave textiles for their local lord (see discussion in Smith 1994b or Fauman-Fichman 1999), suggesting some level of elite control over the textile industry. It was therefore surprising to find that elite houses did not have higher frequencies of spindle whorls or spinning bowls than found at commoner houses (at either Cuexcomate or Yauatepec). Cotton mantas were the main tribute good at all levels, from tribute to a local lord to imperial tribute, and thus elites had some level of control over these goods. Nevertheless, the available evidence from Morelos and elsewhere indicates that women produced textiles in their homes without outside interference or control. Some of these textiles were destined for tribute payments, others were for household clothing needs, and others were undoubtedly exchanged in the market for other goods.

There does not seem to be any evidence for elite control over other craft industries. Craft indicators such as obsidian debitage and bark beaters are not found in greater quantities at elite residential compounds, nor do they appear to be more common at commoner houses adjacent to elite compounds. The only exception here is the possible paper-makers and manuscript painters of Group 10 at Cuexcomate, located near (but not adjacent to) the Late Postclassic-B elite compound.

The arguments outlined above for the importance of marketplace exchange in Postclassic Morelos also indicate the economy’s high degree of commercialization. All kinds of goods—from cooking pots to exotic jade and obsidian jewelry—were traded through the markets, where they were purchased by both commoners and elites.

MORELOS HOUSEHOLDS IN THE POSTCLASSIC WORLD SYSTEM

The basic processes of change in the Postclassic world system affected life at both rural and urban settlements in Morelos. Postclassic commercial-exchange systems reached far into the central Mexican countryside, drawing inhabitants of small villages like Capilco into the world system as active participants. Even the poorest peasant households at the village of Capilco and the city of Yauatepec had access to an abundance and a diversity of exotic imported goods. The economic prosperity of the Middle-to-Late Postclassic-A periods that resulted from the growth and transformation of the world system benefited Morelos households, and the economic contraction of the Late Postclassic-B period (caused by overpopulation and exploitation by the Aztec empire) worked to their detriment. But these rural and urban peoples were not just the recipients of large-scale changes from the imperial and metropolitan centers. *The cotton grown by the men, and the textiles woven by the women*

of Morelos were important commodities whose production and exchange produced effects that were felt throughout the world system. An adequate understanding of the Postclassic world system requires a consideration the lives, actions, and conditions of individual people and households, and thus the excavation of

houses and domestic contexts is a necessary part of ongoing research on the distinctive processes and conditions of Late Postclassic Mesoamerica. Our attention now turns to activities at Chikinchel, an affluent production zone on the northern Yucatán coast, described by Kepecs in the following chapter.