

STATE AND SOCIETY AT TEOTIHUACAN, MEXICO

George L. Cowgill

Department of Anthropology, Box 872402, Arizona State University, Tempe, Arizona
85287-2402; e-mail: cowgill@asu.edu

KEY WORDS: archaeology, Mesoamerica, early states, governmentality, ideology

ABSTRACT

Between 100 BCE and 200 CE, the city of Teotihuacan grew rapidly, most of the Basin of Mexico population was relocated in the city, immense civic-religious structures were built, and symbolic and material evidence shows the early importance of war. Rulers were probably able and powerful. Subsequently the city did not grow, and government may have become more collective, with significant constraints on rulers' powers. A state religion centered on war and fertility deities presumably served elite interests, but civic consciousness may also have been encouraged. A female goddess was important but probably not as pervasive as has been suggested. Political control probably did not extend beyond central Mexico, except perhaps for some outposts, and the scale and significance of commerce are unclear. Teotihuacan's prestige, however, spread widely in Mesoamerica, manifested especially in symbols of sacred war, used for their own ends by local elites.

INTRODUCTION

Teotihuacan is an immense prehistoric city in the semi-arid highlands of central Mexico. It rose in the first or second century BCE and lasted into the 600s or 700s (Figure 1 outlines the ceramic chronology). Its early growth was rapid, and by the 100s it covered about 20 km² with a population estimated to be around 60,000–80,000 (Cowgill 1979, p. 55; Millon 1992, p. 351). Subsequently, there was little change in area, and population grew more slowly, ap-

parently reaching a plateau of 100,000 or more by the 300s or earlier. No other Mesoamerican city had such a large and dense urban concentration before Aztec Tenochtitlan, in the late 1400s. By the 200s Teo (as I will henceforth call it) also had the largest integrated complex of monumental structures in Mesoamerica: the gigantic Sun Pyramid (with a base area close to that of the largest Egyptian pyramid), the Moon Pyramid, the 16-ha Ciudadela enclosure with its Feathered Serpent Pyramid, and the broad 5-km-long Avenue of the Dead, along whose northern 2 km these and many other pyramids, platforms, and elite residences are arranged (Figure 2).

Millon et al (1973) published map sheets of the whole city at a scale of 1:2000, based on an intensive surface survey. A 1:40,000 version appears in Millon (1973, 1974, 1976, 1981, 1988a). Articles by Millon (1981, 1988a, 1992) and Cowgill (1992a,b) include reviews of research and literature on Teo. I concentrate here on publications since the mid-1960s that bear especially on state and society. I emphasize relatively accessible sources and do not always identify earliest publications of specific ideas. Edited volumes with papers on a wide range of Teo topics include Berlo (1992a), Berrin (1988), Berrin & Pasztory (1993), Cabrera Castro et al (1982a,b, 1991a), Cardós (1990), de la Fuente (1995), Diehl & Berlo (1989), McClung de Tapia & Rattray (1987), Rattray et al (1981), Sanders (1994-1996), Sociedad Mexicana de Antropología (1967, 1972), and special sections of *Ancient Mesoamerica* [1991, Vol. 2(1,2)] and *Arqueología* (1991). The proceedings of a 1993 Instituto Nacional de Antropología e Historia (INAH) workshop on Teo chronology, edited by Cabrera and Brambila, are in press, and a book by Pasztory (1997) has just appeared. Sugiyama has created a web site: <http://archaeology.la.asu.edu/vm/mesoam/teo>.

METHOD AND THEORY

We still only glimpse the outlines of polity and society in the city and the state it dominated. Surviving inscriptions are few, brief, and hard to read. Teo society was destroyed by the 700s or earlier, and to the Aztecs, about whom we have a wealth of ethnohistoric data, Teo was a place of mysterious ruins; more mythical than historical. These problems mean that theoretical preconceptions and methodological assumptions play a large role in determining which interpretations seem intrinsically plausible or even empirically well founded. Sanders et al (1979) and Santley (1983, 1984, 1989) are strongly cultural-materialist and favor interpretations and explanations in terms of environmental and economic factors, relatively neglecting warfare and nearly excluding religion and other ideational aspects and the agency of individual actors. Others give more weight to ideation and individual agency.

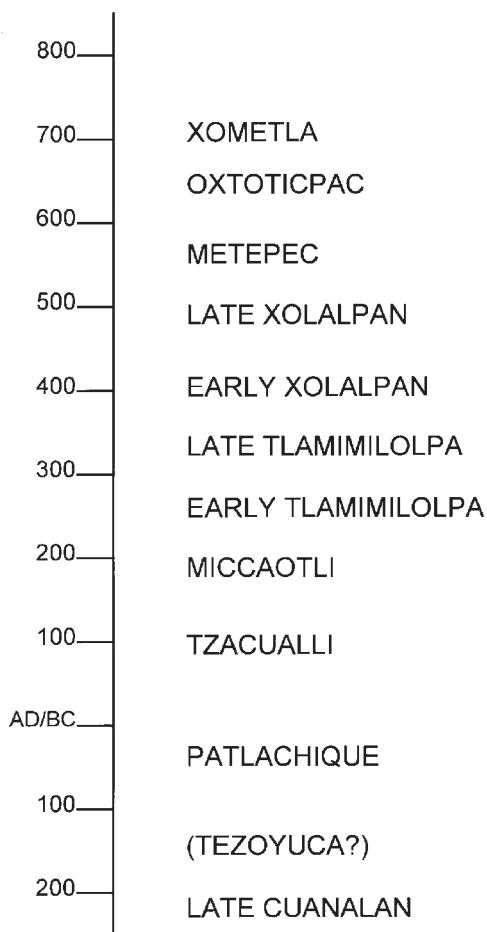


Figure 1 Teotihuacan ceramic chronology.

Teo is in a challenging twilight zone for direct historical approaches; close enough to the 1500s to make it wasteful to neglect evidence from later societies, yet distant enough to make it unsound to project ethnohistoric data uncritically. Linguistic evidence suggests that Nahuatl speakers were absent or at least not influential in the Basin of Mexico before the decline of Teo (Justeson et al 1983). The Aztecs and other Nahuatl in-migrants adopted much from earlier central Mexican traditions, but the possibility of significant ethnic discontinuity adds to the uncertainties of direct historical projections. Kubler (1967) went

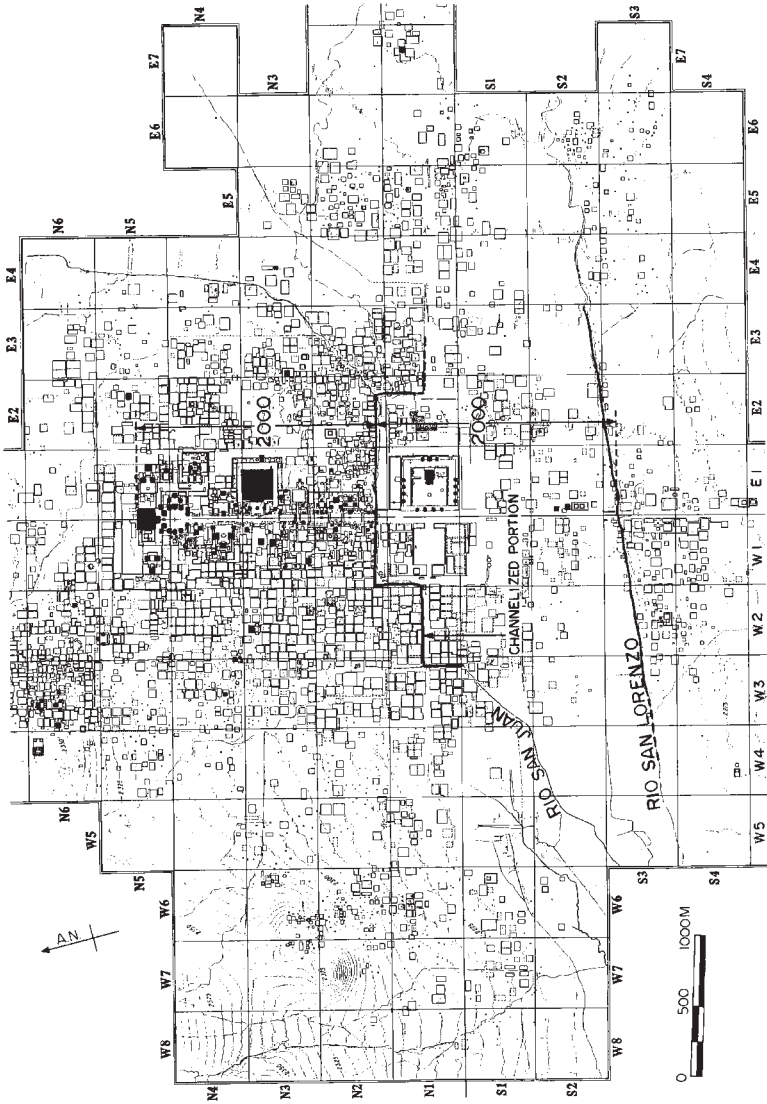


Figure 2 Most of Teotihuacan (Sugiyama 1993). [After Millon (1973). Copyright by René Millon 1972.]

to a skeptical extreme; Pasztory (1992) has returned to this extreme and favors a “semiotic” approach. López Austin et al (1991) and Coe (1981) are at the opposite pole. A more nuanced approach is preferable to either extreme. Using knowledge from the 1500s to understand Teo is neither impossible nor easy, and it is best to proceed piecemeal, case by case. Many Teo images have no obvious later counterparts. Others do but must be used cautiously; meanings and clusters of meanings may have shifted.

GROWTH OF THE CITY

It is notoriously difficult to derive accurate population estimates from archaeological data. Millon (1973) estimated the Xolalpan Phase population by using sizes, layouts, and inferred uses of rooms in excavated apartment compounds to infer that a 60×60 -m compound would have housed about 60 to 100 people. His surface survey indicated that over 2000 such compounds were occupied during Xolalpan times. Making allowances for those larger or smaller than 60×60 m, he arrived at an estimate of 100,000 to 200,000 for the whole city, with 125,000 a reasonable middle value (Millon 1992, p. 344). Architectural data for other phases are less clear, so Cowgill (1974, 1979) extrapolated the Xolalpan estimate by comparing quantities of phased sherds collected by the Mapping Project, with adjustments for estimated phase durations, assuming that per capita sherd production remained approximately constant. He did not find a Xolalpan peak. Instead, early rapid growth was followed by a long plateau. By ca 1 BCE the city covered about 8 km^2 and probably had a population of 20,000 to 40,000 (Cowgill 1979, p. 55). In the century before any known monumental structures were built, Teo was already a city of exceptional size. During the Tzacualli phase (ca 1–150 CE) increase continued to around 60,000–80,000, aided by movement into the city of most people in the Basin of Mexico. After that, growth was much slower. Urban population may have reached its maximum by the Miccaotli phase, ca 200 CE. Perhaps Teo had reached a ceiling imposed by difficulties in provisioning a larger city with the resources and means of transportation available. Most of the farming population was concentrated in and near the city, and Teo seems to have underutilized the southern Basin, including the lands most suited for *chinampa* cultivation.

It is also possible, if Storey’s (1985, 1992) estimates for one low-status compound can be generalized, that very high infant and child mortality rates set a limit to the city’s growth. In any case, Teo’s population seems to have been fairly stable for several centuries. This suggests that whatever environmental degradation may have occurred must have been gradual.

EXTENT OF TEOTIHUACAN RULE

Teo was the capital of an important state, but we know little about it. Teo is in the northeastern part of the Basin of Mexico, about 45 km from modern Mexico City. The Basin is about 80×50 km, ca 5000 km², ringed on most sides by volcanoes and high mountains, but more open to the north and northeast, so Teo was well situated for movement in and out. The Basin is high (ca 2250 m) but relatively flat and generally suitable for growing maize, beans, and other food crops, though tracts suitable for canal irrigation are limited and localized, a major one being a few thousand hectares just west of the city. Teo clearly dominated the Basin politically, as shown by its drastic interference with the settlement system.

Very likely Teo's administrative control extended somewhat beyond the Basin of Mexico, but perhaps not much beyond. It covered at least 25,000 km² (Millon 1988a), a radius of about 90 km, and may have reached considerably farther. Beyond that, Teo probably concentrated on controlling key settlements and routes between them, rather than solid blocks of territory; "hegemonic" in Hassig's (1992, pp. 57–59) terms. Teo's immense prestige, however, surely exceeded its political sphere, and we still know little about specific outposts. Hassig's lucid account is a fascinating source of conjectures to be tested, but it presents much as fact that is highly uncertain or sometimes wrong. Studies such as Kurtz's (1987) and Algaze's (1993) also fit ambiguous or problematic data into preconceived patterns.

Relations between Teo and Cholula, 90 km away, in the next major upland plain to the southeast, are unclear (McCafferty 1996), though the weight of evidence suggests it may have been independent. Cantona, further northeast, on the way to the Gulf lowlands, may also have resisted Teo (García Cook 1994). Teo moved south to control the eastern Valley of Morelos where, unlike the Basin of Mexico, cotton could be grown, a key resource for a textile industry (Hirth 1978, 1980; Hirth & Angulo Villaseñor 1981).

Northwest, there is a Teo presence in the area around Tula, Hidalgo, notably at the site of Chingú (Díaz Oyarzábal 1980). It is uncertain how far Teo influence went west or north of Tula. Aveni et al (1982) argued for Teo presence at Alta Vista, in Zacatecas. Some features at Alta Vista have astronomical significance, and its location on the Tropic of Cancer is probably intentional. We should not assume, however, that local people were unlikely to make the needed observations without tutelage from Teo "merchant-scientists-priests." Ceramic resemblances suggest only remote, indirect connections. A cross-in-circle petroglyph motif is shared with Teo, but it is widespread in Mesoamerica; its occurrence need not mean Teo presence. Teo may have received minerals from this area, but its impact on local societies is unclear.

In Oaxaca, the Zapotec state was independent and maintained diplomatic relations with Teo (Marcus & Flannery 1996). Some sort of Teo presence is known for Matacapan in southern Veracruz (Santley 1989), Mirador in Chiapas (Agrinier 1975), Kaminaljuyú, and other sites in highland and Pacific coastal Guatemala (Berlo 1983, 1984, Demarest & Foias 1993, Kidder et al 1946, Sanders & Michels 1977). Santley's (1989; Santley et al 1987) exaggerated claims about a Teo outpost at Matacapan have created much confusion. Most of the Matacapan ceramics are strikingly different (Arnold et al 1993), and the Teo impact seems weaker than at Kaminaljuyú. Matacapan cylinder tripod vases, for example, show generic resemblances to Teo forms, but very few, if any, are specific Teo subtypes. Small, relatively crude twin-chambered incense burners (*candeleros*) are a stronger point of similarity. A relief from Soyoltepec in a style closely similar to Teo shows a figure with flaming torches and a rattlesnake headdress, suggesting military action in the lowlands (Sugiyama 1989b, von Winning 1987).

A Teo connection is manifest at Altun Ha in Belize by the early 200s (Pendergast 1990), but most Teo influences in the Maya lowlands do not seem earlier than the late 300s, which suggests that the spread of Teo prestige occurred considerably later than the rapid rise of the city. They are especially strong at Tikal (Kowalski 1997, Laporte & Fialko 1990) but are unlikely to represent control by Teo. Many reflect adoption of a limited number of Teo-related symbols by local elites for their own purposes (Stone 1989, Demarest & Foias 1993).

WRITING AND LITERACY

Teo had nothing like the writing systems of the contemporary Lowland Maya or earlier neighbors in Veracruz, though some Teotihuacanos must have been aware of these systems. There is ample evidence, however, of standardized signs and a notational system comparable to those of the Aztecs, though few specific signs are shared (Berlo 1989). Langley (1986) provided an indispensable study and catalog of signs, whereas his later works deal with specific clusters and compounds (Langley 1991, 1992). Cowgill (1992c) identified a sign cluster ("red bone-flower") semantically equivalent to a term used by Aztecs. However, no examples of phoneticism have been identified, nor any grammatical elements, so, even when meanings can be inferred, the signs have not helped to identify the dominant language or languages of the city.

A remarkable find in recent work in the La Ventilla district directed by Rubén Cabrera, not far southwest of the Great Compound, consists of over 30 signs and sign clusters painted on the floor of a patio (de la Fuente 1995). They stand alone, unassociated with representational scenes. They were made

quickly and show a control of line that bespeaks an experienced hand. Their meaning and purpose are obscure, but there can no longer be any doubt that Teotihuacanos had a notational system adequate for the information-handling needs of their society. What remains noteworthy is the sparing use of this system in sculpture, mural painting, and decorated ceramics; one aspect of the near lack of public celebration of named specific individuals.

Pasztory (1992) suggested that Teo was almost secretive and made a point of being different from other Mesoamerican societies. It is easy for us, in our frustration, to feel they were deliberately being difficult, but I suspect most meanings of their scenes and signs were intended to be clear to the average Teotihuacano, and we have trouble only because we still lack many keys. They seem, however, not to have been very interested in exotic ideas. Some fine foreign ceramics were imported, but most exotic goods were raw materials intended for working by Teo artisans. The contrast with the Aztec interest in finished products from afar, seen in the Templo Mayor offerings (Matos Moctezuma 1988), is striking. Persons in other societies adopted Teo symbols for their own ends, but there was little flow in the opposite direction; Teotihuacanos seem to have been satisfied with their local style and symbols (Pasztory 1990, p. 187). The great value placed on the exotic in many societies (Helms 1993) is not evident at Teo.

One exception is adoption of interlocking scroll motifs from the lowlands of central Veracruz (Stark 1995). The earliest cylinder tripod vases were probably imports from this region (Bennyhoff 1967, p. 26). Teotihuacanos, however, may have recognized an affinity with Gulf lowland neighbors, and the adoptions occurred during Miccaotli and/or Early Tlamimilolpa, when Teo may have been more receptive to new ideas than it was later.

PERSONALITY AND SOCIALIZATION

Approaches that take serious account of individual agency imply that we should also take account of individual personality. Archaeologists, however, have done little along this line, and there is almost no explicit discussion of this topic for Teo. Foucault's notion of governmentality looks useful but has not yet been applied. Pasztory (e.g. 1992) characterizes the art as remote and impersonal, and Cowgill (1993, pp. 564–68) touches on the topic of personality. No scenes glorify specific individuals, and human beings are shown subordinate only to deities, not to other human beings. This has implications about the political system, or about how the system was represented, but it also suggests something about socialization of children and about preferred character traits.

Beginning as early as the repeated images on the Feathered Serpent Pyramid (FSP), identical figures are repeated in numerous copies. Some scenes (es-

pecially of fierce animals) convey tension and vibrant power, as in the “Mythological Animals” mural (de la Fuente 1995, pp. 93–101), and elsewhere (e.g. Berrin 1988, p. 187), but much of the art is stiff, and human faces look expressionless to modern viewers. Sometimes small human figures are shown simply clad, in free and playful poses, as in a scene from Tepantitla that reminds us how small a fraction of Teotihuacano life was depicted in Teo art. Most scenes show human beings so loaded with clothing and insignia that faces and other body parts are barely visible. Emphasis is on acts rather than actors; on offices rather than office-holders. This, together with the multiplicity of identical scenes, suggests an ethos in which individuals were interchangeable and replaceable. These properties are found not only in sculpture and paintings that must have been elite sponsored, but also in ubiquitous objects such as composite censers and clay figurines. Whether or not impersonality and multiplicity were deliberately encouraged by state policy, they are themes that pervaded all classes and social sectors. No evidence of resistance or dissent has been recognized so far.

NONELITE ELEMENTS OF THE SOCIETY

Households and Apartment Compounds

We know little of Teo housing during the early centuries when the great temples were being built. In the 200s and 300s, more than 2000 “apartment compounds” were built to house nearly the whole city, of all socioeconomic statuses. Millon uses “apartment” because each building contains several distinct suites of rooms, indicating occupation by multiple domestic units, and “compound” rather than “complex” because they are bounded by thick outer walls with few entrances and are separated from one another, often by narrow streets. Contrary to widespread belief, in many districts compound sizes are not highly standardized, and they vary widely around an average of roughly 60 × 60 m. Internal layouts are diverse, although the core of most apartments is a patio surrounded by rooms and platforms. Yet the facts that compounds are so substantially built (of rubble walls faced with thick concrete covered with lime plaster) and approximate the canonical Teo orientation of 15.5° east of true north, even in outlying areas where they are widely spaced, suggest some sort of state interest. Possibly the state aided in their construction. Very likely occupants of a compound formed an important sociopolitical unit, composed of several households but smaller than a neighborhood (Millon 1976). Societies with most of the population organized in units of this size are not common.

Construction quality and size of rooms vary considerably, between compounds and within single compounds. Some have spacious rooms and abundant mural paintings [e.g. Zacuala “Palace” (Séjourné 1959)]; others are far

more modest [e.g. Tlajinga 33 (Storey 1985, 1991, 1992; Widmer 1991; Widmer & Storey 1993)]. When less was known about the compounds it seemed reasonable to call some of them “palaces,” but over-broad application of the term has been misleading. Millon (1976) suggests at least six socioeconomic levels, with uppermost elite residences in the Ciudadela and elsewhere near the Avenue of the Dead. He would put Zacuala “Palace” in about the third level from the top. Sempowski (1994) has tabulated information on offerings in Teo burials, mostly in apartment compounds, and her analyses suggest status differences and changes over time in these differences.¹ Spence’s (1974, 1994) studies of nonmetric skeletal traits suggest a preference for patrilocal post-marital residence in most compounds.

It is unclear whether there was any distinct material gap between the elite and the merely prosperous, and proportions of residences of varying quality are also unclear. Further analyses of Mapping Project surface collections may clarify these questions (Robertson 1997). Even the proportion of compounds with mural paintings is debatable. Fine murals were not common, and many compounds had only white-plastered walls, with at most a few borders outlined in red. Most floors were plaster over concrete; some were of cobbles or earth.

We need excavations of many more compounds using the best methods and concepts of household archaeology. Good examples already exist, in a residential area in the Oztoyalco district (Manzanilla 1993, 1996; Manzanilla & Barba 1990), in the Oaxaca enclave (Spence 1989, 1992), in the “Merchants’ Barrio” (Rattray 1989, 1990), and in the Tlajinga 33 ceramic and lapidary residential workshop. Manzanilla and her colleagues have used chemical analyses of residues on plaster floors to infer highly localized activities within rooms.

Barrios, Enclaves, and Districts

Occupants of the city must have recognized distinct neighborhoods. Millon (1976, p. 225) said that many spatial clusters of apartment compounds can be identified. Some, such as the block that includes the Tepantitla compound (Figure 2, NE part of square N4E2), look clear. Craft workshops often form spatial clusters. Unambiguous distinct small neighborhoods, however, seem hard to define in much of the city. Most freestanding pyramids are not plausible barrio temples, and they are absent in large tracts of the city. The excavated plan of one compound, Yayahuala, suggests that it may have housed a barrio headman (Millon 1976) but other examples would be hard to recognize without excavation. J Altschul (personal communication) suggests that the impor-

¹Rattray (1992) also provided data on burials and offerings. See Millon’s corrections in Sempowski & Spence (1994).

tance of apartment compounds as multihousehold social and political units may have meant that small neighborhoods were not very important administrative units.

There are at least two enclaves with foreign affiliations. Toward the western edge of the city, centered in square N1W6, is a cluster of about a dozen compounds with Oaxacan affinities (Rattray 1993; Spence 1989, 1992). Architecture and most ceramics are typically Teo. A small percentage of the ceramics, however, mostly locally made, are Late Monte Albán II (formerly called II/III A transition) in style, and a few vessels are imports. Stratigraphic evidence suggests that this early style continued to be used from Tlamimilolpa through Metepec times, which implies either remarkable conservatism (Spence 1992) or some unresolved problem in ceramic chronology. A further Oaxacan tie is collective tombs, quite different from the Teo pattern of individual inhumations beneath floors. Socioeconomic status of the enclave occupants looks no more than average. Their role in Teo society is unclear, but similar ceramics in a lime-producing district near Tula (Crespo & Mastache 1981) suggest they may have been masons.

Another enclave with foreign ties is the "Merchants' Barrio" on the eastern edge of the city. Most ceramics are Teo, but some are imports from the Gulf lowlands, and a smaller number are from the Maya lowlands. Some structures are Teo-like, but others are circular, a form associated with the lowlands (Rattray 1989, 1990). Probably the enclave specialized in lowlands imports, including perhaps cotton and other perishable materials.

It is not clear whether Teo was as ethnically diverse as is often suggested. The early influx from within the Basin would have brought in people with different local affinities, but they may not have differed much in language or culture. Later, foreigners seem to have been handled by spatial segregation, to judge from the enclaves described above. Even without ethnic frictions, factions would have posed sociopolitical management problems.

Aztec Tenochtitlan was divided into four quarters that were important sociopolitical units. Teo is divided into quarters by the Avenue of the Dead and "East" and "West" Avenues, whose axes pass through the Great Compound and the Ciudadela. Sugiyama (1993, p. 110) questions the existence of the east and west avenues, but Millon's survey found ample evidence of them. They differ sharply, however, from the northern part of the Avenue of the Dead in not being lined by pyramids, platforms, or other obviously special structures. Teo has no long and architecturally prominent east-west alignments comparable to the north-south Avenue of the Dead. Division of the city is more bipartite than quadripartite.

There is evidence for socially meaningful districts larger than barrios and enclaves, but smaller than whole quarters (Altschul 1987, Cowgill et al 1984).

Freestanding walls bound a number of precincts, especially near the Avenue of the Dead. They are 1–2 m thick at their bases, but nearly all have been eroded to ground level. A Mapping Project excavation (TE5) found that the top of one wall joined the northwest corner of the Moon Pyramid at a height of about 5 m. Other walls are much farther from the ceremonial center. Starting at the “Plaza One” three-pyramid complex in square N5W2 (Figure 2), a wall can be traced eastward for more than 1 km and southward for nearly 1 km. Traces of other walls several 100 m long are at the east edge of N5W4 and near the south edge of N6W3. There is no suggestion that the city was enclosed by walls, and walls may or may not have been militarily significant. They, however, as well as watercourses, would have strongly affected movement within the city.

Some abrupt changes in density of apartment compounds coincide with walls outside the central ceremonial district, but changes in socioeconomic status indicators have not been obvious. A possible exception is the so-called “Old City,” centered in square N6W3. Millon (1973) recognized during the 1960s survey that structures in this area were different from most apartment compounds, and excavations by Manzanilla (1993) bear this out. Millon suggested that the apartment compound innovation and concomitant social changes did not spread to this area, which preserved an earlier style of housing. I am not sure whether it was earlier or just different, but it is unlike most of the city. It is outside the outermost known walls, population density was high, and it has two of the largest three-pyramid complexes outside the city center. Some artifact categories, such as composite censers, occur in unusually high proportions, but no categories unique to this district have been recognized. A search for distinctions at the microtradition level might be rewarding.

The Tlajinga district, in S3W2, S3W1, S4W2, and S4W1, is near the southern extreme of the city, separated from the rest by the Río San Lorenzo. The Mapping Project survey found exceptional proportions of San Martín Orange, a utility ware, on a number of sites, and excavations at one of these, Tlajinga 33, have confirmed its manufacture there (Sheehy 1992, Storey 1991, Widmer & Storey 1993). This was probably a district of low-status artisans. Specialized ceramic production was plausibly situated in this remote area to shield higher-status Teotihuacanos from the smoke of pottery firing.

Lineages?

Even modest apartment compounds or room complexes, such as Tlajinga 33 and Tlamimilolpa (Linné 1942) tend to have one or a few relatively richly stocked graves, which may have been those of founders (e.g. Millon 1976, Headrick 1996). Millon points out that the inflexible sizes of compounds with fixed outer walls are ill-suited to the inevitable fluctuations of strictly unilineal descent groups, and Spence (1974) cites one case in which shared nonmetric

skeletal traits suggest a group of related women who stayed home while their husbands moved in from elsewhere. Nevertheless, consistent with most of Spence's findings, each apartment compound probably was associated with a core of individuals claiming descent from a common ancestor, plus others whose rights to residence were based on marriage, some more tenuous kin tie, or a wide variety of special circumstances, perhaps including servants and apprentices.

Headrick (1996) proposed that descent groups at the apartment compound level may have been hierarchically organized into much larger groups, whose heads would have been of elite status. Different apartment compound groups may have been roughly ranked according to the degree to which they could claim connection with the apical ancestor through senior links. Many such systems exist elsewhere in the world. If such higher-level units existed, many of their head families may have resided on or near the Avenue of the Dead, while member lineages may have been dispersed in various districts, rather than being spatially concentrated. A few three-pyramid complexes in the northwest part of the city, not associated with the Avenue, could be headquarters for more independent lineages, although other interpretations are possible (Cowgill et al 1984).

Household Religion and Ritual

Pasztor (1992) argued that a good deal of village-level religion persisted in urban Teo. Assuredly, much was distinct from the "state" religion, but it dealt with domestic and familial concerns that would have persisted no matter how large and complex the state became. Many such rituals may have been of no interest to the state. Others, however, may reflect the "long arm" of the state imposing itself at the household level. I know of nothing that suggests conscious resistance to the state.

Standardized stone bowls supported on the back of a thin and bent old man, ubiquitous in apartment compounds of all socioeconomic statuses, probably belong to a cult of the hearth. They are called "Huehuetotls," but use of this Aztec term is problematic; an Aztec revival of the form (López Luján 1989, Umberger 1987) reinterprets it and shows that Aztecs did not recognize its Teo meaning. Except that the state had an interest in promoting domestic tranquility, it is unlikely that these stone carvings had much political significance.

Composite censers are also ubiquitous. These are built from coarse flowerpot-like bowls, often on a high pedestal base, with a similar inverted bowl as a lid, from which rises a tubular chimney. Panels, frames, and a profusion of appliqué ornaments largely conceal the chimney. Often the central element is a human face. From Late Tlamimilolpa onward, faces and other ornaments are moldmade. Some censers are associated with burials, but many are

not. Nevertheless, they were probably used in rituals commemorating the dead. Headrick (1996) and others have argued that Teo stone masks were attached to mortuary bundles containing remains of deceased elites. Composite censers were probably an equivalent for commemorating honored but less illustrious compound residents. As such, it might seem that the state would have little interest in them. One of the clearest instances of a state-related workshop at Teo, however, is in the large enclosure attached to the north side of the Ciudadela, where great numbers of censer ornaments and molds for their manufacture were found (Múnera 1985). Múnera and Sugiyama have prepared an unpublished catalog of these finds. The nature of the state interest in composite censers will become clearer through further studies of the multitude of standard signs on their ornaments.

Another indication that beliefs and practices associated with composite censers may have been connected with the Teo state is that they disappear with the collapse of that state. Dominant post-Teo censer forms are ladles, much more portable and adapted for quite different activities. The shift, however, may simply reflect ethnic discontinuity. This may also be the case with twin-chambered "candeleros," small, simple, and often crude incense burners that occur in great numbers at Teo but that do not survive the city. They are ubiquitous but are less common in the city center. Probably they were for modest household or individual rituals. Twin-chambered Teo-like varieties occur rarely in Maya sites and elsewhere in Mesoamerica, but are not scarce at Maticapan.²

Paszty (1992) also linked "Tlaloc" jars with popular religion. Some occur in sites of no obvious prominence, but they are more abundant in high-status contexts, such as the FSP. Most are well-polished, elaborately hand-modeled, and represent (by Teo standards) a high level of skill and manufacturing effort. In murals, the Storm God often carries similar jars, and they are probably associated with state religion.

Infants' burials are often associated with patio altars. It is not clear whether any were sacrificial victims; high infant mortality probably accounts for the number observed. In recent Tlaxcala they are seen as especially effective intermediaries between human beings and the supernatural because they have spent so little time in this world (Headrick 1996, Nutini 1988). This analogy makes great sense of the Teo data.

Designs pecked on rocks or impressed in plaster floors are common at Teo. These include rectangles, Maltese crosses, and other forms, but many consist of a cross and two concentric circles. This motif is widespread, from north of Alta Vista (Zacatecas) to Uaxactun. Among the first found at Teo were a pair,

²F Bove (personal communication) finds them in Pacific coast Guatemalan sites that also have composite censers.

several kilometers apart, that formed a perpendicular to the Avenue of the Dead, suggesting that they were important in astronomical alignments and city planning. So many more have since been found at Teo, often within buildings where long-distance sightings would have been unfeasible, that their use for astronomy and surveying has become uncertain. Some consist of approximately 260 dots, and the case is better for a connection with the 260-day sacred calendar, perhaps divination, and possibly gaming. Many outside the city are on prominences suitable for distant sightings, but within the city many are in seemingly unremarkable buildings. This, plus their abundance and simplicity, makes state involvement somewhat unlikely. Pecked cross-&-circles and other motifs are especially profuse in a recently uncovered floor near the Sun Plaza, but even here they could reflect a popular cult.

The term "temple" has been used at Teo to refer to freestanding pyramids and also to the platforms that are ubiquitous in apartment compounds. The former must represent public religion, whether at the state or at some intermediate level. The latter are standard Teo "talud-tablero" platforms, which usually support a room fronted by a portico. Typically there are three such platforms, on the north, east, and south sides of a patio to which they connect by short stairways and in whose center there is often an altar; the eastern platform is most prominent. Millon (1976) suggested that a patio-platform group in the Yayhuala compound, because of its size and accessibility, may have served as a barrio temple, and the compound may have housed a barrio headman. Many of these patio-platform groups, however, were more likely used only by compound occupants, and often there is more than one such group in a single compound. They are architecturally substantial, and they were probably used for some mundane activities as well as for ceremonial occasions.

CRAFT PRODUCTION AND TRADE

We have learned much about Teo technology, but scale and organization of craft production are still poorly understood. Depopulation of the countryside implies that farming was a major activity of many households. Earlier estimates on the order of 400 obsidian workshops have been revised downward. Clark (1986) thinks the scale of production and exchange was much smaller. He overstates his case and perhaps underestimates the immense quantities of obsidian debitage at Teo. Assessments of the obsidian industry by Spence (1981, 1984, 1987, 1996) are more reasonable. The Mapping Project made test pits in or near obsidian and lapidary workshops, but more extensive excavations of obsidian and other workshops are needed.

Obsidian from the nearby Otumba source is of moderate quality and was used mainly for local consumption. Teo controlled the Pachuca source of supe-

rior green obsidian. Much was consumed in the city, and it is found in small amounts widely in Mesoamerica. There is good evidence, however, that Teo did not monopolize obsidian production and exchange (Drennan et al 1990). Sources unlikely to have been controlled by Teo continued to export obsidian (Stark et al 1992). Teo emissaries could be backed by the city's prestige and could carry fine stucco-decorated ceramics and perhaps perishable manufactures, but green obsidian was the only locally obtained valuable raw material they could offer abroad, which may account for its wide distribution. Commerce in obsidian and other materials may have been fairly important, although we have recognized no evidence of a distinct merchant class [Manzanilla (1992) doubts that one existed], but the scale of trade postulated by Santley (1983, 1984; Santley et al 1986) is not supported by evidence. Emphasis on trade alone underplays military and ideational bases for Teo's wide influence.

Sheehy (1992) and Hopkins (1995) have studied Teo ceramic production techniques, and the late Paula Krotser began a review of Mapping Project evidence for production sites, but we still lack a comprehensive picture of the organization and spatial distribution of pottery making. San Martín Orange utility ware was a specialization in the Tlajinga district. Other utility wares, such as burnished ollas and cazuelas, may have been made on a smaller scale in less specialized households. Significant state involvement seems unlikely, except for the mold-made censer parts noted above.

Turner (1987, 1992) reported on a barrio of lapidary craftsmen on the eastern outskirts of the city, and other evidence suggests some lapidary work in fine stone and marine shell under state sponsorship. Lapidary work at Tlajinga 33 (Widmer 1991) was probably not state directed. An obsidian concentration in a walled precinct just west of the Moon Pyramid (Spence 1981, 1984, 1987) implies at least part-time work sponsored by temple or state. This, as well as the censer ornament workshop in the enclosure attached to the Ciudadela, indicates that some craftsmen worked outside household contexts at least part of the time. Some may have been attached specialists, but most or all may have been providing periodic labor services. A great deal of production seems household based, however, possibly taxed and regulated to some degree by the state but not state sponsored.

WAR AND THE MILITARY

By the 1960s it was clear that Teo was not a very peaceable society (C Millon 1973, R Millon 1976). Recognized military symbolism, however, was mostly late, and it seemed that emphasis on military elements increased over time. New finds and reinterpretations of old data now show that military emphasis began early. About 200 persons were sacrificed as part of the FSP construction

activities, ca 200 CE (Cabrera Castro et al 1991b; Sugiyama 1989a,b, 1992, 1995; *Arqueología* 1991, Vol. 6). Many, but not all, were in military garb and accompanied by weapons. Two large pits, underneath the pyramid and at the foot of its stairway, may have contained bodies of Teo rulers, but they were looted anciently, so it is not clear whether the victims accompanied a dead ruler. In any case, victims and grave goods were arranged in highly structured patterns, which Sugiyama (1995) argued were related to the calendar and creation symbolism. The victims may have been enemies or low-status Teotihuacanos dressed as soldiers and dignitaries, but I suspect they belonged to the royal household and that the soldiers were elite guardsmen. Anatomical, chemical, and cultural studies of bones, teeth, and grave goods, now under way, may resolve these issues.

Many now see the symbolism of the FSP facade as associated with war (Carlson 1991; López Austin et al 1991; Sugiyama 1989b, 1995; Taube 1992). For most, the Feathered Serpent itself reflects sacred Venus-related war; Taube makes the connection by interpreting the figure that alternates with the Feathered Serpent as a solar fire/war serpent.

“Portrait” clay figurines are abundant at Teo. Their heads, stamped in molds, are anything but portraits of individuals. Their contorted body positions have been puzzling (Figure 3). W Barbour (in Berrin & Pasztory 1993, p. 228) suggested convincingly that they are poised to hurl a spear (of perishable material) in the right hand and held a shield in the left hand. They probably wore perishable clothing. These figurines also point to the salience of war in Teo thought.

It is unlikely that Teo could have gained preeminence—however aided by its sacred significance, location on a strategic trade route, and proximity to canal-irrigated fields—unless it had been able to overcome armed resistance from rival centers. Defensible locations of sites of the poorly understood Tezoyuca phase (Sanders et al 1979) suggest warring polities in the Basin of Mexico just before or early in Teo’s rise. Pasztory (1990, 1993, p. 138) thinks Teo emphasis on war was mainly symbolic, but it was probably very real, at least initially. Hassig (1992) argued convincingly that Teo armies were highly effective not only because of their atlatl-propelled darts and other weapons but because they fought in disciplined masses, using many commoners as well as elites. This is consonant with everything else we know of Teo. It is less clear that organization was what Hassig (1992) calls “meritocratic,” i.e. that commoners were motivated by the chance for upward mobility if they performed well; this view underestimates the power of ideology.

Berlo (1983, 1984) emphasizes military symbolism in Teo-derived composite censors in Pacific coastal Guatemala, and war is prominent in Teo symbolism adopted by the lowland Maya (Schele & Freidel 1990, Stone 1989).



Figure 3 A “portrait” figurine (after Pasztory 1997).

Conquest of the lowland Maya is unlikely, but the city’s military prestige traveled well. Teo weapons and possibly some tactics seem to have been adopted by the Maya, at least for a while. But military successes would have been attributed at least as much to potency of the Teo War God as to weapons and tactics, and this would have been a powerful incentive for adopting elements of Teo religion. Teo’s military prestige may have lasted long after its real military effectiveness waned.

Teo soldiers were associated with fierce animals, especially rattlesnakes, jaguars, coyotes, and raptorial birds. There were probably military orders something like the Aztec eagle and jaguar knights, as suggested by C Millon (1973, 1988) and argued especially by Headrick (1996). These may have been sodalities that crosscut kin ties and provided politically important cohesive institutions. The earliest prominent fierce animal is the Feathered Serpent, depicted as a rattlesnake, though with avian feathers and a feline snout. Many nose pendants of the “butterfly” type (Figure 4b) were in the burial at the center of the FSP. Oralia Cabrera Cortés (1995) recognized that they are not butterflies (prominent in other Teo war symbolism), but final segments of rattlesnake rattles. Wearers of this type of nose pendant were identified with the Feathered Rattlesnake. Whether there was such a sodality is unclear.

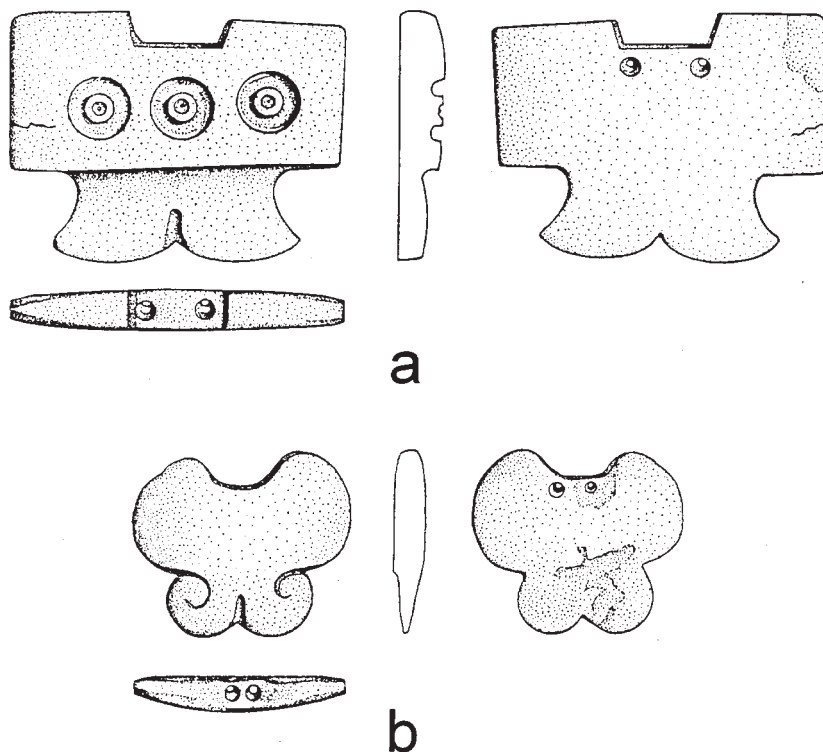


Figure 4 Teo nose pendants: (a) "Tlaloc" type from FSP grave 13; (b) a so-called "butterfly" nose pendant. Actually it represents the final element of a rattlesnake tail (from Cabrera Cortés 1995).

Canid jaws were worn by a few sacrificed soldiers at the FSP, and a few eagle and felid bones were found. Symbolic importance of these animals seems to have increased over time, since they are shown more centrally and more engaged in activities in later murals, where serpents occur mainly in bordering frames. Serpents seem to have a (literally) overarching importance, whereas human beings and symbolic animals carry out the actions. In the West Plaza Group of the Avenue of the Dead Complex, an earlier balustrade of the central pyramid stairway has projecting monumental heads that are serpent-like, replaced in a later stage by more feline heads (Morelos García 1993). Many war

birds have been identified as owls, but most may be eagles. There may have been an early period, until the mid-200s, dominated by the Feathered Rattlesnake, followed by growing emphasis on coyote, jaguar, and owl/eagle orders. This may reflect the rise of military sodalities that limited the power of the ruler.

C Millon (1973, 1988) has recognized a distinctive tasseled headdress as a symbol of high war-related office, probably approximately what we would call "general." It may represent a level above the postulated sodalities.

STATE/PUBLIC RELIGION

State interests were probably represented by a few major deities. One was the Feathered Serpent, discussed above. Like all Teo deities, it had multiple aspects, and besides its military associations it often occurs associated with vegetation and the fruitful earth. Another reptilian being was prominent and is represented by the head-like object that pairs with the Feathered Serpent in the FSP facades. This is often called "Tlaloc," but it shows few traits of that god. Sugiyama (1993, p. 116) and Taube (1992) argued that it is a headdress. Drucker (1974), Sugiyama (1989b), and López Austin et al (1991) linked it to Aztec Cipactli, the Primordial Crocodile and the beginning of calendrical time, whereas Taube linked it with the Xiuhcoatl solar fire serpent.

The Storm/War God

This deity is identifiable by his fangs, distinctive upper lip, receding or absent lower jaw, and goggles around the eyes. Other attributes, such as aquatic vegetation in the mouth, a distinctive headdress, and a lightning bolt in the hand, are more variable and emphasize different aspects. Pasztory's (1974) distinction between "Tlaloc A" and "Tlaloc B" no longer seems clearcut, but she rightly pointed out a range of contexts and meanings for this god. He is associated with beneficent rain and fertility, but also with lightning, thunderstorms, and the crop-devastating hail that often accompanies them. Sometimes weapons associate him with warfare. The state would have had a profound interest in maintaining good relations with this god in all his aspects. He may differ in details but is broadly similar to Aztec Tlaloc and to other Mesoamerican deities such as Zapotec Cociyo and Maya Chac.

Death and Underworld Gods

Several large skull carvings come from within or near the Sun Plaza (Berrin & Pasztory 1993, p. 168; Millon 1973). Possibly these and jaguar sculptures from the Sun Plaza pertain to death, the underworld, and the night sun, and they may

be related to the cave under the Sun Pyramid. The pyramid may have been associated with a sun god, in day and night aspects.

The “Great Goddess” and Rulership

Pasztory (1977) identified certain images, characterized by a nose pendant and a bird in the headdress, as a goddess. Others tend to agree (C Millon 1988; Berlo 1983, 1992b; Taube 1983; von Winning 1987). Pasztory (1992, p. 281) says there is a near consensus that there was a single Great Goddess with several aspects, including a military persona, whose image became progressively more important from about 200 CE, who is shown superior to the Storm God, and who was apparently the major deity of Teo.

Among the multiplicity of Teo images of deities it has not been possible to decide how many distinct individuals there are, and how many iconographic complexes represent aspects of a single deity. Teotihuacanos may not have felt a need to settle this question. Gender identification is also a problem. Most Teo figures are too heavily clad for biological sex to be inferred from physical features, so usually we must rely on costume to infer socially constructed gender. One deity with female dress is the “Diosa de Agua” found near the Moon Pyramid (Pasztory 1992), which is 3.9 m high and weighs 22 tons. Some much

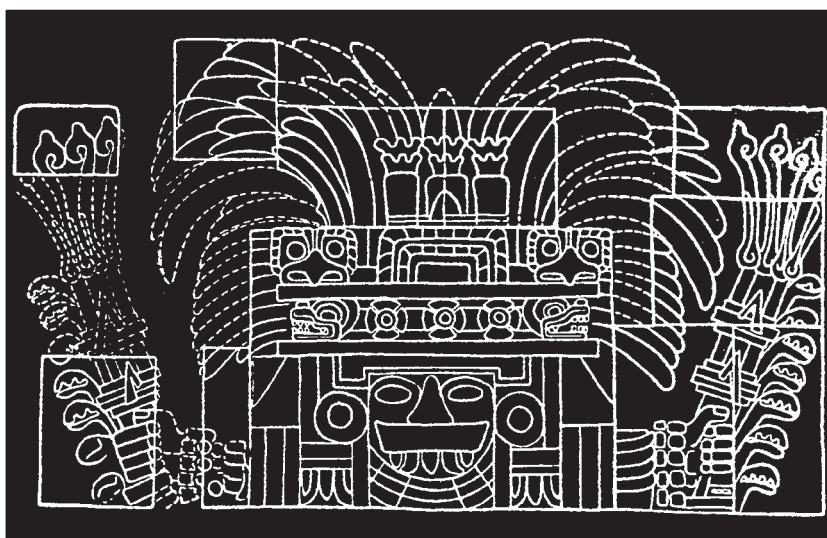


Figure 5 Frieze from the West Plaza Group of the Avenue of the Dead Complex. It has been identified as the Great Goddess by some scholars, but it probably represents rulership (from Berlo 1992a:282).

smaller stone figures wearing female dress may also be deities (Berlo 1992b, p. 138, Figure 11, p. 144, Figure 18; Pasztory 1992, p. 309, Figure 23). None of these figures in female dress has nose pendants or other supposed Great Goddess diagnostics. The unfinished and somewhat damaged Colossus of Coatlinchan (moved in the 1960s to the front of the Museo Nacional), which weighs 180 tons and is over 7 m tall (Berlo 1992b, p. 138, Figure 10) is said to wear female clothing, but I find its dress ambiguous.

A female goddess with multiple aspects was certainly important in the state religion, but I am not convinced that she was as important or pervasive as Pasztory and others argue. The difficulty is that attributes that may be only diacritical are treated as diagnostic. For example, a goddess is shown in a mural at Tepantitla, wearing a distinctive nose pendant consisting of a bar in which there are three circles, and from which fangs depend (Berlo 1992b, p. 130, Figure 1; Langley 1986, p. 277, No. 153, type E nose pendant). Rather than treating the pendant as a diacritical element that emphasizes some aspect of the goddess, it is treated as a diagnostic that marks any other figure that bears it as a manifestation of the Great Goddess. This, as well as a headdress with birds, is what led Pasztory (1992) to identify a frieze from the West Plaza Group in the Avenue of the Dead Complex as probably a depiction of the Goddess (Figure 5). If one does not take the nose pendant or the birds in the headdress as diagnostic of the Goddess, however, nothing else in the figure proves it to be female. Further doubts are raised by the discovery of very similar nose pendants of green stone in Burial 13 of the FSP (Figure 4*a*), one of them associated with an unusually robust male.

The figure in this frieze holds a torch in each hand, from which flames and smoke emerge, together with budding plant stalks. The torches are wrapped rods with “year-sign” variants on their fronts. Torches were symbols of rulership in Preclassic Mesoamerica (Grove 1987). The frieze probably symbolizes rulership rather than the Great Goddess (Cowgill 1992a,b). Linda Schele (personal communication) has independently reached a similar conclusion.

One could read the frieze as an example of the Great Goddess’s identification with rulership. Pasztory (1992) (in one of the few explicit considerations of gender ideology at Teo) suggested that a female was chosen as the supreme deity because a female could be seen as benevolent, maternal, and impartially transcending factions associated with male heroes. This makes assumptions about Teo social construction of gender that are plausible but need further testing. I think any connection between this frieze and the Great Goddess is questionable.

This is not to say that the frieze represents a specific individual. Morelos García (1993, Figure F.2) illustrated additional fragments of two more figures from the same context, apparently identical to the relatively complete one. It

seems that the idea or office of rulership, rather than any specific rulers, is represented. It is interesting that this frieze comes from the West Plaza Group of the Avenue of the Dead Complex, which I think may have been a setting for top-level government activities (Cowgill 1983).

The colossal figure in female dress that was found near the Moon Pyramid might be connected with the moon. This would be consonant with the idea, developed most fully by Sugiyama (1993), that the Sun and Moon Pyramids and the Venus-related Ciudadela represent a triad of astral deities, a concept widespread in Mesoamerica.

THE NATURE OF TEOTIHUACAN RULERSHIP

Palaces

The Ciudadela apartment compounds flanking the FSP have been interpreted as residences of the heads of the Teo state (Armillas 1964, Coe 1981, Cowgill 1983, Millon 1973, Taube 1992). Sugiyama (1993, pp. 110, 123) appears to be skeptical, perhaps because he believes the Ciudadela was associated with the underworld, while administrative centers for the “present” world would more likely have been near the Sun and Moon and/or along the Avenue of the Dead. The Ciudadela and the Great Compound, however, are very different from any other Teo complexes, which suggests that they served unique purposes. Nevertheless, the Ciudadela is unlike many better-known royal palaces, such as those in Tenochtitlan when the Spaniards arrived. The Templo Mayor shows the practice of rebuilding a temple on the same spot, each new structure enlarging on and covering its predecessors. In sharp contrast, Aztec rulers tended to build new palaces; in 1519 Axayacatl’s was still standing, not far from that of Motecuhzoma II. Aztec palaces were luxurious, with numerous facilities for large staffs and a wide range of civic and private activities.

The Aztec pattern is similar to many palaces in European and other traditions. Frequent major changes are most likely when rulers have relatively unrestricted control over a large fraction of state resources and can command the construction of residences as much for their personal glorification as for the state. When heads of state directly control fewer resources, and especially if their residence cannot be viewed as family property, as, for example, the US White House, major changes are less likely.

The Ciudadela fits this second pattern better (Cowgill 1983). It is about three fourths the volume of the Sun Pyramid, but most of the mass is in the great outer platforms and the FSP. The total area of apartments would only accommodate a few hundred occupants. To begin with, there seems to have been little differentiation among apartments. Probably it was designed to serve a

ruler who could command great resources but was accustomed to operating with a small staff. The South Palace remained nearly unchanged, but some doorways in the North Palace were blocked to make it less public, it was enlarged by another room complex that projected into the great plaza of the Ciudadela, and it had relatively good access to the large walled compound immediately to the north, where specialists in moldmade censer adornos and perhaps other artisans worked. These look like features intended to facilitate administrative purposes at relatively low cost and without too drastically changing outward appearances.

Another macrocomplex that may have been used for high-level government and may possibly have housed rulers is the “Avenue of the Dead Complex” (Cowgill 1983). It straddles the Avenue of the Dead, is partially enclosed by large walls, extends about 350×350 m, and has many groups of rooms, apartment compounds, pyramids, platforms, and plazas. Their number and variety would have provided for more administrative activities than could easily be accommodated by the Ciudadela. It includes the luxurious Viking Group compound, the Superposed Buildings group, and, in its west center, the “West Plaza Group” (Morelos García 1993). Much remains unexcavated. Earliest major structures are probably a little later than the Ciudadela, although we need greater chronological precision. Major rebuildings followed. Perhaps the rulers’ residence shifted to the Avenue of the Dead Complex during the political changes that may have occurred somewhere between 250 and 350 CE.

An Oligarchic Republic?

Supreme Teo political authority may not always have been strongly concentrated in a single person or lineage. R Millon (1976) suggested that Teo might have been an oligarchic republic. The case now seems stronger, though not yet overwhelming. Rulership in early states was not always monarchic. It is no longer widely thought that states arose as responses to social and/or environmental problems and benefited commoners as well as elites. The main explanations, however, of how elites could exploit the rest are that they could threaten force and that they promoted ideologies in which the gods and the very nature of the universe made inequality right, or at least unavoidable. Undoubtedly force and religious ideology were used by the Teo state. However, a more mundane civic consciousness, a sense of the virtue of “good citizenship,” may also have been a factor. Given the prominence of this theme in modern societies, it is surprising that ancient Mesoamericans are not often credited with such perceptions and sentiments.

Pasztor’s (1992) concept of a “utopian” society touches on similar issues, but I do not think Teo was utopian in any reasonable sense. Nevertheless, civic

pride and a sense of citizenship, and not just submission to overawing deities and overpowering rulers, may explain much about Teo's stability and why there was no abundance of self-glorifying rulers. Blanton et al (1996) are probably correct in considering the Teo state "corporate,"³ at least in its later stages.

An oligarchic republic is not necessarily democratic or egalitarian. There are many Old World examples. Romila Thapar (1966) described republics in early India. Other cases are the city states of Classical Greece, Rome before the Empire, and some of the small states of Medieval and Renaissance northern Italy. Venice is a notable example.

Venice

Venice differed greatly from Teo (Muir 1981), yet it is interesting to compare. By the 800s this island city was ruled by a duke subject to the Byzantine emperor in Constantinople. Over time, Venice gained its independence and the duke (called "doge"; "ducal" is the adjective) was chosen by popular acclamation. By around 1300 this was formalized in a system that lasted until the Napoleonic conquest of 1797, wherein the adult males of specified elite families comprised a "Great Council," whose members were the only ones eligible to elect the doge and to hold that and a number of other high offices. The doge was elected for life by an intricate system of balloting and lottery intended as much to counteract factionalism (a recognized problem in other Italian states) as to ensure representation of elite majority will. The office circulated widely among leading families. Venetians thought themselves remarkably free of factions, and many outsiders saw them that way. Factions were probably more important than Venetians liked to admit, but they seem to have been less divisive than in other Italian states.

Many restrictions were imposed on doges' use of public funds or their private resources; for example, gift giving was sharply restricted. In Eisenstadt's (1969) terms, doges commanded limited "free-floating resources." Some doges tried to subvert the system and gain more personal power, but with little success. The elite were also relatively successful in keeping popular resistance under control; some disturbances occurred but the masses never overthrew regimes, as they sometimes did in other Italian states.

Individual doges were more celebrated than Teo rulers appear to us, but their pedigrees seem to have been unimportant, as long as they belonged to elite Great Council families. There are numerous portraits of doges, and many

³Millon (1992) noted that "corporate state" commonly refers to systems and ideologies that glorify personal rule and the cult of the leader—the opposite of how Mesoamericanists have used the term. "Collective" would be preferable, but "corporate," in the sense of collective, may be too entrenched to be changed easily.

had fine tombs (at least one was criticized for living and dying too simply), but these seem by way of keeping up a certain dignity for the prestige of the state, and I do not believe any ducal tombs or images became important in state ritual and myth (as did the relics of various saints, especially St. Mark). If we had as little data on Venice as we do on Teo, visibility of the doges would probably be low.

The doge's palace immediately adjoins the basilica of St. Mark, the principal religious structure of the state. An earlier ducal palace on this site was destroyed by fire, but the present one has persisted for many centuries. Occasional efforts to move the ducal residence to another site were successfully resisted. Each new doge would move his immediate family and household furnishings into the palace, but upon his death the survivors had only a few days to remove themselves and their goods. Although various doges renovated or modified the palace, its location and basic structure remained unchanged for a long time. It sounds something like the Ciudadela palaces.

Early Autocracy?

How much did the Teo political system change over time? Teo probably never emphasized inheritance and validation of rulership through pedigree as much as the Classic Maya, yet early rulers may have been powerful and self-glorifying. All the awe-inspiring monuments are early, and they represent an audacious plan imposed on several square kilometers of landscape. Millon (1992) thinks the layout developed over time in several stages, beginning shortly after the concentration of most of the population of the Basin of Mexico in the city around 1 CE. Sugiyama (1993) argued that all major elements of the layout were probably envisioned as an integrated plan from the beginning, although it may have taken some time to complete the construction project. He relies most strongly on key linear dimensions of structures and distances between them, which he feels translated key calendrical numbers into a unified spatial pattern, and he downplays ceramic evidence for the length of time that elapsed between the earliest Sun Pyramid and the Ciudadela.

Whoever is more nearly correct about how much of the present pattern was fully conceived from its inception, the layout of the monumental part of Teo was created in two centuries or less. Teo began its urban growth in the last centuries BCE and already covered about 8 km², with a population of 20,000–40,000, before anything very monumental was constructed. The great surge of building does not seem to represent the thought of weak rulers or of persons strongly beholden to advisory councils. Moreover, it is just at the beginning of this interval that virtually the entire population disappeared elsewhere in the Basin of Mexico (Sanders et al 1979). People were evidently resettled in Teo. The official ideology may or may not have been collective, but

in any case it looks as if there were a few very powerful, very able, and very imaginative rulers, who were probably not self-effacing persons. The immense structures were probably seen as lasting monuments to these rulers, who needed no inscriptions and no statues to reinforce the messages of the buildings. Sugiyama (1993) and Millon (1992) suspect that a royal tomb is associated with the Sun Pyramid; Millon suspects one also at the Moon Pyramid.

Absence of different plans for different city districts contrasts significantly with many other Mesoamerican centers, where there is coordinated planning within large segments but no single plan that encompasses all segments. Imposition of one plan for almost the whole city is another sign of early strength of the central authority at Teo and suggests relative weakness of intermediate social units, such as large lineages.

A Shift to More Collective Governance?

In the ensuing centuries, from about the middle of the 200s to the 600s or 700s, the city's population remained high and the total volume of monumental construction was quite large. It consisted, however, of enlargements and modifications of existing complexes. It was also at this time that architecturally substantial apartment compounds were built. These soon housed nearly all residents, of low as well as intermediate and high status. Emphasis on building apartment compounds rather than new pyramids may have been part of a conscious shift to greater concern for general well-being than for individual glory.

There is evidence that this change began violently. Our 1988–1989 excavations revealed that the FSP and the temple atop it were burned in a hot fire, and large fragments of modeled clay walls and other debris from the temple were used as part of the fill for the stepped platform (“Plataforma Adosada”) that covered (and preserved) most of the front of the FSP. Instead of being buried by some grander pyramid, most of the ruined FSP was left exposed, perhaps a reminder to any future ruler tempted to overstep, and it suffered further damage⁴. It was probably at this time that looters tunneled into the FSP and removed most contents of the largest pits. If these events happened soon after the FSP was built, and if FSP victims were in fact loyal high-status Teotihuacanos, it may be that elites saw the sacrifices as excessive and reacted strongly (Millon 1988b, Pasztory 1988). Identities of the victims, however, are not yet established, and incomplete ceramic analyses suggest that a century or more may have elapsed before the Plataforma Adosada was built. Perhaps several autocratic rulers succeeded the one responsible for the FSP and the sacrifices, and perhaps it was some time before a less able ruler made revolt possible.

⁴Conceivably this was when work on the idol of Coatlinchan halted; it may have been a ruler's try at personal glorification.

Whether reaction was swift or delayed, it seems to have initiated a period of more collective rule. There may have been a consciously new theory of governance. Possibly, however, Teo political theory always favored collective rule, and the time of powerful rulers may have been seen as a tyrannical aberration. If so, the reaction would have been perceived as the restoration of traditional government.

Teotihuacanos living from infancy in sight of the great pyramids may no longer have been overawed by them, but they must have taken immense pride in them; one likely reason for their disinterest in things foreign.

The scarcity of obvious boasting by Teo rulers has prompted comparisons with the Harappan civilization of the Indus Valley. Teo differs markedly, however. Harappan sites do not have the monumental civic-religious structures of Teo nor the wealth of pictorial art, and settlement patterns are very different.

DECLINE AND COLLAPSE

Metepec-Period Decline?

During Teo's last century the city's population may have declined significantly. The extent of decline, however, will not be clear until there is more agreement on Metepec period ceramic diagnostics. Some households remained quite prosperous, but disparities among households may have been increasing (Sempowski 1994). Centers such as Xochicalco and Cacaxtla possibly developed only after the fall of Teo but may have begun earlier, as a declining Teo lost its ability to punish upstarts. Better control of the chronology of Teo's decline and the rise of other central Mexican sites is crucial. It is easy to imagine ways in which Teo government and society might have been in trouble, through some combination of bureaucratic proliferation; failure to adapt to "Epiclassic" styles of government, commerce, and religion that were developing elsewhere; and possibly environmental problems. Without new income from new conquests and without crises posed by outside threats, rulers may have found it hard to break free of increasingly stultifying constraints and unable to adjust to changes even if they had the will and wisdom (Cowgill 1992a, Millon 1988b).

Fiery (But Selective) Destruction

The Teo state was physically destroyed by the burning of temples and elite residences and the smashing of idols, especially in the central part of the city. Millon emphasizes how selective the destruction was. It was intended to destroy the artifacts and physical facilities of the Teo state. Millon (1988a) believes it could only have been done by insiders, but I think surrounding societies may have gained power and numbers to the point where they, or some

combination, perhaps including dissident insiders, could have defeated a weakened and no longer well-led city. A sizable population, perhaps 40,000, survived or resettled the city, which has remained a town of some importance ever since. But Teo was never again the capital of a regional state.

ACKNOWLEDGMENTS

Preparation of this article was aided by work on a manuscript in press, during a 1992–1993 Fellowship at the Center for Advanced Study in the Behavioral Sciences, Stanford, California. I am grateful for financial support provided by NSF grant SES-9022192. Oralia Cabrera Cortés, John E Clark, René Millon, Ian Robertson, Barbara L Stark, and Saburo Sugiyama made useful suggestions on an earlier draft, but I am solely responsible for this version.

Visit the *Annual Reviews* home page at <http://www.AnnualReviews.org>.

Literature Cited

- Agrinier P. 1975. *Mounds 9 and 10 at Mirador, Chiapas, Mexico*. New World Archaeol. Found., Pap. 39, Provo, UT
- Algaze G. 1993. Expansionary dynamics of some early pristine states. *Am. Anthropol.* 95:304–33
- Altschul JH. 1987. Social districts of Teotihuacan. See McClung de Tapia & Rattray 1987, pp. 191–217
- Armillas P. 1964. Northern Mesoamerica. In *Prehistoric Man in the New World*, ed. JD Jennings, E Norbeck, pp. 291–321. Chicago: Univ. Chicago Press
- Arnold PJ, Pool CA, Kneebone RR, Santley RS. 1993. Intensive ceramic production and Classic-period political economy in the sierra de los Tuxtlas, Veracruz, Mexico. *Anc. Mesoam.* 4(2):175–91
- Aveni AF, Hartung H, Kelley JC. 1982. Alta Vista (Chalchihuites), astronomical implications of a mesoamerican ceremonial outpost at the tropic of Cancer. *Am. Antiq.* 47(2):316–35
- Bennyhoff JA. 1967. Chronology and change in the Teotihuacan ceramic tradition. See Sociedad Mexicana de Antropología 1967, pp. 19–29
- Berlo JC. 1983. The warrior and the butterfly: central Mexican ideologies of sacred warfare and Teotihuacan iconography. In *Text and Image in Pre-Columbian Art*, ed. JC Berlo, pp. 79–117. Br. Archaeol. Rep. Int. Ser. 180, Oxford
- Berlo JC. 1984. *Teotihuacan Art Abroad*. Br. Archaeol. Rep. Int. Ser. 199, Oxford
- Berlo JC. 1989. Early writing in central Mexico: *in tlilli, in tlapalli* before A. D. 1000. See Diehl & Berlo 1989, pp. 19–47
- Berlo JC, ed. 1992a. *Art, Ideology, and the City of Teotihuacan*. Washington, DC: Dumbarton Oaks
- Berlo JC. 1992b. Icons and ideology at Teotihuacan: the Great Goddess reconsidered. See Berlo 1992a, pp. 129–68
- Berrin K, ed. 1988. *Feathered Serpents and Flowering Trees: Reconstructing the Murals of Teotihuacan*. San Francisco: The Fine Arts Museums of San Francisco
- Berrin K, Pasztory E, eds. 1993. *Teotihuacan: Art from the City of the Gods*. New York: Thames & Hudson
- Blanton RE, Feinman GM, Kowalewski SA, Peregrine PN. 1996. A dual-processual theory for the evolution of Mesoamerican civilization. *Curr. Anthropol.* 37(1): 1–14
- Cabrera Castro R, Rodríguez I, Morelos N, eds. 1982a. *Teotihuacan 80–82: Primeros Resultados*. Mexico City: Inst. Nac. Antropol. Hist.
- Cabrera Castro R, Rodríguez I, Morelos N, eds. 1982b. *Memoria del Proyecto Arqueológico Teotihuacan 80–82*. Mexico City: Inst. Nac. Antropol. Hist.
- Cabrera Castro R, Rodríguez I, Morelos N, eds. 1991a. *Teotihuacan 1980–1982: Nue-*

- vas *Interpretaciones*. Mexico City: Inst. Nac. Antropol. Hist.
- Cabrera Castro R, Sugiyama S, Cowgill GL. 1991b. The Templo de Quetzalcoatl project at Teotihuacan. *Anc. Mesoam.* 2(1): 77–92
- Cabrera Cortés MO. 1995. *La lapidaria del Proyecto Templo de Quetzalcoatl 1988–1989*. Licentiate thesis. Esc. Nac. Antrop. Hist., Mexico City
- Cardós A, ed. 1990. *La Epoca Clásica*. Mexico City: Inst. Nac. Antropol. Hist.
- Carlson JB. 1991. *Venus-Regulated Warfare and Ritual Sacrifice in Mesoamerica: Teotihuacan and the Cacaxtla “Star Wars” Connection*. College Park, MD: Cent. Archaeoastron., Tech. Publ. 7
- Clark JE. 1986. From mountains to molehills: a critical review of Teotihuacan’s obsidian industry. See Isaac 1986, pp. 23–74
- Coe MD. 1981. Religion and the rise of mesoamerican states. In *The Transition to Statehood in the New World*, ed. GD Jones, RR Kautz, pp. 157–71. Cambridge: Cambridge Univ. Press
- Cowgill GL. 1974. Quantitative studies of urbanization at Teotihuacan. See Hammond 1974, pp. 363–96
- Cowgill GL. 1979. Teotihuacan, internal militaristic competition, and the fall of the Classic Maya. In *Maya Archaeology and Ethnohistory*, ed. N Hammond, GR Willey, pp. 51–62. Austin: Univ. Tex. Press
- Cowgill GL. 1983. Rulership and the Ciudadela: political inferences from Teotihuacan architecture. In *Civilization in the Ancient Americas*, ed. RM Leventhal, AL Kolata, pp. 313–43. Cambridge, MA: Univ. N. M. Press & Peabody Mus., Harvard Univ.
- Cowgill GL. 1992a. Toward a political history of Teotihuacan. In *Ideology and Pre-Columbian Civilizations*, ed. AA Demarest, GW Conrad, pp. 87–114. Santa Fe, NM: Sch. Am. Res. Press
- Cowgill GL. 1992b. Social differentiation at Teotihuacan. In *Mesoamerican Elites: An Archaeological Assessment*, ed. DZ Chase, AF Chase, pp. 206–20. Norman: Univ. Okla. Press
- Cowgill GL. 1992c. Teotihuacan glyphs and imagery in the light of some early colonial texts. See Berlo 1992a, pp. 231–46
- Cowgill GL. 1993. Distinguished lecture in archaeology: beyond criticizing New Archaeology. *Am. Anthropol.* 95(3):551–73
- Cowgill GL, Altschul JH, Sload RS. 1984. Spatial analysis of Teotihuacan: a mesoamerican metropolis. In *Intrasite Spatial Analysis in Archaeology*, ed. HJ Hietala, pp. 154–95. Cambridge: Cambridge Univ. Press
- Crespo AM, Mastache AG. 1981. La presencia en el área de Tula, Hidalgo, de grupos relacionados con el barrio de Oaxaca en Teotihuacan. See Rattray et al 1981, pp. 99–106
- de la Fuente B, ed. 1995. *La Pintura Mural Prehispánica en México I: Teotihuacan. Tomo 1: Catálogo*. Mexico City: Inst. Investigaciones Estéticas, Univ. Nac. Autón. Méx.
- Demarest AA, Foias AE. 1993. Mesoamerican horizons and the cultural transformation of Maya civilization. In *Latin American Horizons*, ed. DS Rice, pp. 147–91. Washington, DC: Dumbarton Oaks
- Díaz Oyarzábal CL. 1980. *Chingí: un sitio clásico del área de Tula, Hgo.* Mexico City: Inst. Nac. Antropol. Hist.
- Diehl RA, Berlo JC, eds. 1989. *Mesoamerica After the Decline of Teotihuacan*. Washington, DC: Dumbarton Oaks
- Drennan RD, Fitzgibbons PT, Dehn H. 1990. Imports and exports in Classic Mesoamerican political economy: the Tehuacan Valley and the Teotihuacan obsidian industry. *Res. Econ. Anthropol.* 12:177–99
- Drucker RD. 1974. *Renovating a reconstruction: The Ciudadela at Teotihuacan, Mexico*. PhD thesis. Univ. Rochester
- Eisenstadt SN. 1969. *The Political Systems of Empires*. New York: Free Press
- García Cook A. 1994. *Cantona*. Mexico City: Salvat
- Grove DC. 1987. Torches, “knuckle dusters” and the legitimization of Formative Period rulership. *Mexicon* 9(3):60–65
- Hammond N, ed. 1974. *Mesoamerican Archaeology: New Approaches*. London: Duckworth
- Hassig R. 1992. *War and Society in Ancient Mesoamerica*. Berkeley: Univ. Calif. Press
- Headrick A. 1996. *The Teotihuacan Trinity: unMASKING the political structure*. PhD thesis. Univ. Tex., Austin
- Helms M. 1993. *Craft and the Kingly Ideal*. Austin: Univ. Tex. Press
- Hirth KG. 1978. Teotihuacan regional population administration in eastern Morelos. *World Archaeol.* 9(3):320–33
- Hirth KG. 1980. *Eastern Morelos and Teotihuacan*. Nashville, TN: Vanderbilt Univ. Publ. Anthropol. 25
- Hirth KG, ed. 1984. *Trade and Exchange in Early Mesoamerica*. Albuquerque: Univ. N. M. Press
- Hirth KG, Angulo Villaseñor J. 1981. Early

- state expansion in central Mexico: Teotihuacan in Morelos. *J. Field Archaeol.* 8(2):135-50
- Hopkins MR. 1995. *Teotihuacan cooking pots: scale of production and product variability*. PhD thesis. Brandeis Univ., Waltham, MA
- Isaac BL, ed. 1986. *Economic Aspects of Pre-hispanic Highland Mexico*. Greenwich, CT: JAI Press
- Justeson JS, Norman WM, Campbell L, Kaufman T. 1983. The foreign impact on lowland Mayan language and script: a summary. See Miller 1983, pp. 147-58
- Kidder AV, Jennings JD, Shook EM. 1946. *Excavations at Kaminaljuyu, Guatemala*. Washington, DC: Carnegie Inst. Wash.
- Kowalski JK. 1997. Natural order, social order, political legitimacy and the sacred city: the architecture of Teotihuacan. In *Mesoamerican Architecture as a Sacred Symbol*, ed. JK Kowalski. New York/Oxford: Oxford Univ. Press
- Kubler G. 1967. *The Iconography of the Art of Teotihuacan*. Washington, DC: Dumbarton Oaks
- Kurtz DV. 1987. The economics of urbanization and state formation at Teotihuacan. *Curr. Anthropol.* 28(3):329-53
- Langley JC. 1986. *Symbolic Notation of Teotihuacan*. Br. Archaeol. Rep. Int. Ser. 313, Oxford
- Langley JC. 1991. The forms and usage of notation at Teotihuacan. *Anc. Mesoam.* 2(2): 285-98
- Langley JC. 1992. Teotihuacan sign clusters: emblem or articulation? See Berlo 1992a, pp. 247-80
- Laporte JP, Fialko V. 1990. New perspectives on old problems: dynastic references for the Early Classic at Tikal. In *Vision and Revision in Maya Studies*, ed. FS Clancy, PD Harrison, pp. 33-66. Albuquerque: Univ. N. M. Press
- Linné S. 1942. *Mexican Highland Cultures*. Stockholm: Ethnog. Mus. Sweden
- López Austin A, López Luján L, Sugiyama S. 1991. The Temple of Quetzalcoatl at Teotihuacan: its possible ideological significance. *Anc. Mesoam.* 2(1):93-105
- López Luján L. 1989. *La Recuperación Mexica del Pasado Teotihuacano*. Mexico City: Inst. Nac. Antropol. Hist.
- Manzanilla L. 1992. The economic organization of the Teotihuacan priesthood: hypotheses and considerations. See Berlo 1992a, pp. 321-38
- Manzanilla L, ed. 1993. *Anatomía de un Conjunto Residencial Teotihuacano en Oztotuhualco*, 2 Vols. Mexico City: Inst. Investigaciones Antropol., Univ. Nac. Autón. Méx.
- Manzanilla L. 1996. Corporate groups and domestic activities at Teotihuacan. *Lat. Am. Antiq.* 7(3):228-46
- Manzanilla L, Barba L. 1990. The study of activities in classic households. *Anc. Mesoam.* 1:41-49
- Marcus J, Flannery KV. 1996. *Zapotec Civilization*. London: Thames & Hudson
- Matos Moctezuma E. 1988. *The Great Temple of the Aztecs*. London: Thames & Hudson
- McCafferty GG. 1996. Reinterpreting the great pyramid of Cholula, Mexico. *Anc. Mesoam.* 7(1):1-17
- McClung de Tapia E, Rattray EC, eds. 1987. *Teotihuacan: Nuevos Datos, Nuevas Síntesis, Nuevos Problemas*. Mexico City: Inst. Investigaciones Antropol., Univ. Nac. Autón. Méx.
- Miller AG, ed. 1983. *Highland-Lowland Interaction in Mesoamerica*. Washington, DC: Dumbarton Oaks
- Millon C. 1973. Painting, writing, and polity in Teotihuacan, Mexico. *Am. Antiq.* 38(3): 294-314
- Millon C. 1988. A reexamination of the Teotihuacan tassel headdress. See Berrin 1988, pp. 114-34
- Millon R. 1973. *Urbanization at Teotihuacan, Mexico, Vol. 1, The Teotihuacan Map. Part 1: Text*. Austin: Univ. Tex. Press
- Millon R. 1974. The study of urbanism at Teotihuacán, Mexico. See Hammond 1974, pp. 335-62
- Millon R. 1976. Social relations in ancient Teotihuacan. In *The Valley of Mexico*, ed. ER Wolf, pp. 205-48. Albuquerque: Univ. N. M. Press
- Millon R. 1981. Teotihuacan: city, state, and civilization. In *Supplement to the Handbook of Middle American Indians, Vol. 1, Archaeology*, ed. JA Sabloff, pp. 198-243. Austin: Univ. Tex. Press
- Millon R. 1988a. The last years of Teotihuacan dominance. In *The Collapse of Ancient States and Civilizations*, ed. N Yoffee, GL Cowgill, pp. 102-64. Tucson: Univ. Ariz. Press
- Millon R. 1988b. Where do they all come from? The provenance of the Wagner murals from Teotihuacan. See Berrin 1988, pp. 78-113
- Millon R. 1992. Teotihuacan studies: from 1950 to 1990 and beyond. See Berlo 1992a, pp. 339-429
- Millon R, Drewitt RB, Cowgill GL. 1973. *Urbanization at Teotihuacan, Mexico, Vol. 1, The Teotihuacan Map. Part 2: Maps*. Austin: Univ. Tex. Press

- Morelos García N. 1993. *Proceso de Producción de Espacios y Estructuras en Teotihuacán*. Mexico City: Inst. Nac. Antropol. Hist.
- Muir E. 1981. *Civic Ritual in Renaissance Venice*. Princeton, NJ: Princeton Univ. Press
- Múnera LC. 1985. *Un Taller de Cerámica Ritual en la Ciudadela, Teotihuacán*. Licentiate thesis. Esc. Nac. Antrop. Hist., Mexico City
- Nutini HG. 1988. *Todos Santos in Rural Tlaxcala*. Princeton, NJ: Princeton Univ. Press
- Pasztor E. 1974. *The Iconography of the Teotihuacan Tlaloc*. Washington, DC: Dumbarton Oaks
- Pasztor E. 1977. (1973). The gods of Teotihuacan. In *Int. Congr. Am., 40th, Rome-Genoa, 1972*. 1:147–59. Reprinted in *Pre-Columbian Art History*, ed. A Cordy-Collins, J Stern, pp. 81–95. Palo Alto, CA: Peek
- Pasztor E. 1988. A reinterpretation of Teotihuacan and its mural painting tradition. See Berrin 1988, pp. 45–77
- Pasztor E. 1990. El poder militar como realidad y metáfora en Teotihuacan. See Cardós 1990, pp. 181–204
- Pasztor E. 1992. Abstraction and the rise of a utopian state at Teotihuacan. See Berlo 1992a, pp. 281–320
- Pasztor E. 1993. An image is worth a thousand words: Teotihuacan and the meanings of style in Classic Mesoamerica. In *Latin American Horizons*, ed. DS Rice, pp. 113–45. Washington, DC: Dumbarton Oaks
- Pasztor E. 1997. *Teotihuacan: An Experiment in Living*. Norman: Univ. Okla. Press
- Pendergast DM. 1990. *Excavations at Altun Ha, Belize, 1964–1970*, Vol. 3. Toronto: R. Ont. Mus.
- Rattray EC. 1989. El barrio de los comerciantes y el conjunto Tlamimilolpa. *Arqueología* 5:105–29
- Rattray EC. 1990. The identification of ethnic affiliation at the Merchants' barrio, Teotihuacan. In *Etnoarqueología: Primer Coloquio Bosch-Gimpera*, ed. Y Sugiura, MC Serra, pp. 113–38. Inst. Investigaciones Antropol., Univ. Nac. Autón. Méx.
- Rattray EC. 1992. *The Teotihuacan Burials and Offerings*. Nashville: Vanderbilt Univ. Publ. Anthropol. 42
- Rattray EC. 1993. *The Oaxaca Barrio at Teotihuacan*. Puebla: Univ. Américas, Monogr. Mesoam. 1
- Rattray EC, Litvak J, Díaz C, eds. 1981. *Interacción Cultural en México Central*. Mexico City: Inst. Investigaciones Antropol., Univ. Nac. Autón. Méx.
- Robertson I. 1997. Thematic mapping of empirical Bayesian parameter estimates at Teotihuacan, Mexico. *J. Quant. Anthropol.* In press
- Sanders WT, ed. 1994–1996. *The Teotihuacan Valley Project Final Report*, Vol. 3, *The Teotihuacan Period Occupation of the Valley*. 4 Parts. University Park: Matson Mus. Anthropol., Pa. State Univ. Press
- Sanders WT, Michels JW, eds. 1977. *Teotihuacan and Kaminaljuyu*. University Park: Pa. State Univ. Press
- Sanders WT, Parsons JR, Santley RS. 1979. *The Basin of Mexico*. New York: Academic
- Santley RS. 1983. Obsidian trade and Teotihuacan influence in Mesoamerica. See Miller 1983, pp. 69–124
- Santley RS. 1984. Obsidian exchange, economic stratification, and the evolution of complex society in the Basin of Mexico. See Hirth 1984, pp. 43–86
- Santley RS. 1989. Obsidian working, long-distance exchange, and the Teotihuacan presence on the south Gulf Coast. See Diehl & Berlo 1989, pp. 131–51
- Santley RS, Kerley JM, Kneebone RR. 1986. Obsidian working, long-distance exchange, and the politico-economic organization of early states in central Mexico. See Isaac 1986, pp. 101–32
- Santley RS, Yarborough C, Hall B. 1987. Enclaves, ethnicity, and the archaeological record at Matzacapan. In *Ethnicity and Culture*, ed. R Auger, M Glass, S MacEachern, P McCartney, pp. 85–100. Calgary: Univ. Calgary
- Schele L, Freidel D. 1990. *A Forest of Kings*. New York: Morrow
- Séjourné L. 1959. *Un Palacio en la Ciudad de los Dioses*. Mexico City: Inst. Nac. Antropol. Hist.
- Sempowski M. 1994. Mortuary practices at Teotihuacan. See Sempowski & Spence 1994, pp. 1–314
- Sempowski ML, Spence MW, eds. 1994. *Mortuary Practices and Skeletal Remains at Teotihuacan*. Salt Lake City: Univ. Utah Press
- Sheehy JJ. 1992. *Ceramic production in ancient Teotihuacan, Mexico: a case study of Tlajinga 33*. PhD thesis. Pa. State Univ.
- Sociedad Mexicana de Antropología. 1967. *Teotihuacan, Onceava Mesa Redonda*. Mexico City
- Sociedad Mexicana de Antropología. 1972. *Teotihuacan, XI Mesa Redonda*. Mexico City

- Spence MW. 1974. Residential practices and the distribution of skeletal traits in Teotihuacan, Mexico. *Man* 9(2):262-73
- Spence MW. 1981. Obsidian production and the state in Teotihuacan. *Am. Antiq.* 46(4): 769-88
- Spence MW. 1984. Craft production and polity in early Teotihuacan. See Hirth 1984, pp. 87-114
- Spence MW. 1987. The scale and structure of obsidian production in Teotihuacan. See McClung de Tapia & Rattray 1987, pp. 429-50
- Spence MW. 1989. Excavaciones recientes en Tlailotlacan, el barrio oaxaqueño de Teotihuacan. *Arqueología* 5:82-104
- Spence MW. 1992. Tlailotlacan, a Zapotec enclave in Teotihuacan. See Berlo 1992a, pp. 59-88
- Spence MW. 1994. Human skeletal material from Teotihuacan. See Sempowski & Spence 1994, pp. 315-445
- Spence MW. 1996. Commodity or gift: Teotihuacan obsidian in the Maya region. *Lat. Am. Antiq.* 7(3):21-39
- Stark BL. 1995. Estilos de volutas en el periodo clásico. In *Rutas de Intercambio en Mesoamérica*, ed. EC Rattray. Mexico City: Univ. Nac. Autón. Méx. In press
- Stark BL, Heller L, Glascock MD, Elam JM, Neff H. 1992. Obsidian-artifact source analysis for the Mixtequilla region, south-central Veracruz, Mexico. *Lat. Am. Antiq.* 3(3):221-39
- Stone A. 1989. Disconnection, foreign insignnia, and political expansion: Teotihuacan and the warrior stelae of Piedras Negras. See Diehl & Berlo 1989, pp. 153-73
- Storey R. 1985. An estimate of mortality in a pre-Columbian urban population. *Am. Anthropol.* 87:519-35
- Storey R. 1991. Residential compound organization and the evolution of the Teotihuacan state. *Anc. Mesoam.* 2(1):107-18
- Storey R. 1992. *Life and Death in the Ancient City of Teotihuacan*. Tuscaloosa: Univ. Ala. Press
- Sugiyama S. 1989a. Burials dedicated to the Old Temple of Quetzalcoatl at Teotihuacan, Mexico. *Am. Antiq.* 54(1):85-106
- Sugiyama S. 1989b. Iconographic interpretation of the Temple of Quetzalcoatl at Teotihuacan. *Mexicon* 11(4):68-74
- Sugiyama S. 1993. Worldview materialized in Teotihuacan, Mexico. *Lat. Am. Antiq.* 4(2):103-29
- Sugiyama S. 1995. *Mass Human Sacrifice and Symbolism of the Feathered Serpent Pyramid in Teotihuacan, Mexico*. PhD thesis. Ariz. State Univ., Tempe
- Taube KA. 1983. The Teotihuacan Spider Woman. *J. Lat. Am. Lore* 9(2):107-89
- Taube KA. 1992. The Temple of Quetzalcoatl and the cult of sacred war at Teotihuacan. *Res* 21:53-87
- Thapar R. 1966. *A History of India*, Vol. 1. New York: Penguin
- Turner MH. 1987. *The lapidary industry of Teotihuacan, Mexico*. PhD thesis. Univ. Rochester
- Turner MH. 1992. Style in lapidary technology. See Berlo 1992a, pp. 89-112
- Umberger E. 1987. Antiques, revivals, and references to the past in Aztec art. *Res* 13:61-105
- von Winning H. 1987. *La Iconografía de Teotihuacan*. Mexico City: Univ. Nac. Autón. Méx.
- Widmer RJ. 1991. Lapidary craft specialization at Teotihuacan: implications for community structure at 33:S3W1 and economic organization in the city. *Anc. Mesoam.* 2(1):131-41
- Widmer RJ, Storey R. 1993. Social organization and household structure of a Teotihuacan apartment compound: S3W1:33 of the Tlajinga barrio. In *Prehispanic Domestic Units in Western Mesoamerica*, ed. RS Santley, KG Hirth, pp. 87-104. Boca Raton: CRC Press