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*Olmec Art and Archaeology
in Mesoamerica*

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From Olmec to Epi-Olmec at Tres Zapotes, Veracruz, Mexico

How, why, and when did Olmec culture collapse and what do we mean by the concept of a collapse in this context?

Richard A. Diehl, 1989

... nothing is known about the Olmec-post-Olmec transition beyond the bare fact that San Lorenzo and La Venta were abandoned at approximately this time. The limited information we have on Tres Zapotes suggests that research there will provide important insights into this transition.

Richard A. Diehl, 1989

The end of Olmec culture is often described as a decline or a collapse, and the subsequent Epi-Olmec culture as epigonal or decadent (Bernal 1969: 112; Diehl 1989: 32, 1996: 32; Diehl and Coe 1995: 13; Miller 1986: 37). In recent years, however, the discovery of La Mojarra Stela 1 has reminded us that the Gulf Coast successors to the Olmecs made impressive strides in the development of writing, calendrical systems, and political institutions (Justeson and Kaufman 1993). As Richard Diehl observes in the epigraph, we understand very little about the transition from Olmec to Epi-Olmec society. Our ignorance has both chronological and geographical components; research has slighted both the Late Formative period and the ancestral Olmec culture in the western heartland where Epi-Olmec society flourished.

Tres Zapotes, Veracruz, is a logical place in

which to investigate the fate of the Olmecs. Located on the western margin of the Olmec heartland, the site contains a long archaeological sequence that includes Olmec and Epi-Olmec components in addition to later Classic and Postclassic occupations. Although Tres Zapotes has been studied longer than any other major Formative site in the Olmec heartland, previous studies failed to ascertain the overall extent of the site or to produce an accurate site map, much less provide detailed information on the organization and history of settlement of the site. In 1995 I initiated a new phase of research at Tres Zapotes to address questions concerning the evolution of political and economic organization in the western heartland. For two seasons the Recorrido Arqueológico de Tres Zapotes (RATZ) mapped and conducted an intensive surface collection program to obtain chronologically sensitive household-scale data on the distribution of residential occupation and craft production. In this essay I consider the surface distributions of Formative period ceramics collected in the 1995 season, their relationship to mounded construction and sculpture, and their implications for political changes accompanying the Olmec to Epi-Olmec transition.

I begin by summarizing previous research at Tres Zapotes and discussing the significance of the site's regional ecological setting, then describe the physical organization of architecture and artifact distributions as revealed by our recent investigations. Next, I provide

Reconstructed front and back views (from two fragments) of Stela C, Tres Zapotes, Veracruz, showing one of Mesoamerica's earliest Long Count calendar dates (32 B.C.)

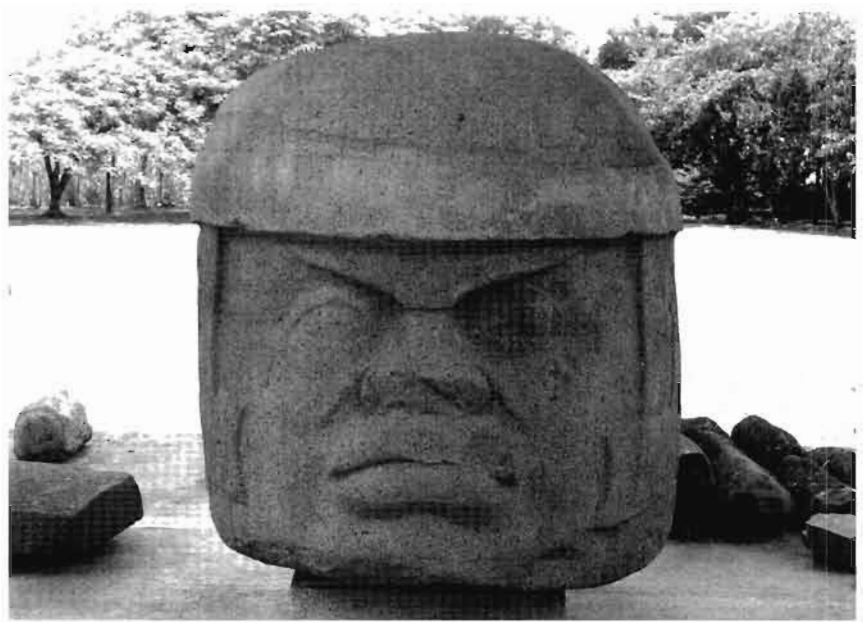
Drawing by Avax Moreno. Courtesy of New World Archaeological Foundation

an updated interpretation of site chronology and apply it to a reconstruction of the occupational history of Tres Zapotes. This reconstruction provides the basis for the subsequent discussion of continuity from Olmec to Epi-Olmec culture and the evolution of political organization at Tres Zapotes. I conclude with a model of political evolution that takes into account the ecological setting of Tres Zapotes, the history of regional political and economic systems, and the development of new forms of political expression.

History of Research

Tres Zapotes first attracted scholarly attention in 1869 when José Melgar reported the discovery of a colossal head by a *campesino* on the Hacienda Hueyapan (fig. 1). Seventy years later, in 1939, Matthew Stirling initiated the first modern exploration of an Olmec site at Tres Zapotes. His discovery of Stela C, and Marion Stirling's reconstruction of a Cycle 7 baktun coefficient for its inscribed Long Count date, provided early support for a Formative placement of Olmec culture (fig. 2) (Stirling 1940). Working with Stirling, Philip Drucker (1943) conducted the first stratigraphic excavations in an Olmec center and worked out a general ceramic chronology, later revised by Michael Coe in 1965 and refined by Ponciano Ortiz in 1975. The stone monuments of Tres Zapotes, which now number more than forty, have been the subject of several studies (Porter 1989), including Howell Williams' and Robert Heizer's (1965) landmark petrographic analysis, and the obsidian assemblage of the site was one of the first in Mesoamerica to be characterized by physicochemical means (Hester et al. 1971).

Although Tres Zapotes figured prominently in the early history of Olmec studies, it was soon eclipsed by the spectacular finds at La Venta (Stirling 1943, 1947; Drucker 1952; Drucker et al. 1959) and San Lorenzo (Stirling 1947; Coe 1968; Coe and Diehl 1980). As these eastern sites became the paragons of Olmec culture, ecological explanations of Olmec evolution came to focus on the peculiarities of their lowland riverine settings, and Olmec social complexity became the "Gift of the River" (Coe 1981). As a result, scholars have underappreciated the significance of variation in the regional settings of heartland Olmec sites.



Regional Setting

The westernmost of the major Formative period centers in the Olmec heartland, Tres Zapotes occupies an area of rolling sedimentary uplands between the volcanic massif of the Sierra de los Tuxtlas on the east and the alluvial plain of the Río Papaloapan and its tributaries on the west (fig. 3). This ecologically diverse setting provided the people of Tres Zapotes with most of the resources they required for their basic livelihood. The lakes and swamps of the Papaloapan basin teemed

1. Tres Zapotes Monument A, the Cabeza Colosal de Hueyapan, Formative period, basalt

2. Stela C, upper portion showing Initial Series glyph and baktun coefficient of Long Count date, Formative period, stone

with aquatic resources, and the alluvial plain provided vast expanses of fertile agricultural land. If, as Drucker (1943: 8) believed, the sedimentary uplands were less intensively cultivated, they would have provided diverse forest resources in addition to underlying deposits of high-quality pottery clays. Most significantly, the inhabitants exploited the nearby slopes of Cerro El Vigía and the ravines descending from them for the distinctive porphyritic basalt from which they fashioned stone monuments and grinding implements. The only commonly used material that was not available nearby was obsidian; it does not occur naturally in the Sierra de los Tuxtlas. Chemical analyses indicate that the people of Tres Zapotes looked westward for sources of obsidian, the bulk of which they obtained from the Pico de Orizaba, Guadalupe Victoria, Zaragoza, and Oyameles sources in central Veracruz and Puebla (Hester et al. 1971).

As David Grove (1994: 227–228) has emphasized, the upland environment of Tres Zapotes differs significantly from the riverine and estuarine settings of the more intensively studied eastern heartland sites of San Lorenzo and La Venta. Taking note of the environmental diversity of the Olmec heartland, Grove has recently

argued that the distribution of major Olmec centers and their association with specific sets of natural resources reflect a system of cooperative exchange based on zonal complementarity, which would have been under the control of chiefs who may have reinforced the ties between centers through marriage alliances (Grove 1994: 228; see also Arnold, this volume). I argue here that the location of Tres Zapotes vis-à-vis other Gulf Coast centers and natural resource zones is important for understanding the history of its growth and sociopolitical organization. First, however, I update the picture of the site's geography as it has been revealed through recent archaeological fieldwork.

Site Layout

The archaeological site of Tres Zapotes covers about 450 hectares on either side of a large bend in the Arroyo Hueyapan (fig. 4). Alluvial terraces bound the floodplain of the arroyo to the east and west. Cerro Rabon and Cerro Nestepe, two hills formed by resistant volcanic ash deposits, or *laja*, rise above the plain on the east bank of the arroyo. A broad ravine delimits the northern edge of the site.

3. The upland landscape of Tres Zapotes, view from Group 3 toward Cerro El Vigía

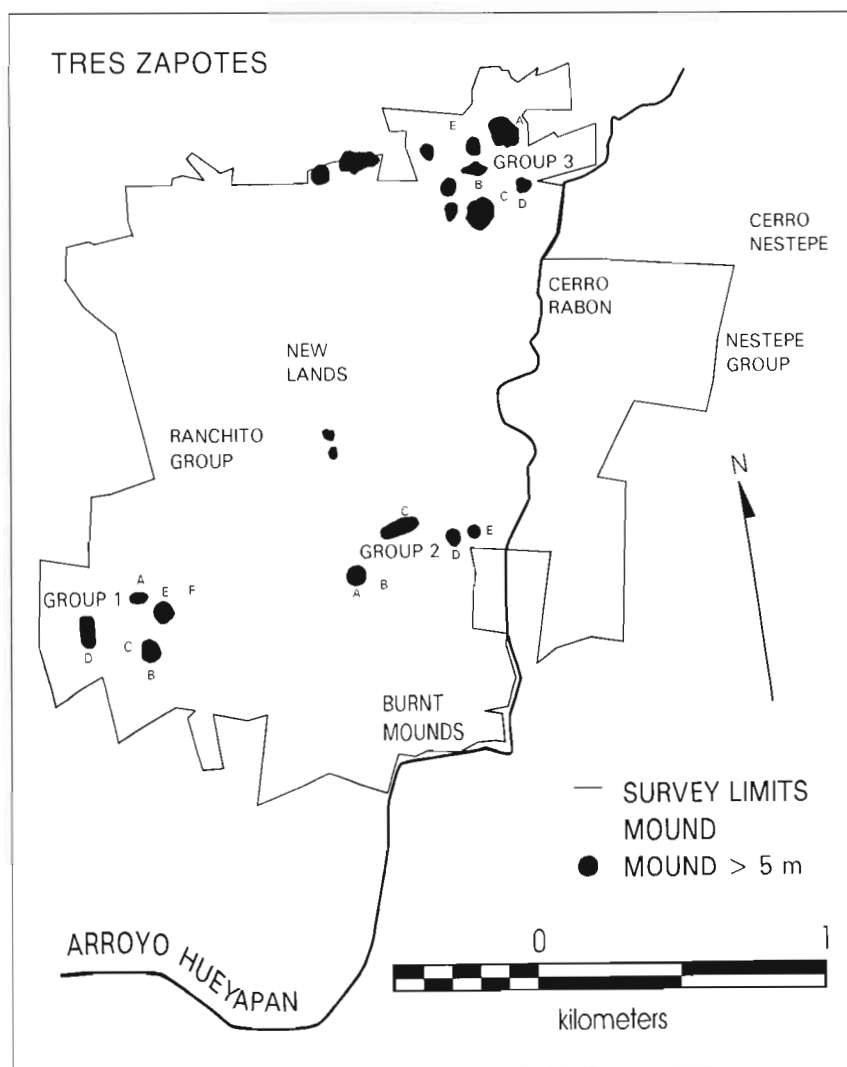


Most of the mounds at Tres Zapotes, including the three major formal mound groups, are located on the floodplain and terraces to the west of the Arroyo Hueyapan. The three major mound groups are separated from one another by distances of .5 to 1 kilometer. Stirling (1943) and Drucker (1943) identified these as Group 1, Group 2, and Group 3. Clarence Weiart (1943) identified Group 1 as the Cabeza Group for the colossal head (Mon. A) that was found there, and the other two as the Arroyo Group and the North Group for their locations. Group 1 and Group 2 have several features in common: rectangular plazas oriented a few degrees north of east (84° and 80° , respectively), long mounds on the northern edges of plazas, prominent conical mounds located at either end of plazas, low mounds on center lines within plazas, and prominent flanking mounds on the eastern ends of groups. The pattern of a long mound and a conical mound framing the north and western edges of a plaza is repeated at a smaller scale to the east of the Arroyo Hueyapan in the Nestepe Group.

Group 3 diverges from this characteristic plan in that its plaza is oriented about an axis running approximately 9 degrees east of true north, its principal conical mound is located on the north edge of the plaza, and it lacks a comparable long mound. The four tallest mounds delimit a small plaza, which measures about 100 meters on a side, seven smaller mounds cluster around the southern and eastern edges of the group, and two broad platforms with heavy concentrations of material are located on the southern edge of the terrace. The more crowded distribution of mounds in Group 3 may reflect its location on a narrow spur of the upper terrace, which drops off sharply to the north, east, and south.

Group 3 contains several additional features of interest. The lower portion of Stela C was discovered by Stirling directly south of Mound A. It was set on its side next to a circular altar. The upper half of the stela was found nearby thirty years later. Two broken basalt columns rest on the summit of Mound E, a small mound on the northern edge of the terrace. Two irregular rows of boulders extend from the columns down the southern face of the mound. Three other basalt columns are set in a small projection of the terrace jutting out to the east of Mound D.

The scale of mound construction at Tres



Zapotes is not particularly impressive, although the placement of many mounds on natural terraces and hills enhances their elevations. The tallest mounds, Mound A of Group 2 (known locally as Loma Camila for a previous owner) and Mound A of Group 3, both rise about 12 meters above the current ground surface. The remaining mounds in the three principal mound groups are all less than 8 meters tall. Other mounds between 5 and 8 meters tall are located on the east-west ridge to the west of Group 3 and on the upper terrace in the New Lands locality. Smaller formal mound groups occur to the east of the Arroyo Hueyapan on Cerro Rabon and on the valley floor.

In addition to formal mound groups, the 1995 RATZ survey detected eighty-five residential mounds, less than 2 meters in height, which were distributed in two broad zones. The southern zone encompasses the Ranchito, New Lands, and Burnt Mounds groups reported by

4. Tres Zapotes, within the 1995 survey boundaries
Map by Michael Ohnnsorgen and Christopher A. Pool

Drucker (1943: 5–9) but is more extensive. The northern zone comprises a series of residential terraces and platforms scattered along the ridge that extends westward from Group 3.

The distribution of visible architecture, however, gives only a partial picture of ancient settlement at Tres Zapotes. In 1995 we obtained 3,103 surface collections from 3 meter-square units over an area of 320 hectares, using a combination of full coverage survey and systematic transect interval sampling techniques. A heavy concentration of ceramic artifacts stretches along the alluvial terrace from the Ranchito Group through an area devoid of residential mounds to Group 3 (fig. 5). Another heavy concentration of ceramics occurs on Cerro Rabon. Moreover, moderate ceramic densities of between 10 and 100 sherds per collection extend over a broad area of the upper terrace between the northern and southern zones of residential construction, suggesting that nonmounded architecture occupied large portions of the site or that plowing has destroyed residential platforms in this area. Pieces of daub used in house construction were

recovered from these areas of elevated ceramic densities, corroborating their identification as residential zones. On the alluvial plain, high ceramic densities tend to occur on house-mounds or in discrete circular concentrations, which probably represent mounds flattened by decades of plowing in sugarcane fields. Low artifact densities on the alluvial plain should not be taken as conclusive evidence of less intensive occupation, however; both Drucker (1943: 29–34) and Ortiz (1975) found deep sherd-bearing deposits below sterile alluvium in and around the Burnt Mounds Group.

In summary, the 1995 survey revealed numerous mounds and extensive areas of residential occupation extending over more than 300 hectares. The current site pattern, however, is the result of two millennia of occupation. Reconstructing the growth of Tres Zapotes requires an understanding of the site chronology.

Chronology

The long sequence of essentially continuous occupation at Tres Zapotes stretches from the Formative period through the Classic period with a minor intrusive occupation in the Early Postclassic (table 1). The inception of the Formative period occupation has been the subject of considerable debate and revision. Drucker (1943: 118–120) considered deposits sealed below a bed of volcanic ash on the valley plain to be Late Formative in date, and Coe (1965a: 694–696) concurred. Ignacio Bernal (1969), however, placed the inception of occupation in pre-Olmec times, and James Chase (1981) suggested that the volcanic ash fell at the end of the Middle Formative period, causing a depopulation of Tres Zapotes. These investigators relied on the ceramic analyses conducted by Drucker and Weiant in the 1940s and on stylistic seriations of the monuments. My own interpretation of the occupational sequence at Tres Zapotes is based on more recent excavations by Ortiz (1975) into the subash levels at Tres Zapotes and comparisons with excavated ceramic sequences at Matacapán (Ortiz and Santley 1989) and Bezuapan (Pool et al. 1993) in the central Sierra de los Tuxtlas, and at San Lorenzo in the Río Coatzacoalcas drainage (Coe and Diehl 1980), as well as Gareth Lowe's (1989) synthesis of Olmec chronology.

Ortiz (1975: 132) recovered a handful of Early Formative ceramics in the lowest subash levels

5. Isopleth map of total sherd frequencies from 1995 transect collections at Tres Zapotes

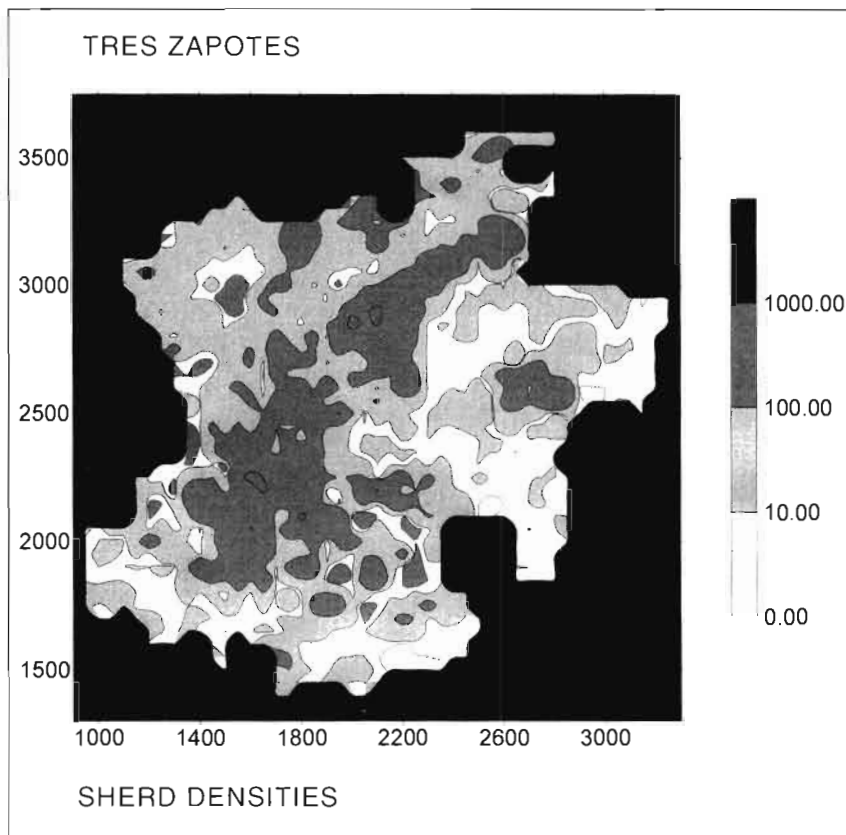


Table 1. Archaeological Phases at Tres Zapotes

	Mesoamerican periods	Olmec periods (Lowe 1989)	Tres Zapotes phases	
			Coe (1965a)	Ortiz (1975)
1500	Late Postclassic			
1200				
1000	Early Postclassic		TZ V	
600	Late Classic		TZ IV	
300	Early Classic		TZ III	
100	Protoclassic		TZ II	
A.D.	Late Formative	Epi-Olmec	TZ I	Nextepetl
B.C.				
300	Middle Formative	Terminal Olmec		Hueyapan
600		Intermediate Olmec		Tres Zapotes phase
900		Initial Olmec		
1200	Early Formative	Pre-Olmec		"Ocós"
1500				

of his stratigraphic excavations. He was probably correct in his belief that these sherds were redeposited by the arroyo, but hollow baby-faced figurines and multiperforate ilmenite cubes recovered in Stirling's excavations and our own survey confirm an Early Formative occupation (Lowe 1989: 53; Weiant 1943: pls. 18, 19, and 76). The two colossal heads from Tres Zapotes, Monuments A and Q, may also date to the Early Formative (Clewlow 1974: 26, 28, table 5; Drucker 1981: 39–40; Lowe 1989: 43, 51), although some scholars regard one or both as later in the Olmec sequence (de la Fuente 1977; Porter 1989: 21).

Ortiz (1975: 79–80, table 21) assigned more substantial assemblages containing tecomates, white-rimmed black wares and white wares

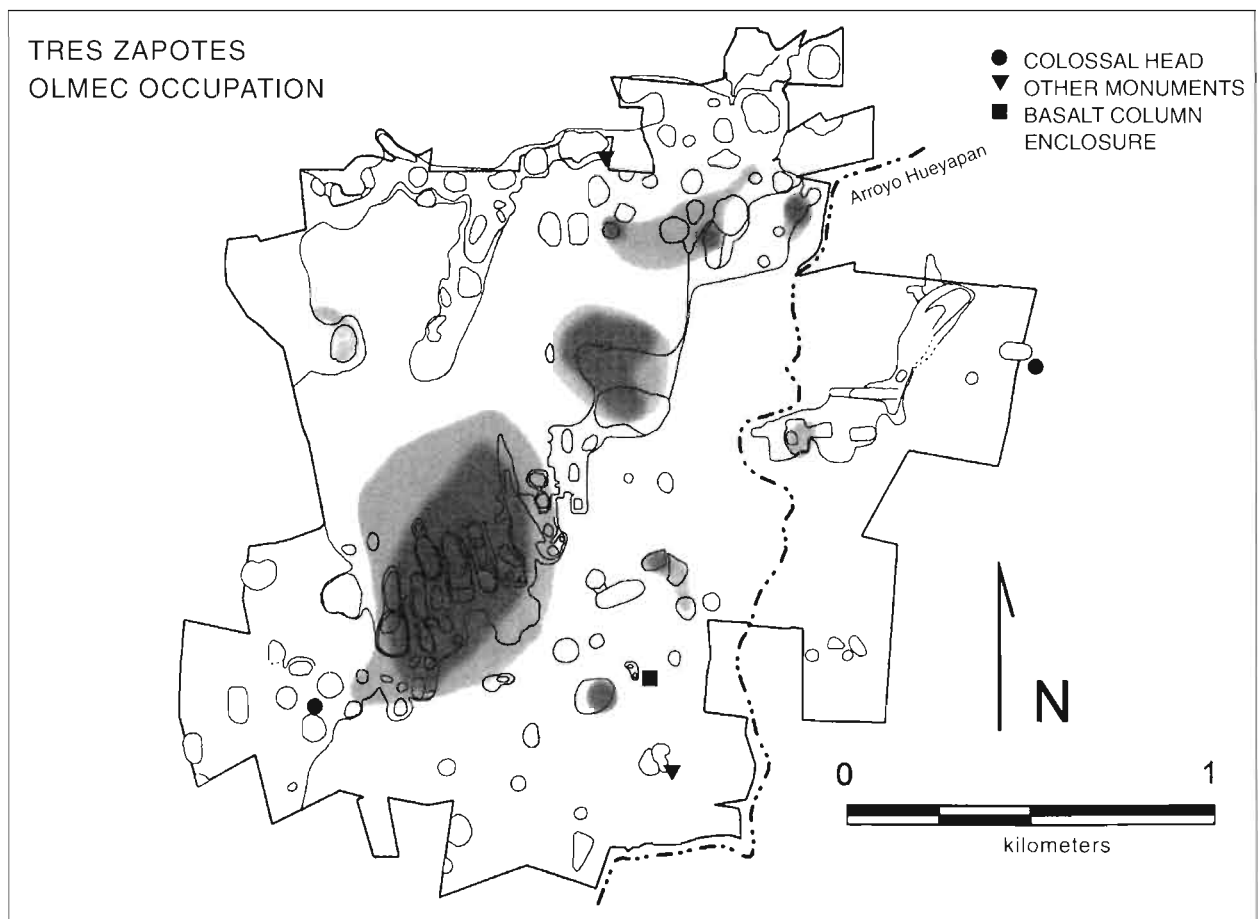
(Baño Blanco and Crema Natural) to a Middle Formative Tres Zapotes phase (900–300 B.C.), which probably extends back into the Early Formative. The characteristic types of the Tres Zapotes phase continue to be present in reduced proportions through the succeeding Hueyapan phase, while a polished orange type, Naranjo Pulido, which is present throughout the Formative levels, achieves its maximum representation at 17 percent. Ortiz (1975: 80, table 21) dated the Hueyapan phase to the Late Formative period (300–100 B.C.), but a Terminal Olmec date (600–300 B.C.) is more likely, given the widespread association of polished red-orange wares with the late Middle Formative period in eastern Mesoamerica (Lowe 1989: 59).

According to Ortiz (1975: 223–225), the defining ceramic types of the subsequent Nextepetl phase include fine paste differentially fired wares and fine paste Polished Black (Negro Pulido de pasta fina). Coarse brown jars with brushed shoulders (Rastreado) increase to more than 50 percent of the assemblage, and Fine Orange and Fine Gray types appear toward the end of the phase. In addition, differentially fired black wares with tan rims (Black and Tan), which are widely distributed in surface collections at Tres Zapotes, are a common component of Nextepetl phase assemblages at Bezuapan in the central Sierra de los Tuxtlas [Pool et al. 1993; Pool 1997]. Ortiz (1975: 81, table 21) regarded the Nextepetl phase as Proto-classic (100 B.C.–A.D. 300). Recently analyzed radiocarbon dates from the Nextepetl phase deposits at Bezuapan support the extension of the phase to the third century A.D. On the other hand, incised motifs on Polished Black pottery and flat-bottomed, white-rimmed black bowls

correlate the Nextepetl phase with the Remplaz phase of San Lorenzo, which Coe and Diehl (1980: 208–211) assign a Late Formative age of 300–100 B.C. (see also Lowe 1989: table 4.1). The Nextepetl phase therefore represents the Epi-Olmec occupation at Tres Zapotes between 300 B.C. and A.D. 300.

A volcanic ash caps the Nextepetl phase deposits in Ortiz' excavation. The volcanic eruption does not appear to have caused a major disruption of occupation at Tres Zapotes, however, for Early and Late Classic period occupation covers much of the site. A close examination of sherd counts reported by Ortiz (1975: table 1) indicates considerable stratigraphic overlap among several of his diagnostic types, lending support to Drucker's (1943: 120) view that there is substantial cultural continuity from the Middle to Late Formative in the western Olmec heartland. Although some of this overlap may be attributed to the alluvial setting of the subash deposits, the sherds

6. Distribution of Olmec occupation and monuments at Tres Zapotes



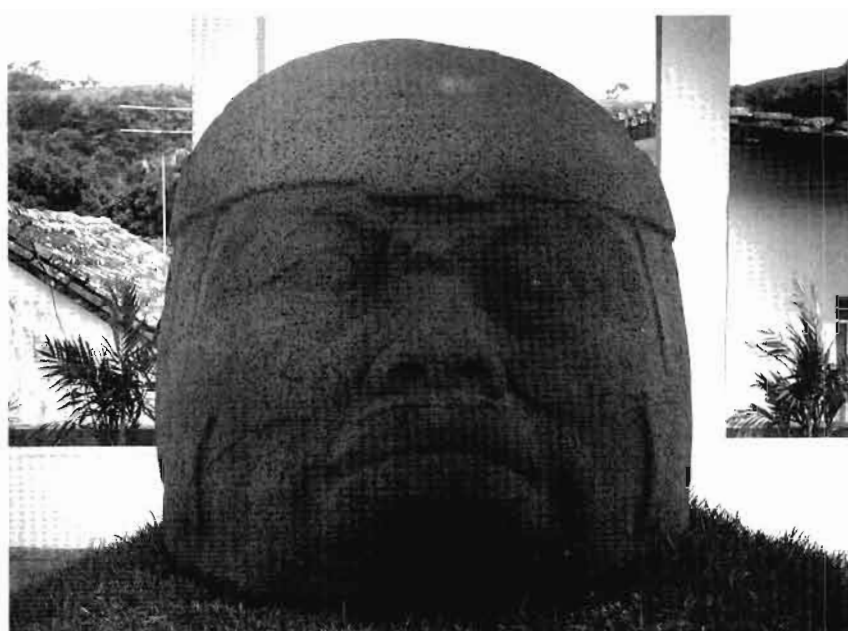
in Ortiz' type collection are large and well preserved, suggesting minimal fluvial transport. Furthermore, auger tests conducted in 1996 encountered the daub-rich remains of a house-mound below the volcanic ash on the east side of the arroyo, confirming Formative period residential occupation on the alluvial plain.

Occupational History

The distribution of diagnostic rim sherds in our systematic transect surface collections reveals significant differences in the organization of Olmec and Epi-Olmec occupation at Tres Zapotes.

Early to Middle Formative diagnostics at Tres Zapotes include white-rimmed black wares and white wares. Although tecomate rims are also diagnostic of Early to Middle Formative occupation, I have not included them in this analysis because their functional equivalents in the Late Formative period are non-diagnostic striated coarse ware ollas, which continue in large frequencies in the Classic period. I have also not separated Early from Middle Formative phases. The most diagnostic Middle Formative wares are white wares, which are quite rare and occur in association with Black and White ceramics and tecomates in Ortiz' collections; separating them creates a probably erroneous impression of population decline in the Middle Formative. Furthermore, discriminating between Late Formative and Protoclassic occupation is difficult due to the erosion of the diagnostic Polished Orange sherds of the Hucyapan phase in surface collections. For these reasons the following analysis only distinguishes between Olmec (Early to Middle Formative) and Epi-Olmec (Late Formative to Protoclassic) occupations.

Surface materials of the Olmec occupation are concentrated on the elevated terrace to the west of the arroyo and on Cerro Rabon to the east of the arroyo (fig. 6). The 1996 survey also encountered Olmec ceramics on the lower slopes of terrace remnants farther to the east. Concentrations of Olmec ceramics on the valley plain are associated with mounds and undoubtedly represent old deposits incorporated in later mound fill. We do not at present know the extent of Olmec occupation beneath the alluvium of the valley plain. Nevertheless, the distribution of Olmec sherds derived from the shallower deposits of the alluvial terrace re-



7. Tres Zapotes Monument Q, Formative period, stone



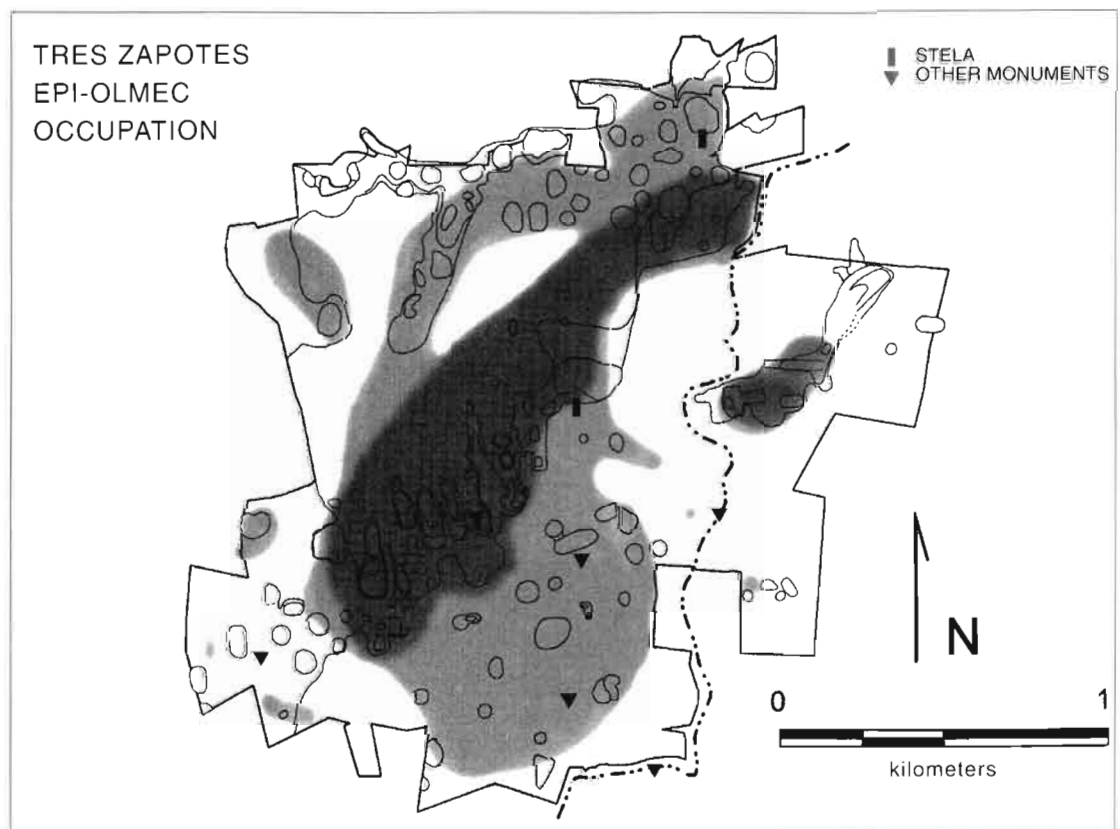
8. Tres Zapotes Monument H, Formative period, stone

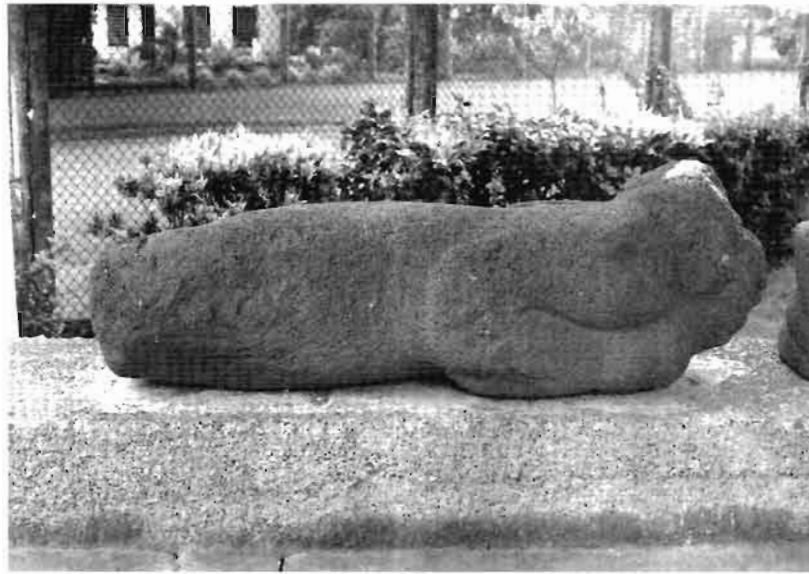
veals a pattern of small, discrete communities covering 1 to 40 hectares separated by zones with little or no occupation.

Mound construction does not appear to have been typical of the Olmec occupation. Of the fourteen mounds sectioned by Stirling's project, none produced assemblages assignable exclusively to the Olmec occupation (Drucker 1943; Weiant 1943). The only possible exception is represented by Mound E in Group 1 (fig. 4). The initial construction stage consisted of a red clay mound about 1 to 1.5 meters tall with sandstone steps (Weiant 1943: 6-7). Unfortunately, Stirling only excavated a corner of this basal mound, and it was apparently sterile. A single incised Black ware sherd found just above the surface of the red mound probably dates to the Late Formative period. Rather than constructing mounds, the Tres Zapotes Olmecs appear to have taken advantage of natural eminences, perhaps filling and leveling them, as may be the case on Cerro Rabon and on the projecting ridges of the Ranchito Group. This method of construction parallels that recently reported from San Lorenzo by Ann Cyphers (1996: 69-70).

Though scholars disagree about the temporal placement of several monuments at Tres Zapotes, most accept as Olmec the two colossal heads (Mons. A and Q) (figs. 1, 7), two seated figures (Mons. I and J), and the head of a were-jaguar statue (Mon. H) (fig. 8) and assign most of the remaining monuments to the Late Formative period (Lowe 1989: 43; Milbrath 1979; Porter 1989: 97-100). A basalt column chamber, excavated in 1978 in Group 2, is similar to Tomb A at La Venta (Lowe 1989: 60). The chamber contained a rectangular stone slab pierced by a circular hole in which was placed an upright serpentine "plug" (Mons. 33 and 34), a damaged piece of dressed stone (Mon. 32), and a basalt column with a crude petroglyph face (Mon. 31).¹ On the basis of their context, these may also be counted among the later Olmec monuments of Tres Zapotes. The spatial distribution of the known Olmec sculpture reinforces the impression of small, discrete communities but does not correspond closely to the ceramic distributions (fig. 6). The colossal heads, for example, were found in plazas that do not exhibit high frequencies of diagnostic Olmec sherds. The most likely expla-

9. Distribution of Epi-Olmec (Late Formative) occupation and monuments at Tres Zapotes





10. Tres Zapotes Monument
19, Late Formative period,
stone



11. Tres Zapotes Stela A,
Late Formative period, stone



12. Tres Zapotes Monument
C, Late Formative period,
stone
After Stirling 1943 pl. 61

nations for this pattern are that the Olmec occupation in these areas is too deeply buried to be detected on the surface or that the Olmec monuments were reset in subsequent occupations. Unfortunately, the stratigraphic data necessary to resolve the question do not exist, and any diagnostic artifacts that may have been associated with the monuments were not recorded.

Late Formative diagnostic sherds (Black and Tan ware and Polished Black ware) are much more widely distributed than Olmec ceramics (fig. 9). Once again, Late Formative sherds cluster along the edge of the alluvial terrace and on Cerro Rabon, but they are also common in collections from the alluvial plain and to the west of the terrace bluff. Late Formative sherds are also widely distributed on hills and terraces to the north and east of the 1995 survey limits. In all, the Late Formative occupation probably encompassed an area in excess of 300 hectares.

In general, mound construction appears to have been initiated during the Late Formative period, although the first construction stage in Mound E of Group 1 may be earlier, as noted above. Strong evidence for Late Formative construction is reported by Weiant (1943: 13) for the initial stage of construction in the Long Mound (Mound C of Group 2) and by Drucker (1943: 25–27, 144–145) for an early construction stage of Mound A in Group 3 (fig. 4). Both of these construction stages contained abundant diagnostic pottery and figurines of the Late Formative period and lacked Classic period diagnostics. Mound B of Group 2, and a U-shaped mound on the eastern Ranchito ridge (Weiant's Mound D?), are also likely Late Formative constructions (fig. 4) (Weiant 1943: 14, map 3; Drucker 1943: 17). Weiant's (1943: 11–12) description of a trench placed between Mounds J and K outside the Ranchito Group appears to indicate deposits with Late Formative materials above Classic period deposits. This reversed stratigraphy may have resulted from the erosion of exclusively Late Formative fill from these two mounds.

Sculpture of probable Late Formative manufacture has been recovered from Group 1 (Mon. 19) (fig. 10), Group 2 (Stela A and Mon. C) (figs. 11, 12), Group 3 (Stela C) (fig. 2), the Ranchito Group (Mon. G) (fig. 13), the Burnt Mounds Group (Mon. F) (fig. 14), and along the course of the Arroyo Hueyapan (several monuments, including a bar-and-dot date, Mon. E).

Stela D, a magnificent example of Late Formative sculpture, was found in Group 4, which is best considered an outlying settlement to the northwest of Tres Zapotes (fig. 15). Although many of these monuments may have been reset in the Classic period, they correspond more closely to the distribution of Late Formative ceramics and certainly reflect an expansion of occupation in the Late Formative (fig. 9).

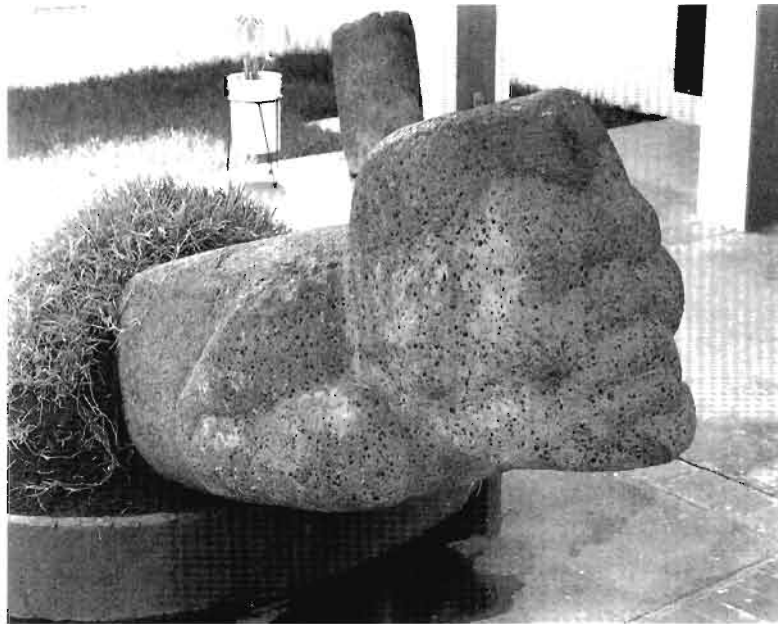
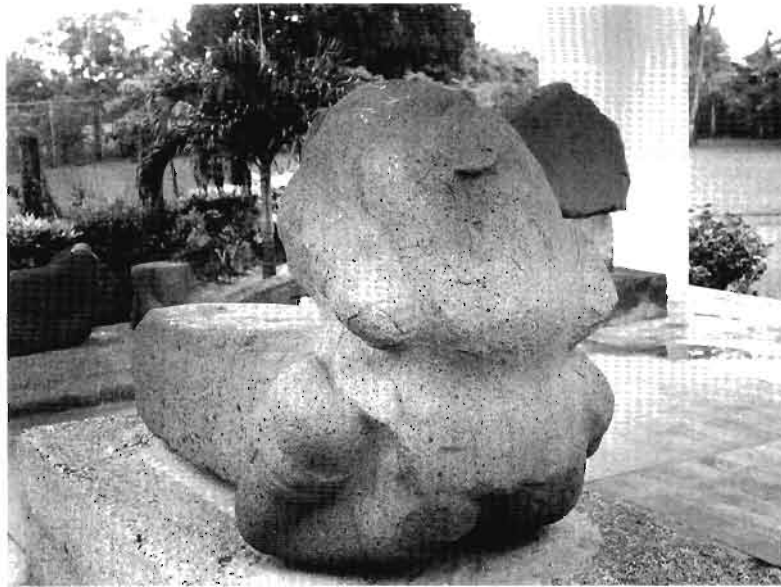
Cultural Continuity and Evolution of Political Organization

Incomplete as it is, the evidence from sculpture, architecture, and artifact distributions provides clues to the nature of Olmec and Epi-Olmec political organization at Tres Zapotes. Leaders of one or more of the small Olmec communities that existed within the Tres Zapotes zone evidently possessed sufficient prestige and authority to commission colossal portraits and have them transported to their seats of power. As compared to their fellow leaders at San Lorenzo and La Venta, however, their portraits were smaller and transported shorter distances, their subject communities were less extensive and provided a smaller labor force, and their construction programs, whether consisting of mound construction or modifications to natural features of the landscape, were less impressive.

As Tres Zapotes expanded in the Late Formative, its rulers embarked on a program of mound construction. Even so, their architectural efforts were not particularly impressive, nor were mounds concentrated in a single ceremonial complex. Groups 1, 2, and 3 all appear to have been active at some point during the Late Formative period, and no one group appears to have been markedly larger than the others. Whether the three mound groups were occupied sequentially or simultaneously, it appears that political hierarchy was not strongly developed at Late Formative Tres Zapotes.

Grove's hypothesis of zonal complementarity provides a possible explanation for the developmental sequence observed at Tres Zapotes. Of the four sites frequently identified as major Olmec centers, Tres Zapotes and Laguna de los Cerros are the most similar in terms of their ecological settings and their access to geological resources (see Gillespie, this volume). If Grove is correct, we may expect that the proximity of Laguna de los Cer-

13. Tres Zapotes Monument
G, Late Formative period,
stone



14. Tres Zapotes Monument
F, Late Formative period,
stone



15. Tres Zapotes Stela D,
Late Formative period, stone
Photograph: Charles Knight

ros to San Lorenzo and La Venta should have afforded it a preferred position to Tres Zapotes in an intraregional exchange system based upon zonal complementarity during the Early and Middle Formative periods (see Pye and Clark, this volume, fig. 1). During Olmec times the only clear advantage that Tres Zapotes would have had over Laguna de los Cerros was its position closer to central Mexican sources of obsidian, including the Pico de Orizaba sources. However, alternative sources in Guatemala were also used by the inhabitants of San Lorenzo and La Venta (Cobean et al. 1971), precluding the possibility of a Tres Zapotes monopoly on obsidian trade into the Olmec heartland. In sum, if Olmec chiefly power and prestige were supported by participation in such an exchange system, we may expect sociopolitical hierarchy at Tres Zapotes to have been less fully developed during the Early and Middle Formative periods (compare Stark, this volume).

In contrast, the Late Formative expansion of Tres Zapotes coincides with the rise of centers such as Cerro de las Mesas to the west in La Mixtequilla, the abandonment of the eastern Olmec centers, and the increasing use of central Mexican obsidian sources in the Sierra de los Tuxtlas. Recent evidence from the Sierra de los Tuxtlas and the Mixtequilla as well as Tres Zapotes indicates a widespread shift in obsidian tool manufacture from a flake core technology to a prismatic blade core technology concurrent with the change in preferred sources (Barrett 1996; Hester et al. 1971; Pool 1997; Stark et al. 1992). Applying Grove's arguments to the Late Formative, if exchange between ecologically complementary zones continued to provide a base for political power and social prestige, the shifting political and economic landscape of the Late Formative would have placed the elites of Tres Zapotes in a more favorable position relative to population centers requiring highland products.

The transition from the Olmec to Epi-Olmec culture at Tres Zapotes was more gradual than the catastrophic collapse that is often depicted. In the ceramic assemblages, the persistence of differential firing and black wares in the Late Formative reflects technological continuity. Moreover, Ortiz (1975) found no depositional hiatus or stylistic disjunction in his excavations of subash levels below the alluvial plain.

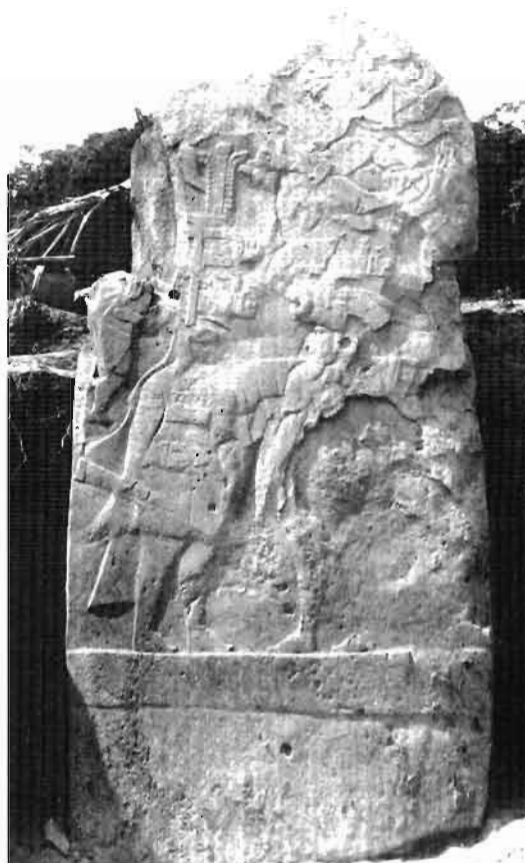
Olmec to Epi-Olmec cultural continuity is

also evident in the sculptural corpus of Tres Zapotes. Claims of pervasive Izapan and Mayan influence at Tres Zapotes are unconvincing, except in the case of Monument C, an elaborately carved stone box covered with weapon-bearing human figures struggling amidst watery scrolls (fig. 12). Although James Porter (1989: 84) identifies the cluttered style of this box as typically Mayan, Coe (1965b: 773) considered the box to be transitional between Olmec and Izapan styles. I see very little that is Olmec in the design on the box. Instead I would attribute the style of carving (which emphasizes incision to indicate detail on surfaces that are defined by removing the background), the scroll-like representation of water, and the composition of the scene to contemporaneous Izapan influence (see also Smith 1984: 44–45, 47). Nevertheless, Izapan influence does not extend to other Late Formative monuments at Tres Zapotes.

Thematic and stylistic continuity from Olmec times is most strongly represented in the stelae of Tres Zapotes. Stelae A and D each depict compositions of three figures within a niche. In Stela D the niche is formed by the gaping mouth of a feline whose face forms the upper register of the carving as in La Venta Stela 1 (fig. 15). Two standing figures face a kneeling figure, while a fourth, rather indistinct figure floats above them, peering downward.

Stela A is even more Olmec in its composition and execution. The central figure is carved in the round, bears a tall headdress, and faces forward (fig. 11). Two standing figures in bas-relief face the central figure on either side, and dragon masks frame the niche both above and below. The upper mask finds its closest parallel in the face of the Olmec Dragon carved on La Venta Monument 6, a sandstone sarcophagus, while the half-round execution, forward stance, and tall headdress of the central figure and low-relief treatment of secondary figures call to mind La Venta Stela 2 (fig. 16). The right side of the stela presents low-relief carvings of a feline and a serpent. On the left side are two damaged human figures carved in low relief. The upper one is upside down, and the lower one, which is right side up, holds a staff or baton in his hands. These two small, plump figures likewise invoke the floating dwarfs on La Venta Stelae 2 and 3 (fig. 17).

The front of Stela C, whose obverse bears the famous 32 B.C. Long Count inscription,



16. La Venta Stela 2, Middle Formative period, basalt
Redrawn after Bernal 1969: pl. 4

17. La Venta Stela 3, Middle Formative period, basalt
After Drucker, Heizer, and Squier 1959: pl. 55

depicts a leftward-facing head amid curved, upward-radiating lines above the cleft brow of an abstract were-jaguar mask (fig. 18) (see also Porter 1989: pl. 5a and my fig. 2). The Olmec affinity of the mask has been defended by Coc (1965b: 756) and Porter (1989: 49–50). The upper portion of the design, however, was found later and has been discussed less frequently. The leftward-facing head in this part of the carving calls to mind figures on celts from Río Pesquero, and elsewhere, which Reilly (1995: 38–39) identifies as representations of the ruler as the *axis mundi* or world tree, thus reinforcing the Olmec conception of this celtiform stela.

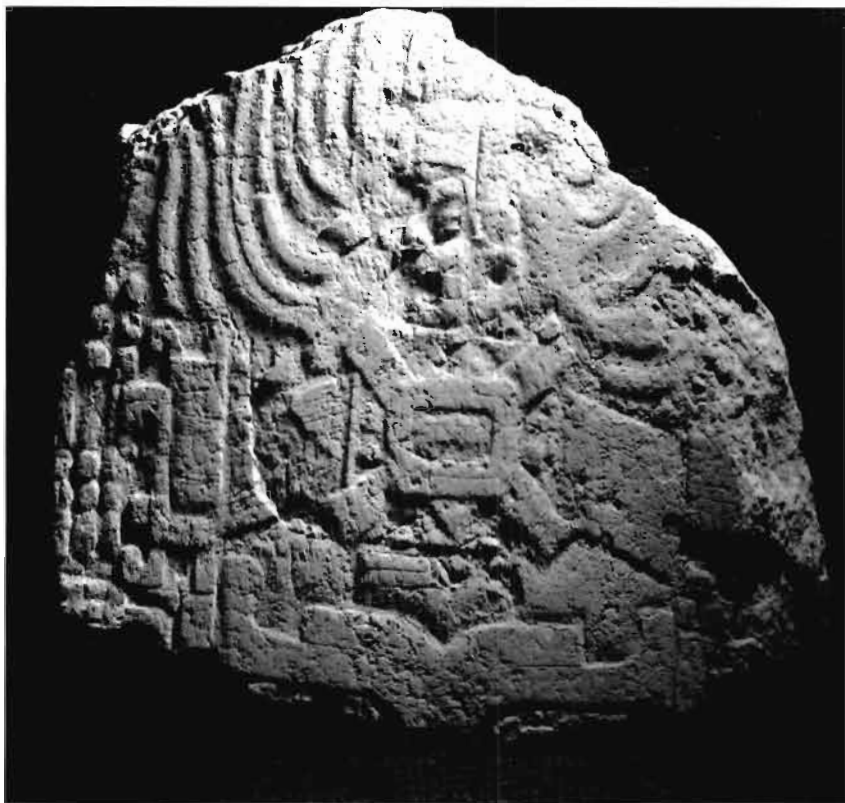
In contrast to the Early Formative colossal heads, the Late Formative stelae of Tres Zapotes and its environs present a pronounced change in sculptural themes related to rulership, from static representations of rulers to depictions of legitimizing acts. This shift does not represent an abandonment of Olmec themes, however, but a shift in emphasis already presaged in La Venta Stelae 2, 3, and 5, for example. The recording and display of such events suggest a greater concern with historicity, a development that is expressed most explicitly in the Long Count date of Stela C and that reaches

its greatest elaboration on the Gulf Coast in the inscription on La Mojarra Stela 1 (fig. 19).

Joyce Marcus (1992) has recently argued that early writing and calendrical systems in Mesoamerica developed in response to competition among chiefly elites who legitimized their status through propaganda directed at peers and subordinates. In this context, the historical accuracy of an inscription would have been less important than the relation of elite activities to the mythical past and the prophetic future. The Terminal Olmec stelae of La Venta and the Epi-Olmec stelae of Tres Zapotes and La Mojarra appear to document the evolution of this practice from its nonliterate roots to its literate climax as rulers sought new modes of legitimation in an increasingly competitive political landscape. Indeed, at Tres Zapotes, competitors for rulership may have been as near as the next mound group.

Conclusion

Our continuing archaeological survey has helped clarify the nature of the Olmec occupation at Tres Zapotes and has documented the Epi-Olmec growth of the site. As has long



18. Tres Zapotes Stela C,
upper fragment, front
Author photograph

19. La Mojarra Stela 1



been suspected, Tres Zapotes no longer can be considered a major Olmec center on a scale equivalent to La Venta or San Lorenzo. Rather, Olmec occupation at Tres Zapotes was distributed among several small communities. Nevertheless, at least two chiefs in the Tres Zapotes zone were able to commission colossal head portraits in stone, emulating the rulers of the eastern centers. These chiefs probably extended their control over nearby villages, and they may have exerted broader influence on their contemporaries in the western periphery of the Olmec heartland.

Although further analyses and investigation will be required to isolate the Middle Formative component at Tres Zapotes, at present the evidence from ceramic complexes and stratigraphy provide little support for a significant disjunction in occupation at the end of the Middle Formative. Olmec villages appear to have expanded and coalesced to form a site extending over more than 300 hectares in the Late Formative period. The Epi-Olmec growth of Tres Zapotes coincided with the abandonment of La Venta, the growth of centers beyond the western margin of the Olmec heartland, and a pronounced change in obsidian technology and resource utilization both at Tres Zapotes and in the nearby Sierra de los Tuxtlas. I have suggested in this essay that the underdevelopment of political hierarchy in the Olmec period and the expansion of the site in the Epi-Olmec period are consistent with a hypothesis of zonal complementarity in regional exchange systems of the Formative period.

Reinterpretation of earlier mound excavations at Tres Zapotes suggests that the construction of formal mound groups began in the Late Formative period and continued into the Classic period. The principal mound groups are widely dispersed and of similar scale, suggesting a weakly developed political hierarchy. If true, this raises the possibility that rulership may have been negotiated among elites with competing claims to authority. Under the model proposed above, that authority would have extended to control over resource zones, exchange networks, and productive labor.

A prominent feature of mound groups at Tres Zapotes is their association with Late Formative stelae that appear to record events, either visually, as in Stelae A and D, or textually, as in Stela C. Following Marcus' (1992) arguments, these monuments are interpretable

as propagandistic declarations to subordinates and competing elites, which drew their legitimacy from references to myth, legend, and prophecy. Moreover, they form part of a developmental sequence of increasingly explicit mythicohistorical references beginning in the Terminal Olmec phase of La Venta and culminating in the Protoclassic La Mojarra stela.

In conclusion, the rumors of an Olmec collapse have been greatly exaggerated. Instead, the Olmec to Epi-Olmec transition marks a time when the inhabitants of the western Olmec heartland successfully adapted their Olmec traditions to the political and economic landscape of the Late Formative Mesoamerican world.

NOTES

1. The first seventeen monuments found at Tres Zapotes (Mons. A through Q) are identified by the letters originally assigned to them by Matthew Stirling and others [see de la Fuente 1973]. James Porter (1989) assigned numbers to the thirty-four monuments from Tres Zapotes known to him when he wrote his dissertation, and his designations are used for Monuments 18 through 34. The Recorrido Arqueológico de Tres Zapotes has identified nine other monuments and has continued the numerical sequence of designations established by Porter.

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