



Cover image: Pictured are figurine heads from different sectors of Teopancazco, a multiethnic neighborhood center of the ancient Mesoamerican city of Teotihuacan. In this neighborhood, people from different social statuses, ethnic groups, and occupations interacted and formed a complex corporate group, possibly related by common migration traditions, emblems, ceremonies, relics, and symbolic relations. Competing exclusionary neighborhood centers might have disrupted the corporate organization of the Teotihuacan state. The Dynamics of Change in Multiethnic Societies Special Feature explores how cooperation and tensions between different ethnic groups within societies led to social transformation in the past. See the Introduction to the Special Feature by Linda R. Manzanilla on pages 9174–9175. Image courtesy of Linda R. Manzanilla.

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Cooperation and tensions in multiethnic corporate societies using Teotihuacan, Central Mexico, as a case study

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In this paper, I address the case of a corporate society in Central Mexico. After volcanic eruptions triggered population displacements in the southern Basin of Mexico during the first and fourth centuries A.D., Teotihuacan became a multiethnic settlement. Groups from different backgrounds settled primarily on the periphery of the metropolis; nevertheless, around the core, intermediate elites actively fostered the movement of sumptuary goods and the arrival of workers from diverse homelands for a range of specialized tasks. Some of these skilled craftsmen acquired status and perhaps economic power as a result of the dynamic competition among neighborhoods to display the most lavish sumptuary goods, as well as to manufacture specific symbols of identity that distinguished one neighborhood from another, such as elaborate garments and head-dresses. Cotton attire worn by the Teotihuacan elite may have been one of the goods that granted economic importance to neighborhood centers such as Teopancazco, a compound that displayed strong ties to the Gulf Coast where cotton cloth was made. The ruling elite controlled raw materials that came from afar whereas the intermediate elite may have been more active in providing other sumptuary goods: pigments, cosmetics, slate, greenstone, travertine, and foreign pottery. The contrast between the corporate organization at the base and top of Teotihuacan society and the exclusionary organization of the neighborhoods headed by the highly competitive intermediate elite introduced tensions that set the stage for Teotihuacan's collapse.

Teotihuacan | craft specialization | multiethnic | neighborhood center | corporate

Few preindustrial urban settlements were as planned and multiethnic as pre-Hispanic Teotihuacan. The presence of people of diverse origins must have required an efficient organization on the neighborhood level to integrate everyone into the city's life whereas identity markers (garments, headaddresses, facial paint) may also have played a role in distinguishing each group within a setting where different languages were spoken.

In the first century A.D., the Valley of Teotihuacan (already occupied by villages of local people, such as Cuanalan) (1) probably received large groups of people displaced by the eruption of the volcano Popocatepetl (2). The large demographic concentration at Teotihuacan should be seen, not as a forceful act or the result of conquest (3) but rather the natural consequence of large population shifts.

Around A.D. 320, a new episode of population displacement may have taken place, stemming from the eruption of a second volcano named Xitle (4) in the southern sector of the Basin of Mexico. These two events, one at the outset and the other in the middle of the city's history, fostered the reorganization of Teotihuacan society into a corporate multiethnic system (5). Two different construction levels, one superimposed on the other, may be seen in a number of the city's compounds. This reorganization of urban space may have occurred after the end of the Tlamimilolpa phase (~A.D. 350); Millon (6) has referred to it as "urban renewal."

The city became born as a multiethnic settlement where groups of different origins settled primarily on the fringes of the metropolis: for example, Tlailotlacan or the Oaxaca Barrio in

the southwest, the Merchants' Barrio populated by people from the Gulf Coast in the east, and a small group from Michoacán in the west (7–11). In these peripheral sectors, archaeologists have found evidence of funerary rituals mirroring the migrants' foreign practices; import wares from these foreign regions as well as local imitations; symbolic items such as stone slabs with glyphs, urns, and figurines (9–11); and the skeletons of individuals determined to be from other regions (12–15).

Foreigners have also been detected through isotopic analyses of the remains of sacrificed individuals, found in dedicatory offerings inside the Moon Pyramid and below the Feathered Serpent Pyramid (16–18), two of the preeminent temples in the metropolis. At the same time, two commoner compounds have provided isotopic information identifying local Teotihuacanos: Tlajinga 33 along the southern periphery (13) and Oztoyahualco 15B:N6W3 on the northwestern periphery of the city (15). Nearer the city's core, Teotihuacan's intermediate elites managed neighborhood centers that fostered the movement of sumptuary goods and people. The latter included specialized craftsmen from different regions (19–22).

Over the course of 13 field seasons of extensive excavations (1997–2005), my project, "Teotihuacan: Elite and Rulership," addressed one of these neighborhood centers: Teopancazco (5, 19). We devised an interdisciplinary approach to study the people buried in this particular multiethnic neighborhood center. Through paleopathology, activity markers, nutritional status, trace elements, stable and strontium isotopes, and ancient DNA, a very complex set of roles, origins, and socioeconomic relations emerged (20). It seems that many foreign workers who had experienced nutritional stress in their infancy may have been attracted to such neighborhood centers for a food-rationing system I proposed in 2011 (21).

Significance

Teotihuacan was born as a complex multiethnic settlement that originally accommodated populations displaced by volcanic eruptions that devastated the southern Basin of Mexico. Soon, the city became an inclusive society where people from other regions of Mesoamerica could work mainly as qualified craftspeople (particularly garment makers and lapidary specialists), as well as builders, musicians, and military personnel. This society capitalized on the knowledge, technical expertise, and experience that foreigners brought to the city. Each neighborhood competed with the others in displaying the finest crafts, the rarest raw materials, and the most diverse sumptuary goods. This competition gave rise to a highly complex society, but one with inherent contradictions.

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Data deposition: The Consejo de Arqueología of the Instituto Nacional de Antropología e Historia has all databases of my project, as they are part of the cultural heritage of the Mexican nation.

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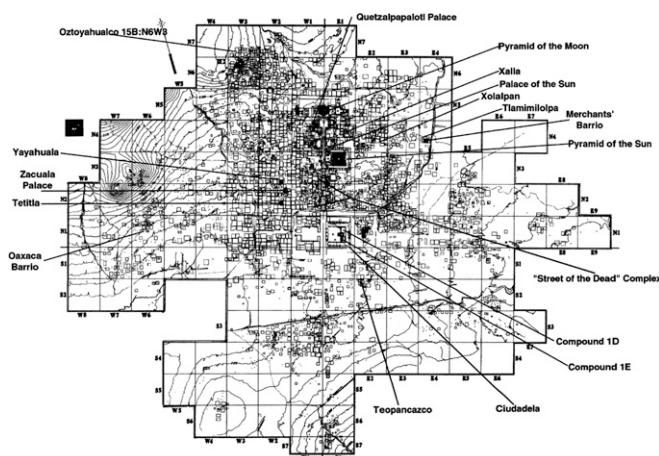


Fig. 1. The location of the Teopanacazo neighborhood center in Teotihuacan. Figure courtesy of ref. 5.

The Teopanacazo Neighborhood Center

Located to the south of the so-called Ciudadela of Teotihuacan (Fig. 1), the neighborhood center of Teopanacazo was occupied during the following archaeological phases: Miccaotli–Tlamimilolpa (A.D. 150–350), Xolalpan (A.D. 350–550), and Metepec (A.D. 550–650) (23, 24). It displayed functional sectors devoted to ritual, specialized craft production, military personnel, and food preparation for workers, as well as possible medical and administrative sectors (5, 19, 22). This situation contrasts sharply with the layout of functional sectors in multifamily apartment compounds (25, 26). Teopanacazo also yielded 116 formal burials, of which 32% were decapitated individuals. Many of the burials were determined to be migrants from different regions (21, 27, 28). This group displays strong links to the Gulf Coast of Mexico (5, 19, 22, 29) through shared work as well as ritual and symbolic relationships. One possibility is that the local intermediate elite had clients from different regions along the corridor to the Gulf Coast who were “embedded” in the neighborhood center’s structure as full-time specialists.

In this article, I summarize the status of this particular population; the importance of multiethnic relations in establishing such a complex house society in a Teotihuacan neighborhood; and the competitive relations among neighborhoods that may have been Teotihuacan’s most dynamic process, as well as an independent source of social and economic power for the city. This competitive and aggressive situation may have posed a threat to the corporate organization of the Teotihuacan state and resulted in tension between the corporate and exclusionary organizations embedded in Teotihuacan society.

The Multiethnic Population of Teopanacazo

Studying the neighborhood center of Teopanacazo led to the exposition of two issues: first, many newborn babies (30) were buried on the northeastern sector, perhaps implying that the women of the neighborhood came to the center for childbirth attention; second, some of these perinatal individuals were sexed by DNA (31) and showed similar proportions of male and female babies, in contrast to the ratio observed in the adult population, many of whom were skilled multicraft specialists (20, 30). Significantly, with respect to the sexed adult population, Teopanacazo burials were predominantly male, with only 15% of the sexed adults being women (30). This proportion stands in sharp contrast to the situation in domestic apartment compounds such as Oztoyahualco 15B (32) (8 females/11 males), La Ventilla B (33) (54 females/45 males), or Tlajinga 33 (34) (13 females/19 males). It would seem that most domestic compounds had similar numbers of female and male burials whereas neighborhood centers such as Teopanacazo may have been used primarily for the burial of males.

Different activity markers (Table 1) (for example, roughness and asymmetry in certain articulations and joints) have been recognized at Teopanacazo (20, 30), as follows. (i) Of burials, 21.55% bore signs of having worked fibers with their frontal teeth (four females and 21 males) (20, 30). We suspect that they were involved in making nets, which are depicted in mural art at Teopanacazo (35) and may have been used to procure the 14 varieties of marine fish (36, 37) present at the site; net making is also indicated by the presence of the bone shuttles (38) used for net manufacture. (ii) Markers showed that 7.75% (including three women) displayed signs of having thrown nets or spears (20, 30). (iii) Markers showed that 6.89% (including one woman) showed signs of having sewed and/or painted for long periods of time (20, 30). Significantly, two of the primary crafts practiced at Teopanacazo were the production of garments and headdresses for the intermediate elite (39), as well as the painting of polychrome pottery and walls (22, 40). Numerous examples of bone needles and pins, as well as paint-brush handles, were found in the garment-making sector (5, 19) and to the north of the ritual plaza (38). (iv) Markers showed that 15.51% (including four women) had carried heavy loads (20, 30). Foreign luxury goods at Teopanacazo were abundant (21) and included pyrites; 47 fragments of greenstone (including verdigris and green quartz); 21 pieces of travertine and onyx (41, 42); gray marble; Thin Orange pottery vessels from south-central Puebla; pottery from the Ocotelulco region in Tlaxcala (19); Granular Ware from the Morelos-Guerrero area; fine and Orange Lacquer wares from Veracruz (some of which came from the Mixtequilla area (43)); foreign metamorphic tempers (44); rhyolitic glass shards from the Altotonga Region in Veracruz, used as an aggregate for stucco floors (45); pigments for painting one’s body and for pottery and mural painting (particularly cinnabar, galena, jarosite, and malachite) (46–48); ~4.4 kg of slate (from the state of Mexico and the Morelos-Guerrero region) (49, 50); 72 g of mica from Oaxaca (51); 99 fish specimens, two types of crabs, and a crocodile from the Nautla region in Veracruz (36, 37); 665 marine shells belonging to 16 families of marine mollusks from the Gulf of Mexico, the Caribbean, and the Pacific Ocean (52); cotton fibers and cloths, probably from Veracruz; and nonlocal flint. Any or all of these goods may have required heavy lifting. (v) Of the 18 individuals (men and women) listed above, 16 were found to have squatted for long periods (20, 30). Perhaps they were also involved in some sort of craft production; two of them were found in the garment-making sector. (vi) Three cases of auditory exostoses caused by diving in cold waters (30) were detected at Teopanacazo. Perhaps these persons can be related to the profusion and diversity of marine shells found at the site (52). One example is burial 71 (a subadult female immigrant from lower altitudes, perhaps Chiapas or Oaxaca) (20, 27, 28, 30).

Adult women buried in this neighborhood center accounted for only 15% of the sexed adults. Five of these women received special funerary treatment and were seemingly related to multiple tasks and crafts in the neighborhood center. Let me cite some examples.

Individual 2 was a Xolalpan phase returnee migrant adult woman (28) with a nonmarine diet (53, 54), who had worked with fibers, carried heavy loads, squatted and knelt for long periods of time, and probably also sewed garments (a needle was buried with her). She displayed porotic hyperostosis (30) and genetic haplogroup A (55). She was buried in a seated position in a pit, with a necklace of obsidian beads, slate, and yellow pigment (often associated with the female figurines) in the military quarter of the neighborhood center (56).

Individual 102, a Xolalpan-phase ~38-y-old migrant woman from slightly higher altitudes around Teotihuacan (27, 28, 30), had a nonmarine diet (53, 54) and displayed haplogroup D (55). She was buried with her skull framed by her leg long bones forming a square in the ritual courtyard of the neighborhood center (19). She had carried heavy burdens and was buried with a bone needle, slate, obsidian, and pottery (19, 30, 56). Together with individual 2, she might have brought cotton cloth to Teotihuacan through the caravan system of sumptuary good provision and may have participated in garment manufacturing for the intermediate elite.

Of the men, individual 78 was a local, tall, corpulent, multiple-task worker, buried in a pit together with projectile points, figurine fragments, and polishers. He had walked as well as knelt for long periods of time, carried heavy loads, squatted, stitched cloth or painted pottery, worked fibers with his teeth, and cast nets or spears (20, 30). He may also have been involved in supplying marine fish to the neighborhood center because his diet revealed an important marine contribution (53, 54).

Two migrant adolescents [no. 105 (male) and no. 108 (female)] from Late Tlamimilolpa times were buried together in a funerary rite reserved for elite individuals in Teotihuacan. They were seated in a pit (perhaps as funerary bundles), with their faces to the west; fire was lit inside the pit, a practice conducted for many important individuals in Teotihuacan (56). Numerous miniature vessels with galena, cinnabar, jarosite, and hematite pigments, as well as resins and oils, were found with them (46, 47), together with discs and other geometric shapes made from mica (a raw material strictly controlled by the ruling elite) (51), as well as orange lacquer negative-painted bowls from the Mixtequilla region in Veracruz (19, 43). The diet of these individuals displayed a substantial marine component (53, 54) although they came from the corridor leading to the Gulf Coast rather than the coast itself (19, 27, 28, 30, 31, 51, 53, 54).

Most of the paleopathologies detected in this multiethnic population were derived from nutritional stresses during infancy (30), as follows. (i) Porotic hyperostosis due to parasitism or anemia was present in 15.51%, five of whom were infants (32). (ii) Nutritional stress in the form of cribra orbitalia was present in five individuals, one of whom was a baby less than a year old and another of whom was a woman (30). (iii) Four males, one female, and two infants displayed scorbutic disease (scurvy) from a lack of vegetables and fruits containing vitamin C in the diet; most of these adults also had porotic hyperostosis. (iv) Enamel hypoplasia was present in seven decapitated individuals; the cause may have been lack of exposure to the sun (30), disease, or malnutrition during infancy. (v) Sixty-one of the 84 adults and juveniles had slight tooth decay; 18 more had moderate cavities, and five had severe problems (57). (vi) One example of facial paralysis was found in our sample by Funes (57). This individual was burial 91, a decapitated male 20–25 y of age, from lower altitudes (27, 30).

It is significant that 29% of the individuals in our sample had suffered dietary stress during their infancy but managed to overcome it (30). They may have come to Teotihuacan, traveling the corridors that linked that city to the Gulf Coast, hoping for a better life and more secure diet, based on the tortilla-rationing system for workers I proposed in 2011 (21). The metropolis needed labor and presented itself as a land of opportunity and abundance. Nevertheless, some of these migrant workers were

trapped in the neighborhood center, perhaps as full-time craft workers who often spent long hours in a squatting position, sometimes with little exposure to the sun.

Discussion

Three groups were present at Teopancaczo: a local Basin of Mexico population, migrants from nearby regions (Puebla, Tlaxcala, Hidalgo), and migrants from farther away (Gulf Coast, Oaxaca, and Chiapas). Based on the strontium isotope analysis (28), we know that returnee migrants were also present. From stable-isotope analyses (27), it would seem that people came from different altitudes—mainly from the Central Highlands, but some from lower altitudes, and a few from higher altitudes. Some individuals may have consumed a substantial portion of marine resources in their diet (53, 54) because Teopancaczo was regularly supplied with 14 varieties of marine fish, mainly from the coastal lagoons of Veracruz (36, 37). Nevertheless, stable-isotope research (27) shows that the primary food of many of these workers was maize and maize-fed domestic animals (dogs and turkeys) so perhaps the tortilla-rationing system that the neighborhood center may have provided to its workers (21) was a fundamental means to attain regular food provisions.

The analysis of ancient DNA (55) shows that all four Mesoamerican haplogroups (A, B, C, and D) were present at Teopancaczo, constituting evidence that, from the outset, this compound was a heterogeneous neighborhood center. Most of the pre-Hispanic Central Mexican populations that have been analyzed on the basis of ancient DNA have most of the haplogroups, with an emphasis on haplogroup A.

Twenty-nine decapitated individuals belonging to a single ceremonial event at the end of the Tlamimilolpa phase (~A.D. 350), each with his decapitated head set in a crater and covered with a bowl or plate (5, 22), represent a new practice at Teotihuacan (although it was present at Cerro de las Mesas, Veracruz). These individuals, mainly young adult males, came from different altitudes and sites in the corridor to the Gulf Coast. Most decapitated burials were not men from the Teotihuacan area; a few were from the coastal region and two were returnee migrants (19, 20, 27, 28).

A large number of the individuals buried at Teopancaczo were migrants. Many of them display activity markers that suggest they played important roles in the labor pool of this multiethnic neighborhood center. The garments manufactured at Teopancaczo (5, 19, 22, 39) were the only ones at Teotihuacan that bore clear reference to the ocean, inasmuch as they included seashells (37) attached to the cotton cloth, thus assuring the recognition of their wearers in the city.

This society capitalized on the knowledge, craftsmanship, and experience that foreigners brought to the city as part of the neighborhood intermediate elite caravan system to compete with other neighborhood centers in producing the finest crafts, the rarest raw materials, and the most diverse sumptuary goods. Some of these skilled craftspeople acquired status and perhaps economic power, given the dynamic competition among neighborhood centers to display the most exotic goods, as well as specific symbols of identity such as elaborate garments and headdresses. The cotton clothing that was worn by the Teotihuacan elite may have been among the goods that augmented the economic status of certain neighborhood centers, such as Teopancaczo, with strong ties to the Gulf Coast.

Teopancaczo is the only neighborhood center with a significant variety and concentration of elements from the coast. Priestly figures in sowing rituals depicted in other compounds in the city have other attributes in their clothing. In contrast to Teopancaczo, the La Ventilla 92–94 neighborhood center may have emphasized lapidary work (58).

The ruling elite of Teotihuacan controlled raw materials that came from afar: jadeite from the Motagua region in Honduras-Guatemala, and mica from the central valleys of Oaxaca, as seen in palatial structures such as Xalla (51, 59, 60), but the intermediate elites were highly active in providing a wide range of other sumptuary goods to Teotihuacan society: pigments,

cosmetics, slate from different sources, greenstones, travertine, limestone, flint, and foreign pottery.

Two different forms of organization (corporate and exclusionary) were on display in Teotihuacan society (61). The contrast between the corporate organization at the base (the apartment compounds) (5, 25) and at the top of Teotihuacan society (59), and the exclusionary organization of the neighborhoods headed by the competitive intermediate elite (5, 19) introduced the tensions that became exacerbated with time, setting the stage for the collapse. If, as Feinman states (62), the corporate mode was based on consensus building and an economic reliance on basic production, and the exclusionary arrangements were based on personal networks and more ostentatious expressions of inequalities and wealth, as well as an economy tied to long-distance networks, then at Teotihuacan we see both modes: the corporate mode in the ruling elite and the exclusionary model in the neighborhood centers managed by the intermediate elites (5). Nevertheless, within the core of the multiethnic neighborhood centers, we also see what Carballo (63) describes as indicators of cooperation and collective action: the importance of material symbols for group identification and affiliation (the relation to the ocean) (5, 19), the importance of ceremonial architecture (the main temple, the altar, and the ritual plaza) (5, 19) for feasting and neighborhood rituals, and the possibility that

the human community in each neighborhood center may have constituted a “house society” (29).

The major ritual and administrative buildings along the Street of the Dead were set on fire in A.D. 550 (24, 64), and the sculptures inside palatial structures, such as Xalla, were shattered (65). No traces of foreign invasion are visible at the site. We interpret this event as a revolt against the ruling elite, perhaps a response to a late intervention on the part of the state to control the entrepreneurial movements of the intermediate elite. And in this multiethnic setting, the exclusionary organization prevailed and became the hallmark of the ensuing Epiclassic and Postclassic periods.

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