



## Research Article

# El Coyote, macroregional exchange, and Early Postclassic Mesoamerica

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### Abstract

Relative to the centuries preceding and following it, the tenth century A.D. in Mesoamerica is poorly understood by scholars. Although there is some regional variation in the timing of these events, archaeologists commonly ascribe a pattern of political decline, dynastic collapse, or social reorganization to this period. Paradoxically, increasing interregional interactions and emergent market exchange networks are also characteristics of macroregional patterns during the tenth century. These contradictory phenomena contribute to confusion surrounding interpretations of this transitional time. This article contributes a comparative dataset from systematic archaeological investigations of El Coyote, a monumental center in the lower Cacaupala valley, Department of Santa Barbara, Honduras. The late occupational phase contains evidence for Early Postclassic chronological markers, including Tohil Plumbate pottery; obsidian from Pachuca, Hidalgo; and copper metallurgy. Calibrated radiocarbon assays with a  $2\sigma$  error place these contexts between A.D. 710 and 1040, with a clustering of intercepts circa A.D. 900. These results are consistent with a pattern described throughout Mesoamerica and demonstrate that despite variation in the use of cultural terminology—Epiclassic, Terminal Classic, or Early Postclassic—there is uniformity in the timing of this macroregional interaction.

### Resumen

Relativo a los siglos que le precedieron y siguieron, sabemos poco sobre el Siglo X d.C. en Mesoamérica. Aunque existe variación regional en la cronología de estos eventos, un patrón de decaimiento político, colapso dinástico o reorganización social son comúnmente adscritos a este periodo. Paradójicamente, un aumento en interacciones interregionales y redes de intercambio de mercado emergentes también son características de patrones macrorregionales durante el siglo décimo. Estos fenómenos contradictorios contribuyen a una confusión en torno a las interpretaciones de este tiempo transitorio. Este artículo contribuye un conjunto de datos comparativos proveniente de investigaciones arqueológicas sistemáticas en El Coyote, un centro monumental en el Bajo Valle de Cacaupala, Departamento de Santa Bárbara, Honduras. El Coyote fue fundado durante el periodo Preclásico Tardío (ca. 300 a.C.) y creció significativamente entre 600-800 d.C. Para el Siglo X, el enfoque cívico-ceremonial de El Coyote se mudó de la Plaza Principal del Clásico Tardío hacia el recién construido Complejo Noreste.

**Keywords:** Early Postclassic; Tohil Plumbate; Pachuca; Metallurgy

La fase ocupacional tardía contiene evidencia de marcadores cronológicos del Postclásico Tardío, incluyendo cerámica Tohil Plomiza, obsidiana de Pachuca, Hidalgo y metalurgia de cobre. La cerámica plomiza corresponde a menos del diez por ciento de todos los materiales importados, pero fue recuperada de contextos tanto domésticos como ceremoniales. Similarmente, navajillas prismáticas producidas de obsidiana proveniente de las canteras de Pachuca están bien representadas en todas las estructuras muestreadas del Complejo Noreste. Aunque no se recuperaron objetos de cobre finalizados, investigaciones han recuperado una

serie de rasgos del costado sur de El Coyote relacionados a la reducción sistemática de aleaciones de cobre provenientes de contextos geológicos. Fechas de radiocarbono calibradas con un rango de error  $2\sigma$  colocan a estos contextos entre el 710-1040 d.C., con un agrupamiento de fechas ca. 900 d.C. Estos resultados son consistentes con un patrón descrito a lo largo de Mesoamérica y demuestran que a pesar de la variación existente en el uso de terminología cultural – Epiclásico, Clásico Terminal o Postclásico Temprano – hay uniformidad en la temporalidad de esta interacción macrorregional. Yo argumento que la inconsistencia en la terminología cultural puede quizás esconder un patrón más amplio de comercio e intercambio durante este período.

The ninth and tenth centuries A.D. were a time of transformation across Mesoamerica. For the Classic Maya

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kingdoms of the Southern Lowlands, this period was marked by dissolution of dynastic rule, abandonment of urban centers, and internecine warfare exacerbated by population pressure (Sharer and Traxler 2006:513–520; Webster 2002). In the Northern Lowlands, these processes of decline occurred a century or more later, but they nevertheless resulted in the cessation of monumental construction, abandonment of centers, and the rise of alternatives to dynastic rule (Andrews and Sabloff 1985; Andrews et al. 2003; Ringle 2017; Stanton and Bey 2023). Although these phenomena may briefly precede or continue later, it was during the tenth century was when the process of collapse typically ran its course (Culbert 1973a:16).

The tenth century was also a period of increasing international integration and commodification of goods across Mesoamerica, suggesting incipient development of mercantile exchange networks (Braswell 2023; Braswell and Glascock 2002; Kepecs and Kohl 2003:18; Sabloff and Rathje 1975). The emergence of a shared set of stylistic elements and symbols lends support for interpretations of widespread participation in expanding trade and communication networks (Boone and Smith 2003:189; Jordan 2016; Smith 2003; Smith and Heath-Smith 1980). Many of these symbols are religious, which implies an ideological component accompanying economic, military, and political ambitions (Bey and Ringle 2011:313; Burkhart 1992; Ringle 2004; Ringle et al. 1998; Stanton et al. 2023; Taube 2020). Furthermore, the tenth century is characterized by macro-regional changes resulting in shared material culture and symbolism (Houston 2014:46; Jordan 2023) in a manner that makes the Postclassic Mesoamerican world distinctive from regionalized Classic traditions (Freidel 1986:419–420; Geurds 2023; Kepecs 2011; Kepecs et al. 1994). Understandably, this transformative century has captured the attention of archaeologists for generations (e.g., Chase and Rice 1985a; Culbert 1973b, ed.; Demarest et al. 2004; Sabloff and Andrews 1985; Stanton et al. 2023, ed.).

The presence of Tohil Plumbate pottery is a widely accepted indication that a community has crossed the Classic-to-Postclassic threshold. Anna Shepard's extensive monograph (1948) described the range of variation for this tradeware and argued that this "index fossil" serves as a marker for Early Postclassic contexts. Research by Hector Neff and colleagues identified the Pacific coast of the Soconusco region as the geographic origin for this ware and clarified the circumstances for the widespread distribution of these vessels (Neff 2003; Neff and Bishop 1988). More recent studies by Neff and colleagues (Mendelsohn 2023; Neff 2023; Neff et al. 2023) have refined the chronology for the production and export of fancy Tohil Plumbate to the century (or two) following A.D. 900. The presence of Tohil Plumbate at centers such as Tula (Mastache de Escobar et al. 2002:230) reveals an increased importance and capacity for exchange networks to move resources across regions (Jadot et al. 2019; Neff 2014). In addition, the speed with which this tradeware traveled from polity to polity demonstrates its value as a horizon marker (Diehl 1993).

In southeastern Mesoamerica, especially along the contiguous borders of the modern nations of Guatemala, Belize, Honduras, and El Salvador, the presence of Tohil Plumbate is also identified as a chronological marker. Here, the tradeware is commonly associated with green obsidian from the Pachuca source in Hidalgo, Mexico. Obsidian from this source is traded far from central Mexico, either as polyhedral cores commonly prepared with pecked-and-ground platforms or as finished blades (Braswell 2003; Golitko and Feinman 2015; Golitko et al. 2012; Healan 2009). The increased frequency of this source material in Postclassic assemblages may be attributed to the intensification of mining practices at the Pachuca quarry and changes in the administration of tribute by leaders at Tula (Healan 1993, 2011). The greater volume and circulation of green obsidian is therefore due to significant changes at the point of extraction, production for nonlocal consumers, and expanding capacities for trade across greater Mesoamerica.

An additional marker for the Classic-to-Postclassic transition is the presence of copper bells and ornaments. Extensive work undertaken by Dorothy Hosler (1995, 2003, 2009; Hosler et al. 2013) traces the origins of Mesoamerican metalworking to communities in west Mexico. Technological knowledge shared by Ecuadorian artisans circa A.D. 650 resulted in bells, clothing ornaments, rings, and a few functional items such as tweezers and needles. A second, lesser understood metalworking tradition began several centuries later in southeastern Mesoamerica (Cockrell and Simmons 2017; Simmons and Shugar 2013), and by the end of the Early Postclassic period, at least four metalworking zones were producing or recasting metal objects (Paris et al. 2023:432). The distribution of these goods at Maya centers suggests that by the Postclassic period, metal objects served as status or luxury goods and were no longer subject to sumptuary restrictions of earlier imports (Paris 2008; Simmons and Shugar 2008).

The distribution of these temporal markers reflects both continuity with Classic traditions and change indicative of later Postclassic phenomena. On the one hand, the acquisition and use of Tohil Plumbate and contemporary imports is indicative of prestige goods exchange (Friedman and Rowlands 1977; Jordan 2023; Joyce 2019). These small vessels are associated with drinking rituals, public displays, and interment as grave goods (Bey and Ringle 2011:312–313; Neff 2014). Valued as a prestige good, their uneven distribution within sites and their surrounding settlement often marks inequality and social differences (Urban et al. 2013a). On the other hand, prismatic blades reduced from Pachuca source materials are widely distributed across households regardless of status—a common treatment for commodities and utilitarian goods. The patterns of distribution share characteristics with both earlier exclusionary modes of exchange and the market-oriented modes of Late Postclassic economies (Hirth 1998). Other archaeologically salient markers are often bundled with this combination of Tohil Plumbate and green obsidian in southeastern Mesoamerica, including alterations in site layouts,

metallurgy, and significant changes in social and political organization (Healy 1984:148). Taken together, the transition from Classic regionalized polities to Postclassic macro-regional integrated exchange networks warrants attention on its own merits.

Models of this emergent mercantile network depend on reliable and aligned chronologies that account for cultural developments within a temporal framework anchored by absolute dates. To that end, the goals of this article are twofold. First, I present archaeological evidence from the pre-Columbian site of El Coyote, northwestern Honduras. The political economy of this community underwent significant transformations, and a series of radiocarbon assays place these cultural changes at the end of the ninth century and beginning of the tenth century. The second goal is to consider the broader regional and interregional implications of the evidence. Here, I argue that the pattern described from El Coyote is not unique. Despite regional and semantic variation in the designation of this time period—Epiclassic, Terminal Classic, or Early Postclassic—there is a great deal of continuity in the manifestation of this archaeological pattern between A.D. 900 and 1000. Moreover, these macroregional exchanges characterize the tenth century as a time of profound innovation within both material and symbolic spheres of interaction (Stanton et al. 2023:7). The intensity and scale of these exchanges surpassed those of earlier centuries and foreshadow the greater connections of the Postclassic Mesoamerican world.

### El Coyote

El Coyote is a pre-Columbian center located in the rugged terrain of the Department of Santa Barbara, Honduras (Figure 1). The site was constructed on a narrow terrace overlooking the Cacaupala River, a tributary of the Chamelecon River 4 km to the north. Together, these waterways facilitate communication and transportation to broader valleys in the neighboring areas, such as La Florida, Quimistan, Naco, the middle-Ulua drainage, and the Sula Plain. The Classic Maya city of Copan lies 130 kilometers to the southwest. Although passage through the Cacaupala Valley is possible, there is little terrain suitable for agriculture. The largest tract of arable land is less than 1 km wide, quite different from the expansive potential for farming in the Naco Valley and Sula Plain.

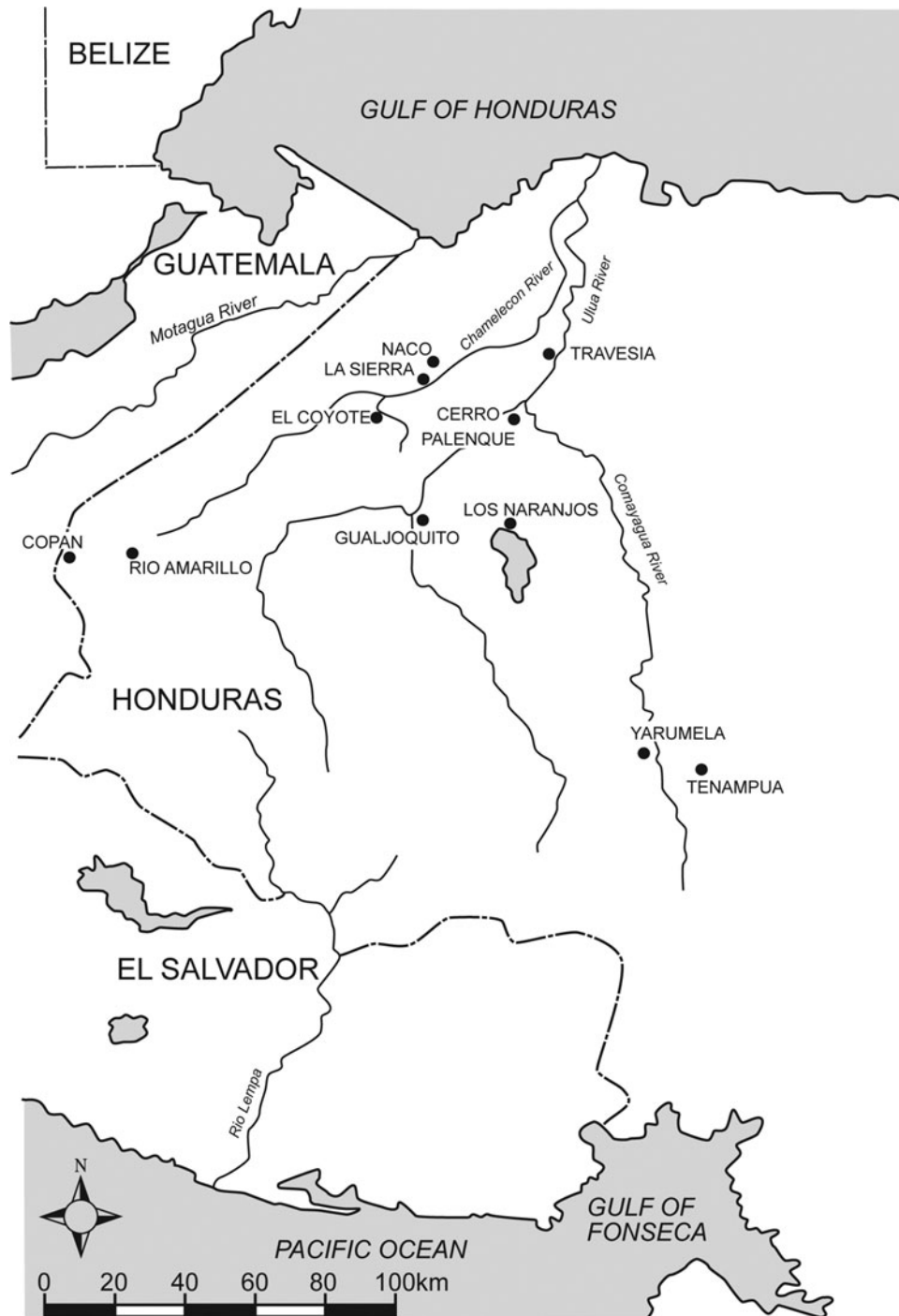
Archaeological investigations of El Coyote began in 1999 with an approximately 6 km<sup>2</sup> systematic pedestrian survey directed by Patricia Urban and Edward Schortman (Urban et al. 1999). Five seasons of subsequent research by the Proyecto Valle de Cacaupala have recorded 57 sites ranging in size from artifact scatters to concentrations of stone-faced platforms around sizable plazas. Excavations have been conducted at 10 sites, and more than 170,000 artifacts have been analyzed (Urban 2007). A central concern of the research project is the role of craft production in political organization (McFarlane and Schortman 2017; Stockett 2007; Urban et al. 2013a; Wells 2003, 2007). The relationship among craft production, interregional interaction, identity,

and power is an interest shared by investigators in neighboring regions (e.g., Goodwin et al. 2021; Hirth et al. 2023; Joyce 1986, 2021; Joyce et al. 2014; Schortman and Urban 1994, 2011; Schortman et al. 2001; Urban et al. 1997; Urban and Schortman 2004).

El Coyote was a monumental center consisting of 415 surface-visible structures, and it was more than 12 times the size of the next largest community in the valley. Initial domestic activity at the site (ca. 300 B.C.) was dated by contexts containing Late Preclassic pottery. These early remains, however, are obscured by later constructions associated with the peak in population and expansion of public architecture during the Late Classic period (Wells 2007:39). Transformations during the Terminal Classic period include the abandonment of the Late Classic monumental ceremonial center and a shift in focus to the north end of the site, where an entirely new civic and residential complex was constructed (McFarlane 2005). In this article, I am primarily concerned with questions related to the timing of these Classic-to-Postclassic transformational events, but continuous occupation of El Coyote persisted through the eleventh century A.D.

Between A.D. 600 and 800, a large investment of resources and labor produced the architectural complex surrounding the Main Plaza (Figure 2). Built around an orthogonal plaza, the tallest structures are on the east and a north-south axis are clearly marked with public ritual spaces north of a ballcourt and elite residences to the south. A causeway, contemporary with these Late Classic developments, enhances a natural ridgeline terminating at the north end of the Main Plaza. Elements of these site-planning principles can be traced to neighboring centers (Joyce et al. 2009) and more broadly throughout southeastern Mesoamerica (Ashmore 1987, 1991, 2004; Ashmore and Sabloff 2002). Along with the built environment, the natural topography of this steep valley served to restrict or control movement into the public ceremonial plaza and associated domestic structures of the rulers. Put simply, the Late Classic architecture served to elevate the elite and to discipline the movement of others, presumably to reinforce power, authority, and status inequalities.

Test excavations in and around the Main Plaza focused on material residues associated with cultural activities, primarily the role that collective action and feasting played within the ritual economy of Late Classic El Coyote, leaving more extensive clearing of the monumental architecture for future investigations (Wells 2004). Far more is known about the humbler households to the south. Few of these 55 structures rise above 2 m, and these residences are densely packed, filling the available flat terrain between a perennial tributary to the Cacaupala River and the Cerro Macutalo, which rises steeply to the west of the site. Along with the monumental public architecture, this residential zone grew during the Classic period. When the Main Plaza was abandoned during the ninth century, these households underwent significant modifications. The multiroomed residences were filled in to form extensive platforms supporting single-roomed

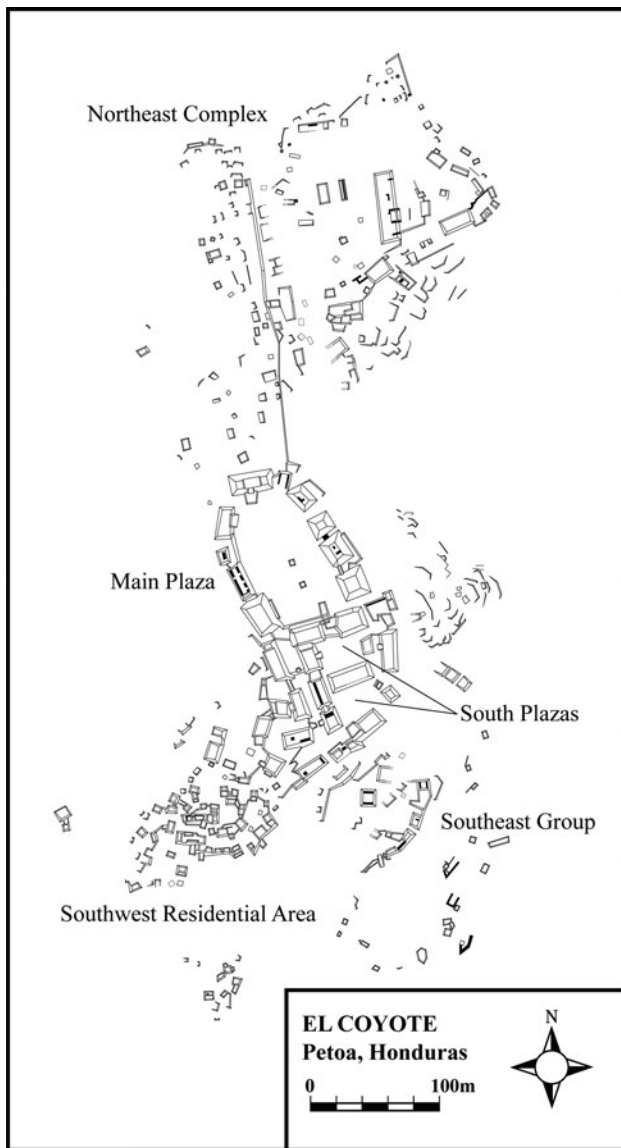


**Figure 1.** Location of El Coyote and other sites mentioned in the text.

wattle-and-daub superstructures. These architectural renovations in the south coincide with the construction of the Northeast Complex, a new architectural zone constructed at the northern end of the site.

The Northeast Complex is made up of 131 surface-visible structures (Figure 3). Unlike the elevated platforms of the Main Plaza, none of the buildings in the Northeast Complex rise more than 2 m above ground surface, and most structural remains have an elevation of less than

0.5 m. These low-lying structures were built atop a previously vacant broad terrace and Classic-period causeway along the western margin. These buildings were organized by quite different site-planning principles than those identified in Classic-period El Coyote. The use of closed plazas to control pedestrian traffic was abandoned in favor of open public spaces. Movement within the Northeast Complex was unrestricted by the built environment except within households. Here, patios and private spaces can be



**Figure 2.** Site layout of El Coyote.

identified with residential units, but they are not aligned with cardinal directions. Indeed, the only shared alignment (7° west of north) is the ballcourt and Structure 220, which point to a narrowing of the valley and the downstream flow of the Cacaupala River.

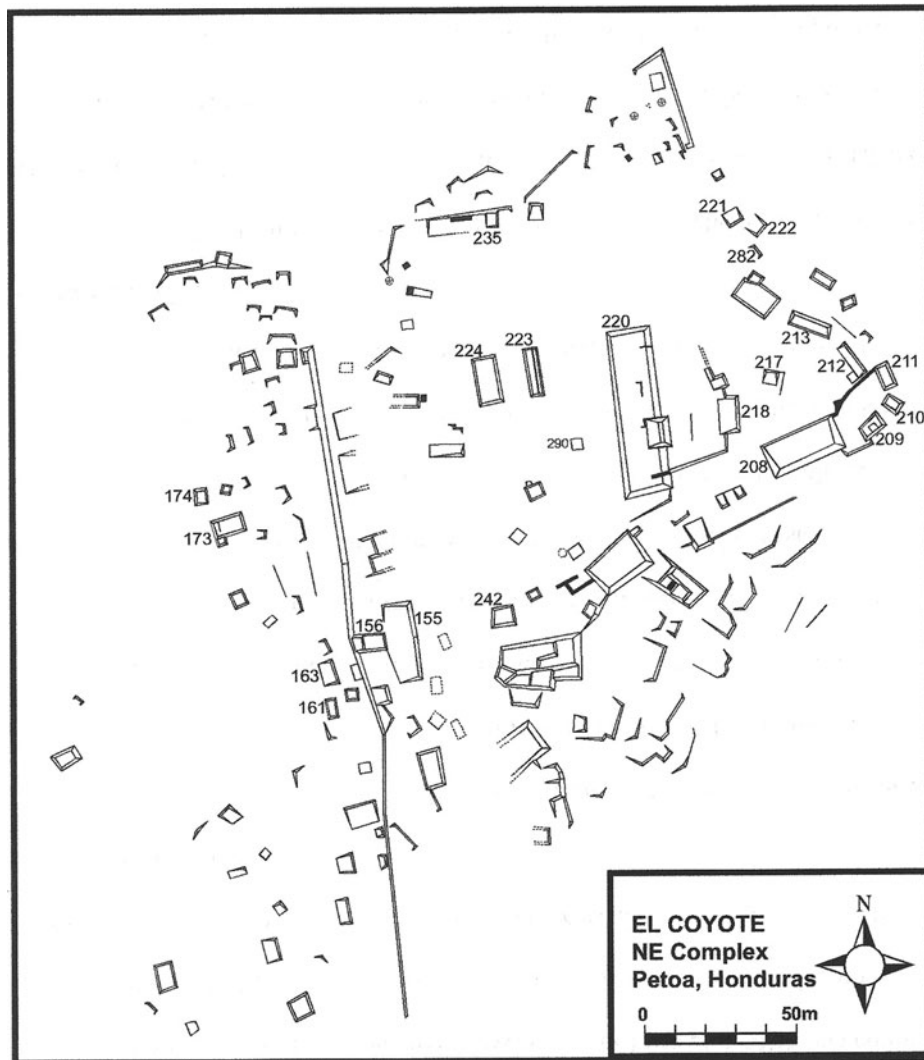
The organization of the Northeast Complex differs from Late Classic-period El Coyote, yet many of the functional components were retained, albeit in new configurations. Ceremonial architecture, a ballcourt, areas for congregation and public ritual, and large-scale construction efforts are recognizable elements of the Northeast Complex. The divergence from earlier organizational principles leaves the impression that the Northeast Complex was designed to accommodate the entire population for community-wide events without the use of imposing architecture or secrecy reinforced by closed spaces. Research in neighboring areas of Honduras suggests that these patterns in support of relatively unrestricted movement within

ceremonial areas were well established at contemporary sites (Agurcia Fasquelle 1986; Baudez and Becquelin 1973; Canby 1951; Dixon 1989; Joesink-Mandeville 1993; Joyce 1986, 1991; Manahan 2004; Stone 1957; Urban 1986; Wonderley 1985).

The central architectural element of the Northeast Complex is the 51 m long range structure, Structure 220 (Figure 4). The building was primarily composed of river cobble. A broad inset stair provides access to the summit from the west side. This stair was faced with cut stones, which were likely repurposed from the abandoned monumental architecture in the Main Plaza. The summit of the range structure consists of a large western-facing room, the floor of which was surfaced with a bright yellow-clay plaster. The entire building was periodically swept clean, and no large midden deposits were recovered in association with Structure 220. The scale, organization, and absence of domestic remains all suggest a civic-ceremonial function—likely a council house, where leaders met in full view of the community. Decisions made by and on behalf of the populace align with a less-stratified corporate political organization (Blanton and Fargher 2016; Blanton et al. 1996; Mills 2000; Peregrine 2001) and reveal another contrast with the more-centralized exclusionary power wielded by Late Classic rulers.

Compared to remains recovered elsewhere at El Coyote, the short occupation phase of the Northeast Complex resulted in limited material evidence. Cultural contexts are shallowly buried, and, frankly, it is remarkable that the materials are in such an excellent state of preservation. Architectural features and associated contexts were easily exposed through areal excavation, rarely carried to a depth of more than 0.25 m below ground surface. Overall, construction techniques were expedient, building materials consisted of river-rounded cobbles, and the occasional cut-stone block was likely robbed from the abandoned Main Plaza. Foundations of many buildings were set directly on the ancient ground surface to support wattle-and-daub walls. Given the expedient construction style, it was necessary to clear most structures entirely to determine the limits and organization of buildings. By the end of two seasons of research, 2,135 m<sup>2</sup> of the Northeast Complex were cleared.

Of the 131 structures in the Northeast Complex, 26 were exposed, revealing little differentiation in the investment of labor and resources in domestic buildings. No segment of society was able to manipulate labor surpluses, as indicated by a lack of outsized residences. Material remains reflect a similar modest lack of difference in access to non-local resources, labor, wealth, or other markers of status difference. Local resources, including specialized production knowledge, were either available to all or absent. Finally, prestige goods or widely circulated tradewares were present in every structure sampled. Taken together, the political economy following the abandonment of the Main Plaza lacked the markers of economic inequality, status difference, and centralized hierarchical organization so common to Classic-period societies in the region (McFarlane 2005).



**Figure 3.** Northeast Complex. Excavated contexts indicated by structure number.

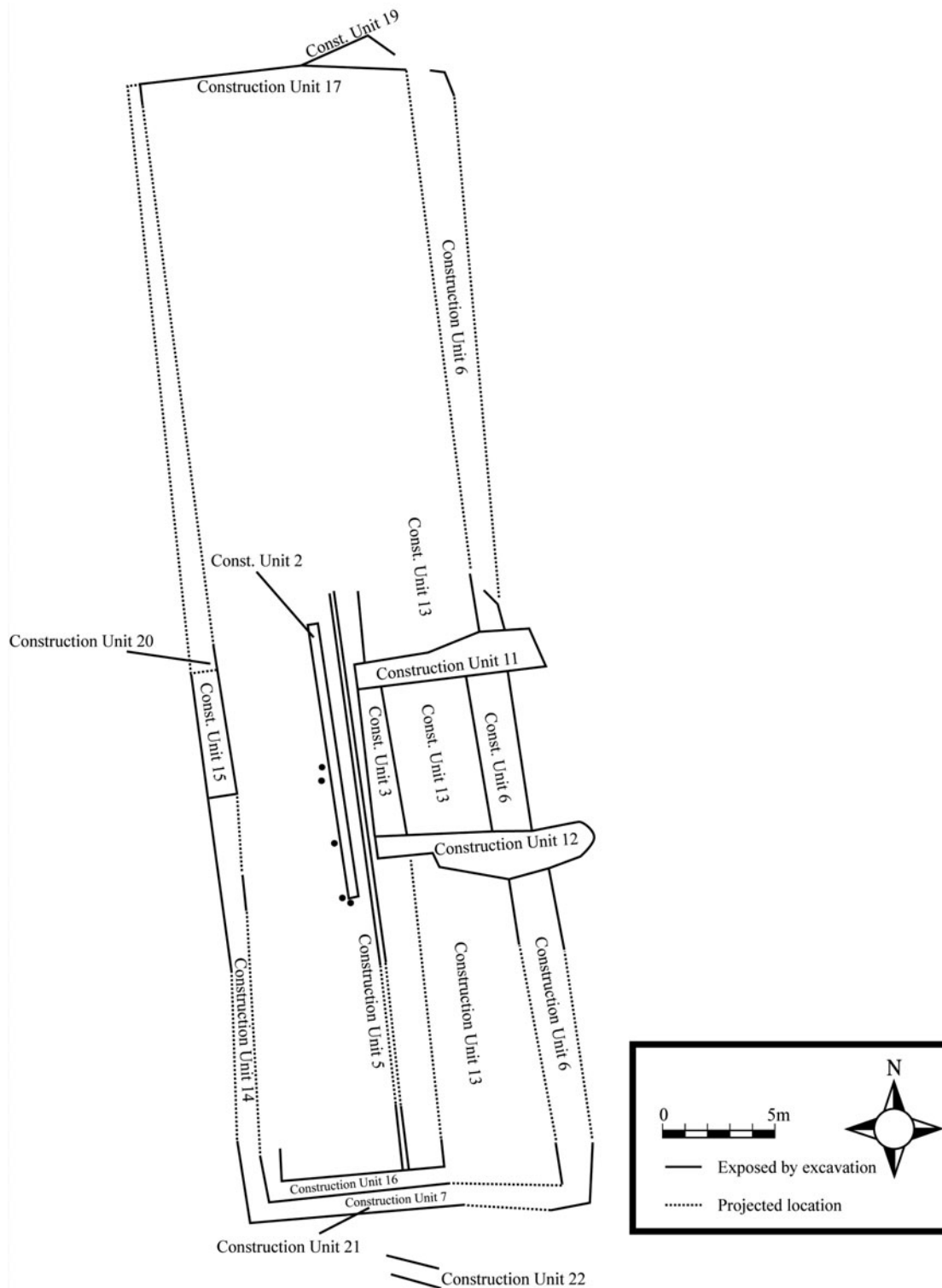
### *Northeast Complex chronology*

Samples collected from sealed contexts associated with public and domestic structures in the Northeast Complex are presented in [Table 1](#) and [Figure 5](#). The  $2\sigma$  calibrated results for most of these assays fall between A.D. 710 and 1040. A single outlier (176821) has an intercept date to cal A.D. 660. This early date was collected from the construction fill of Structure 242, a building situated on a terrace between the Main Plaza and the Northeast Complex. Structure 242 is one of the few buildings in the Northeast Complex with evidence from the earlier and later periods at El Coyote. Here, the material assemblage reflected a continuity of occupation and yielded diagnostic markers corresponding to both the Classic and Postclassic periods. This early date aside, most of the intercepts fall between cal A.D. 860 and cal A.D. 960.

The sample with the latest date (176814) was taken from a burned roofbeam from the superstructure of Structure 220. This feature represents what was likely the final

event associated with the public range structure around which the Northeast Complex was constructed. The absolute dates support an interpretation that Structure 220 was raised near the end of the ninth century. The public ceremonial building was utilized and modified for more than a century. However, no efforts were made to renovate this building following its collapse in the early eleventh century.

Although there is a concentration of calibrated intercept dates circa A.D. 900, many of these assays have multiple peaks or  $2\sigma$  probability ranges spanning the ninth and tenth centuries. I truncate this range to the tenth century, in part to simplify the following discussion but also because it is consistent with the chronology of the pan-Mesoamerican material pattern I describe below. The late phase of El Coyote came to an end during the eleventh century when the site was abandoned. The circumstances surrounding the end of El Coyote are unclear. Nevertheless, the Northeast Complex raises questions regarding the persistence of this community into the Postclassic period and its articulation within the regional chronology.



**Figure 4.** Plan of Structure 220.

Three additional facets of the El Coyote assemblage are chronologically relevant: Tohil Plumbate pottery, the chipped stone remains—especially obsidian from the Pachuca source, and evidence for copper smelting. Not only do these lines of evidence bolster the chronological

placement of the Northeast Complex to the tenth century, but through this evidence, it is possible to reconstruct the patterns of behavior that connects the community of El Coyote to the macroregional transformations across Early Postclassic Mesoamerica.

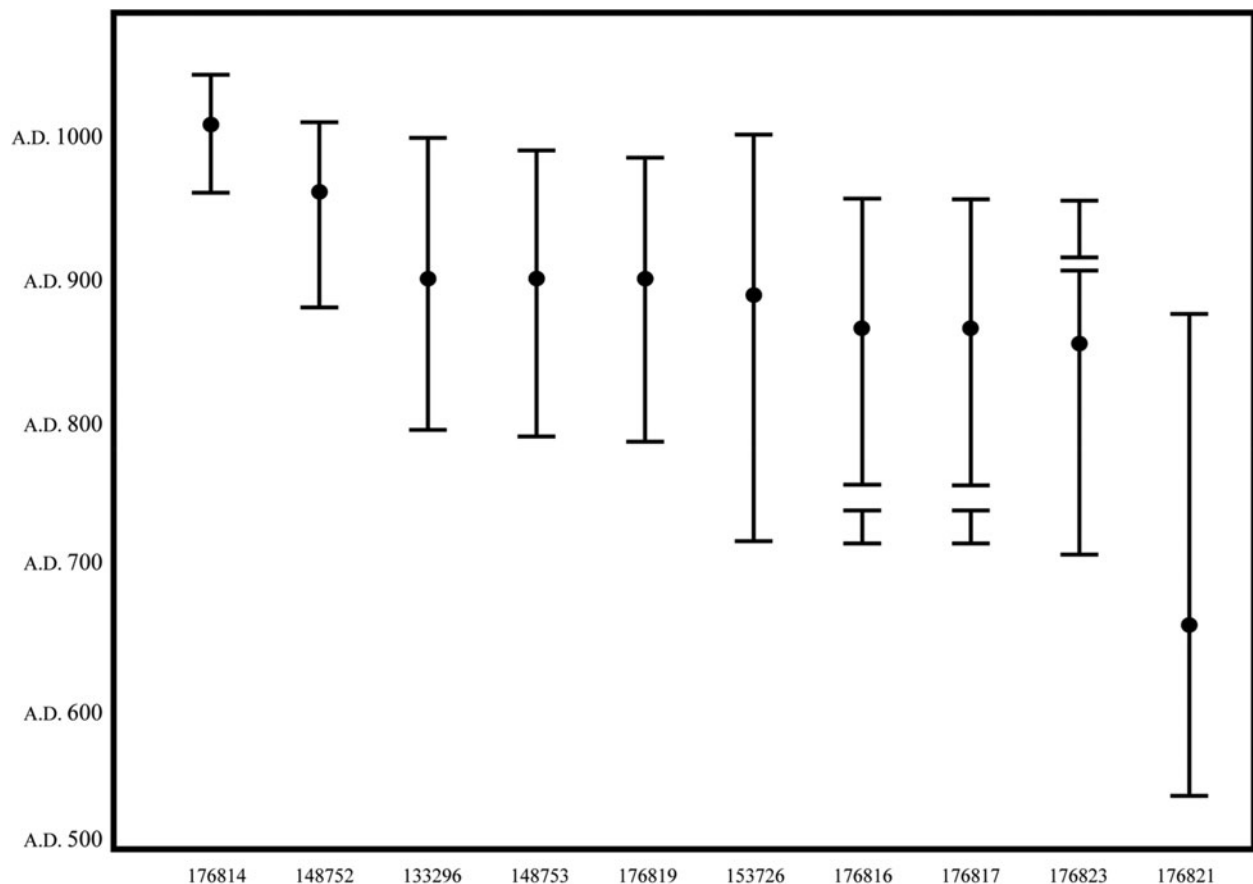
**Table 1.** Calibrated  $^{14}\text{C}$  dates from the Northeast Complex, El Coyote.

Sample #	Material	Structure	Context	Radiocarbon Age BP	Calibrated Maximum $2\sigma$ Range (A.D.)
176814	Charcoal	220	Superstructure (Roof Beam)	1030 $\pm$ 40	960 to 1040
148752	Charcoal	224	Ceramic Deposit	1130 $\pm$ 40	870 to 1010
133296	Charcoal	220	Preconstruction	1130 $\pm$ 40	795 to 1000
148753	Charcoal	224	Preconstruction	1140 $\pm$ 40	790 to 990
176819	Charcoal	222	Construction Fill	1140 $\pm$ 40	790 to 990
153726	Charcoal	163	Preconstruction	1160 $\pm$ 60	710 to 1000
176816	Charcoal	220	Construction Fill	1190 $\pm$ 40	720 to 740; 760 to 960
176817	Charcoal	218	Terminal Debris	1190 $\pm$ 40	720 to 740; 760 to 960
176823	Charcoal	220	Construction Fill	1200 $\pm$ 40	710 to 910; 920 to 960
176821	Charcoal	242	Construction Fill	1360 $\pm$ 90	540 to 880

### Northeast Complex pottery

As noted above, the Northeast Complex represents one of the best-preserved ninth- and tenth-century contexts in the region. Therefore, the sampling strategy sought to classify the greatest quantity of ceramic material from each

structure. Additional consideration was given to perceived function: domestic, public, and ritual architecture. When identified, midden contexts were given greater attention. By the conclusion of analysis, samples were taken from 20 of the 26 excavated structures in the Northeast Complex.

**Figure 5.** Calibrated  $^{14}\text{C} \pm 2\sigma$  dates from the Northeast Complex.



During the 2000 and 2002 field seasons, 84,567 sherds were collected from excavated contexts in the Northeast Complex. Of these, a sample of 20,857 sherds was analyzed, or roughly 25 percent of the assemblage. Additionally, nine complete or nearly complete vessels were recovered, reconstructed, and classified. Ceramic analysis was undertaken by Patricia Urban, Edward Schortman, and Marne Ausec using the type-variety-mode approach (Gifford 1960; Smith et al. 1960). Classification of the materials recovered from the Northeast Complex was set within a broader context of the lower Cacaupala Valley ceramic classification of 200,000 specimens and extensive studies in the neighboring Naco and middle-Ulua valleys (Urban 1993a, 1993b; Urban et al. 2013a).

Investigations at many of the smaller settlements in the area have found a pattern of pottery production at the household level. At some sites, such as Rancho del Rio in the lower Cacaupala Valley, pottery production was undertaken for household consumption (Urban 2016:245). Pottery was also produced at El Coyote, albeit less intensively than at Las Canoas. Excavations conducted along the western limits of the Southwest Residential Area (Figure 2) uncovered firing facilities and implements associated with the manufacture of ceramic vessels (Schortman 2018). Vessels produced locally at El Coyote can be confidently identified given the well-understood ceramic history of the surrounding areas and through ongoing petrographic and Instrumental Neutron Activation Analysis of ceramics (Urban et al. 2013a).

These locally manufactured wares are relatively simple in form and surface treatment (Table 2). Analyses undertaken by Urban and colleagues (Urban et al. 2013:178–179) have identified chronologically sensitive characteristics of the local assemblage. These measures include the declining frequency of tan pastes and an increased frequency of orange-brown pastes. Orange-slipped vessels decline in frequency from the Late Classic period through the Terminal Classic period and are absent in Early Postclassic contexts. Red-on-natural forms share this declining frequency but continue to be manufactured into the Early Postclassic period. Red-wash and red-slip surface decorative modes increase over time from the Late Classic period into the Early Postclassic period. However, smoothed-surface treatment is by far the most common finish on utilitarian wares in late-phase Northeast Complex occupations.

Smoothed-surface utilitarian wares generally conform to regionally recognized ceramic styles. The similar types include the Kan Group recovered from post-collapse contexts at Copan (Manahan 2003:157–174). Baudez and Becquelin (1973) report the same surface treatment in the Period IV Rio Blanco-phase ceramics from Los Naranjos, and Healy (1984:149) comments on the inferiority of these vessels compared to earlier types. Together with these Early Postclassic regional wares, the locally manufactured pottery from the Northeast Complex is distinctive but nevertheless shares significant continuity with early types. In other words, practices shared among artisans and consumers (*sensu* Joyce 2021) are connected across generations, and the people who built and lived in the Northeast Complex

were the descendants of the Classic-period community that built, transformed, and ultimately terminated the monumental civic-ceremonial complex that makes up the Main Plaza of El Coyote.

A pattern of continuity, coupled with innovation and increased connection, also appears in the frequencies of exotic tradewares. The most common imports originate from communities closest to El Coyote (Table 3). Las Canoas, 10 km to the northeast of El Coyote, was a thriving crafting community that was engaged in the production of pottery that was to be exchanged with others in the Naco and Cacaupala Valleys (Stockett 2005, 2007). Las Canoas was the source for 54 percent of all imported wares, primarily red-on-natural jars. Jars and bowls from the Naco Valley were the second most common ( $n = 843$ , or 25 percent of imports). Imports from most other regions tended to be rare, including trace amounts of polychromes from the Ulua valley, Capulin White from the lower Motagua valley, and Las Vegas Polychrome from Central Honduras (Joyce 2019).

Imports from the Pacific Coast region include a few sherds recovered from fill contexts ( $n = 32$ ) classified as an unspecified variety of Chilanga Red-painted resist and the more common Tohil Plumbate. In addition to 314 sherds of this type, five intact or restorable fancy Tohil Plumbate vessels and a single applied adornment—apparently curated after the vessel had been discarded—were collected from the Northeast Complex. Two complete vessels containing simple personal adornments and more elaborately carved jade pendants were recovered from a ritual context in association with Structure 242 (Figure 6).

Archaeological projects beyond the lower Cacaupala Valley report Tohil Plumbate pottery in the Lake Yojoa region (Baudez and Becquelin 1973), the Comayagua Valley (Baudez 1976), the Motagua Valley (Sharer 1985), the Copan Valley (Bill 2014; Manahan 2003, 2004), the middle-Ulua Valley (Urban 1993a), the Naco Valley (Urban 1993b), and much farther to the south in the Greater Nicoya region of Nicaragua (Lange 1984). It should be noted that the quantity of Tohil Plumbate recovered from neighboring valleys is quite low. Urban (personal communication 2005) notes, “In the approximately 850,000 sherds analyzed in the Naco Valley, there are two or three Plumbate sherds. The type is slightly more common in the Santa Barbara region, but by no means is common there.” Here, Plumbate is found together with obsidian from Pachuca, but both were encountered in far smaller amounts than reported from El Coyote (Edward Schortman, personal communication 2023).

Although fancy Tohil Plumbate is commonly recognized as a hallmark of the Early Postclassic period (Diehl 1993; Neff 2023) and used to date tenth- to eleventh-century contexts across Mesoamerica (Jordan 2023; Mastache de Escobar et al. 2002:230), the implication of its absence warrants a note of caution. The use of ceramics as temporal markers creates limitations for other interpretations. Sites without this import may not have been abandoned at the end of the Classic period. Cultural or behavioral differences can account for absence of this or other highly decorated ritual

**Table 2.** Local pottery – Surface treatment tabulated by pottery form.

Surface	Jar	Bowl	Plate	Indeterminate	Total
<b>Orange-slip</b>	266	618	31	28	<b>943</b>
<b>Red-slip</b>	12	104	0	0	<b>116</b>
<b>Tan-slip</b>	105	59	0	0	<b>164</b>
<b>Red-wash</b>	125	210	1	24	<b>360</b>
<b>White-wash</b>	2	15	0	0	<b>17</b>
<b>Red-on-natural</b>	313	11	0	0	<b>324</b>
<b>Red-on-orange</b>	0	7	0	0	<b>7</b>
<b>Red-on-tan</b>	6	7	0	0	<b>13</b>
<b>Burnished</b>	124	182	0	0	<b>306</b>
<b>Smoothed</b>	8,186	6,065	114	585	<b>14,950</b>
<b>Indeterminate</b>	2	112	0	0	<b>114</b>
<b>Total</b>	<b>9,141</b>	<b>7,390</b>	<b>146</b>	<b>637</b>	<b>17,314</b>

vessels. Indeed, careful and thoughtful ceramic analyses can reveal differential access to these tradewares within the same polity (Chase and Chase 2008) or settlement system (Urban et al. 2013).

Nevertheless, several trends are evident in this ceramic assemblage. First, proximity to the locale of manufacture strongly affects the relative quantities of imports. The vast majority ( $n = 77.5$  percent) of imports come from Las Canoas and the Naco Valley. Second, imports from farther away date to the Terminal Classic and Early Postclassic periods. Vessels from the Soconusco are well represented and provide evidence for an increase in pottery production for an export market (Neff 1989:250; Neff et al. 2023:722). Finally, geographic proximity and temporal synchronicity cannot account for all aspects of the imported groups. The quantities of Tohil Plumbate and Las Vegas Polychrome pottery are significantly higher than in neighboring regions. This is an indication of broader political, social, and economic factors at play in the center.

Differences in exchange practices are also apparent when the lack of Fine Orange pottery is observed. Commonly cited as a Terminal Classic marker (Adams 1971; Joyce 1986; Smith and Gifford 1965), Fine Orange wares are contemporary with the later occupation of El Coyote. Within the Sula Plain, Fine Orange is well represented (Joyce 1986) yet is absent in the Northeast Complex and Terminal Classic contexts in the Naco Valley (Urban 1993b). For whatever reason, the inhabitants during the late occupation phase of El Coyote did not participate in the exchange network along which Fine Orange was traded.

#### *Northeast Complex chipped stone*

All artifacts in the lithic assemblage ( $n = 22,230$ ) were classified using a behavioral or technological typology (e.g., Clark 1988; Clark and Bryant 1997; Sheets 1975). Determination of geological provenance was done using visual sourcing

(Braswell et al. 2000). Obsidian quarried from the Pachuca source in the northern rim of the Valley of Mexico was easily distinguishable from the closer sources of El Chayal and Ixtepeque. Although visual sourcing is a generally reliable technique, these two Guatemalan sources exhibit a range of characteristics that overlap. When encountering obsidian with traits common to both the Ixtepeque and El Chayal flows, source material was identified as “unknown.” Additionally, there are specimens quarried from regional sources—such as La Esperanza—that appear infrequently and are identified as “unknown.” This conservative approach provides a more reliable count for the better-known imported sources. Significant amounts of perlite, a volcanic glass like obsidian, were present in this assemblage. Small perlite nodules can be found near the confluence of the Cacualapa and Chamelecon Rivers, and in the foothills along the margins of the Naco Valley (Ross 1997). These nodules are rarely larger than 2 cm in diameter and were not suitable for the manufacture of prismatic blades or bifacial points. Perlite was utilized as a material for informal expedient tools.

Many of the chipped stone artifacts ( $n = 13,029$ ) in the Northeast Complex assemblage were manufactured from locally available chert, and they were classified as debitage or informal tools, such as edge-modified flakes. The remaining sample consists of obsidian and perlite source materials collected from the Northeast Complex ( $n = 8,618$ ) and a comparative sample came from an elite residence associated with the Classic-period Main Plaza ( $n = 445$ ). During the late occupation of El Coyote, households relied on a generalized flake–core industry supplemented with prismatic blades.

Blades were quite common and found in association with every sampled structure. However, evidence for the specialized production of prismatic blades is all but absent in the Northeast Complex. The lack of production debris may reflect a local practice of sequestering specialists away

**Table 3.** Imported pottery – Surface treatment tabulated by region of origin and form.

Surface/Type	Jar	Bowl	Plate	Indeterminate	Total
<b>CANOAS (n = 1,902)</b>					
Tan-slip	2	25			27
Red-on-natural	213	33		6	252
Burnished	819	656	3	38	1,516
Smoothed	74	24		9	107
<b>NACO (n = 843)</b>					
Orange-slip	17	100			117
White-washed	22				22
Red-on-natural	117	6			123
Red & black on orange		15			15
Red painted	3				3
Molded		2		1	3
Smoothed	12	134			146
Indeterminate	246	80		88	414
<b>PACIFIC COAST (n = 314)</b>					
Tohil Plumbate	225	4		53	282
Chilanga		32			32
<b>ULUA (n = 107)</b>					
Polychromes		106			106
Zarzalosa		1			1
<b>CENTRAL HONDURAS (n = 88)</b>					
Las Vegas Polychrome	4	84			88
<b>LOWER MOTAGUA (n = 39)</b>					
Capulin White		39			39
<b>UNSPECIFIED IMPORT (n = 250)</b>					
Red-slip		41		1	42
Orange-slip	13	42			55
Red-on-natural	24	23		4	51
Smoothed		5			5
Indeterminate	28	65	2	2	97
<b>TOTAL</b>	<b>1,819</b>	<b>1,517</b>	<b>5</b>	<b>202</b>	<b>3,543</b>

from consumers (McFarlane and Schortman 2017). Another possibility is that these tools entered the lower Cacaupala Valley as finished commodities. Given the quantity of blades recovered in the Northeast Complex and the possibility of breakage during transportation, the importation of finished blades seems impractical. Likely, the sampling strategy simply failed to encounter deposits of debris related to specialized blade production.

Bifacially worked formal tools reduced from chert and obsidian (n = 138) were processed separately. Based on comparison with Classic-period contexts, there was an increase

in the production and use of bifacial points during the late occupation of El Coyote. Often cited as evidence for an increase in raiding and warfare, these points are noted at Terminal Classic and Early Postclassic sites throughout the region (Aoyama 1996; Manahan 2003). Points from the Northeast Complex exhibit a wide range in form and craftsmanship (McFarlane 2005:665–677), perhaps indicative of different tasks, such as an increase in hunting practices, or reflecting a technological response to the unreliability of obtaining nonlocal source materials. Whatever the explanation, there is a noticeable absence of production debris,



**Figure 6.** Tohil Plumbate vessels and associated ornamentation from a ritual offering, Structure 242.

such as bifacial thinning flakes, in Northeast Complex contexts.

A large deposit of bifacial production debris was identified in the fill of a raised platform along the southeastern margin of the monumental core of El Coyote, however. Over 54 kg (120 lb.) of debitage were collected from this context. Although the Southeast Group falls outside the scope of this article, the find suggests that craft production was organized around different loci at the center. At this time, it is not possible to directly trace finished tools with the production debris, but the presence of finished bifaces and paucity of production debris in Northeast Complex contexts may reflect measures to remove potentially hazardous debitage from commonly used areas (Clark 1991; Santley and Kneebone 1993:48).

In addition to the increased frequency of bifacial points, two aspects of the lithic assemblage are directly related to determinations of the chronological designation of the Northeast Complex. First, obsidian from the Pachuca source was found in relatively high quantities, and it accounts for nearly 17 percent of the nonchert mass (19.4 percent by count). The distinctive and easily identified green obsidian was the second most imported material after obsidian from Ixtepeque, and it appears almost exclusively as final series prismatic blades. Of the 1,684 specimens, eight were classified as initial series blades or flakes because they retained a small amount of cortex, two were classified as

percussion blades or flakes, and a single indeterminate fragment was recorded.

Pachuca obsidian was widely and evenly distributed throughout Northeast Complex contexts. By density, there is little disparity among structures (Table 4). Structure 217 yielded the highest quantity and density of this material. The size, internal organization, and associated material remains suggest that this was a nonresidential building serving as a storehouse for the curation of special objects and as a locus for private rituals (McFarlane 2005:94–96; also see Urban and Schortman 2004:260–262, for a comparable structure at Site 128 in the Naco Valley). The slightly higher density of blades made from the green obsidian may be related to ritual activities. However, material from Pachuca is so widespread and in a variety of contexts related to mundane activities that it seems clear that it was treated no differently than obsidian from any other source. The ubiquitous distribution of this material suggests that it was relatively abundant, and access was unrestricted.

Second, nearly all ( $n = 628$ , 93 percent) of the proximal or complete blades from the late phase of occupation exhibit pecked-and-ground (simplified below as “ground”) platforms (Table 5). There is some variation by source material, but grinding is clearly the preferred preparation for polyhedral core platforms. This platform preparation technique can be traced to Epiclassic Xochicalco, Morelos, and, by

**Table 4.** Distribution of obsidian from the Pachuca, Hidalgo, source.

Structure	Count	Mass (g)	Exc. Area (m <sup>2</sup> )	Density (#/m <sup>2</sup> )	Density (g/m <sup>2</sup> )
<b>217</b>	323	264.2	102.5	3.15	<b>2.58</b>
<b>242</b>	171	137.37	91	1.88	<b>1.51</b>
<b>209</b>	196	142.5	100	1.96	<b>1.43</b>
<b>213</b>	283	192.71	139	2.04	<b>1.39</b>
<b>155</b>	55	51.04	66	0.83	<b>0.77</b>
<b>174</b>	3	9.82	13	0.23	<b>0.76</b>
<b>208</b>	67	46.05	61	1.10	<b>0.75</b>
<b>218</b>	136	84.8	113.5	1.20	<b>0.75</b>
<b>165</b>	32	21.99	31	1.03	<b>0.71</b>
<b>212/282B</b>	79	62.9	149	0.53	<b>0.42</b>
<b>290</b>	14	8.35	21	0.67	<b>0.40</b>
<b>210</b>	31	26.3	67.5	0.46	<b>0.39</b>
<b>156</b>	46	32.39	85	0.54	<b>0.38</b>
<b>282</b>	9	7.8	22	0.41	<b>0.35</b>
<b>220</b>	190	136.76	467	0.41	<b>0.29</b>
<b>222</b>	8	5.1	34	0.24	<b>0.15</b>
<b>Wall</b>	8	5.8	48	0.17	<b>0.12</b>
<b>173</b>	8	4.67	41.5	0.19	<b>0.11</b>
<b>221</b>	6	4.25	41	0.15	<b>0.10</b>
<b>235</b>	10	6.59	66	0.15	<b>0.10</b>
<b>211</b>	9	4.55	76.5	0.12	<b>0.06</b>
<b>Total</b>	<b>1,684</b>	<b>1,255.94</b>	<b>1,835.5</b>	<b>0.92</b>	<b>0.68</b>

the Postclassic period, grinding has all but replaced other methods of core preparation (Healan 2009:104). This pattern is consistent with Terminal Classic and Postclassic evidence from southeastern Mesoamerica (Braswell 2003:141).

#### *Copper production at El Coyote*

Metallurgy occurred relatively late in the cultural sequence of Mesoamerica (Hosler 2009), and archaeological evidence for the specialized production of copper objects is rarely reported outside of west Mexico (Simmons and Shugar 2013). By no means is the technology common in pre-Columbian contexts, but emerging evidence suggests that specialized metalworking is both earlier and more widespread than originally thought (Paris 2008; Shugar and Simmons 2013). Dedicated facilities, likely dating to the late ninth and tenth centuries, in the southeastern area of El Coyote suggest that artisans were engaged in the process of smelting copper extracted from deposits in or near the lower Cacaupala Valley. Modern mining activities some 6.5 km (4 mi.) west of El Coyote likely destroyed the “Quimistán Cave of Bells” described over a century ago by A. Hooton Blackiston (1910).

Urban and colleagues (2013b) describe a series of features dedicated to copper smelting. Each stage in the reduction of copper alloys from geological contexts was associated with specific activity areas located on a low terrace between the Cacaupala River and the higher elevations upon which El Coyote was built. Anvils, furnaces, slag, and other materials related to this practice were recovered in abundance. Aside from metalworking and the consumption of food—as inferred from the remnants of undecorated plates and comales—no other domestic or ritual activities were conducted in this area. The absence of finished copper objects in excavated contexts at El Coyote suggests that these materials were produced for the purpose of export and were not distributed among households in the local community. This is generally consistent with the production sequence in the principal metalworking tradition of west Mexico (Hosler 2003) and from other “affluent production zones” in southeastern Mesoamerica (Paris 2008:44).

Dating the metalworking facilities is complicated by the shallow and occasionally mixed deposits, but these activities at El Coyote are thought to fall during the late ninth to tenth centuries. Although absolute dates could not be established, the chronological designation was determined by

**Table 5.** Distribution of platform treatment by obsidian source material, all Northeast Complex structures, and Op. 47.

	Source	Platform Treatment					Total
		Crushed	Striated	Ground	Untreated	Indeterminate	
<b>Finished Blades from the Northeast Complex</b>	<b>Chayal</b>	0	3	97	2	2	104
		0.00%	2.88%	93.27%	1.92%	1.92%	100.00%
	<b>Ixtepeque</b>	1	28	166	2	2	199
		0.50%	14.07%	83.42%	1.01%	1.01%	100.00%
	<b>Other</b>	1	0	12	0	1	14
		7.14%	0.00%	85.71%	0.00%	7.14%	100.00%
	<b>Pachuca</b>	0	0	353	1	4	358
	0.00%	0.00%	98.60%	0.28%	1.12%	100.00%	
	<b>NEC Totals</b>	<b>2</b>	<b>31</b>	<b>628</b>	<b>5</b>	<b>9</b>	<b>675</b>
		<b>0.30%</b>	<b>4.59%</b>	<b>93.04%</b>	<b>0.74%</b>	<b>1.33%</b>	<b>100.00%</b>
<b>Finished Blades from Op. 47</b>	<b>Chayal</b>	0	1	4	1	1	7
		0.00%	14.29%	57.14%	14.29%	14.29%	100.00%
	<b>Ixtepeque</b>	0	59	15	2	5	81
		0.00%	72.84%	18.52%	2.47%	6.17%	100.00%
	<b>Other</b>	0	0	5	0	0	5
		0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
	<b>Pachuca</b>	0	0	1	0	0	1
	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	
	<b>Sample Totals</b>	<b>0</b>	<b>60</b>	<b>25</b>	<b>3</b>	<b>6</b>	<b>94</b>
		<b>0.00%</b>	<b>63.83%</b>	<b>26.60%</b>	<b>3.19%</b>	<b>6.38%</b>	<b>100.00%</b>

association with cultural materials in securely dated contexts. Unsealed remains did yield low amounts of modern ceramics, which were always associated with prehistoric remains and therefore chronologically ambiguous. Sealed contexts, on the other hand, consist solely of pre-Columbian materials consistent with types common to the Terminal Classic and Early Postclassic periods (Urban et al. 2013b:100–102). Slag and other byproducts of smelting were used as building material in constructions contemporary with the later occupation of the Northeast Complex. Altogether, the most reliable contexts date to the last phase of pre-Columbian occupation at El Coyote.

The evidence for copper processing at El Coyote does not confirm the chronological determinations for this community. Indeed, the tenuous dating of the special purpose workshop depends on material comparisons with contexts elsewhere at the site. I include it here to help explain the circumstances for such an unusual pattern of persistence and extralocal ties during the tenth century. In the centuries preceding A.D. 900, El Coyote was a thriving community but had little material connections with or influence over more distant centers in southeastern Mesoamerica (Urban 2016:245). How then, was this society able to capture material resources and valued trade goods moving across

pan-Mesoamerican exchange spheres? The answer, in part, has to do with the presence of copper-bearing deposits and the specialized technology needed to produce goods for consumers beyond the lower Cacaupala Valley. Demand for these resources grew during the tenth century coincident with the spread of a pan-Mesoamerican ideology. Elites and commoners alike attended to the associations between the sound and color of copper objects and shared sacred conceptions of a Flowery Heaven (Burkhart 1992; Hosler 1995) or the celestial paradise of the Flower World (Jordan 2023:139; Stanton et al. 2023; Taube 2020).

## Discussion

The material assemblage from El Coyote's Northeast Complex includes three of the most recognizable and widely dispersed chronological markers for late pre-Columbian Southeast Mesoamerica: Tohil Plumbate pottery, obsidian from Pachuca, and copper metallurgy. The architecture and organization of the built environment reflect a set of principles that place the complex in closer association with later societies than those found during earlier periods. This interpretation is further supported by radiocarbon assays, which situate the founding and relatively brief

occupation of the Northeast Complex in the tenth century. When placed in context with regional chronologies, the inconsistencies in the way archaeologists have interpreted the evidence for this macroregional pattern of exchange are pronounced.

To reconcile regional chronologies with a pan-Mesoamerican horizon, researchers have conflated (or disregarded) the distinction between temporal periods and cultural developments. This issue is both empirical and semantic. The evidence from the Northeast Complex dates primarily to the tenth century. The presence of Tohil Plumbate, green obsidian from Pachuca, and metallurgy are characteristics of a macroregional pattern that date to this time period and encompasses highland Mexico through the Maya lowlands and into northern Central America (Baudez 1966:319-320; Healy 1980, 1984:148-149; Kolbenstetter 2022; Neff 2003; Neff and Bishop 1988; Shepard 1948; Smith and Berdan 2003, ed.; Stanton et al. 2023, ed.; Strong 1935:142-143; Urban et al. 2013b). Indeed, along with an international symbol set, these traits are commonly cited as chronological markers (Boone and Smith 2003; Diehl 1993; Ringle et al. 1998; Smith 2003; Smith and Heath-Smith 1980).

Perhaps the best evidence for comparison is Tohil Plumbate, which helps to define many of the ceramic phases and cultural deposits across the Yucatan. For example, fancy Tohil Plumbate, though not abundant, is a marker for the Late Sotuta phase between A.D. 900 and 1050 at Chichen Itza (Cobos 2004, 2011) and Ek Balam (Ringle et al. 2004; see also Bey and Ringle 2011). These dates are consistent with a postabandonment offering of Tohil Plumbate at the Uxmal Round Structure circa A.D. 950 (Carmean et al. 2004:432). At ports of trade across the north coast of the Yucatan, Plumbate ceramics are associated with contexts dating somewhat earlier—A.D. 850 to 1100 (Andrews et al. 1988; Glover et al. 2018).

Across the southern Gulf Coast in Campeche and Tabasco, Tohil Plumbate is associated with contexts dating between A.D. 900 and 1000 (Ball 1985:239). This tradeware is associated with Tollan-phase complexes between A.D. 900 and 1150 at Tula (Healan et al. 2021; Jordan 2023:129; Mastache de Escobar et al. 2002:230). Radiocarbon assays from El Palacio in Michoacan further restrict Plumbate and Tollan-related contexts to A.D. 975-1150 (Jadot et al. 2019:322). Further abroad, the presence of Tohil Plumbate has also been cited in association with late Bayal or post-Bayal phase deposits circa A.D. 930 at Seibal (Sabloff 1975:224).

Although the site of production has yet to be identified (Neff 2023; Neff et al. 2023), fancy Tohil Plumbate was no longer produced after A.D. 1100 (Neff 2014:8). Finally, the increased circulation of prismatic blades reduced from Pachuca obsidian begins after A.D. 900 following a reorganization of production and the political economy during the Tollan phase of Tula (Healan 1993, 2009, 2011). Put simply, there is consensus regarding the chronological placement of this macroregional exchange pattern to A.D. 900-1100.

Disagreement comes not from the timing (or temporal designation) of this pattern but from the interpretation

in terms of its cultural and political significance. Part of this disagreement reflects regional considerations. Beyond the Maya area, the tenth century falls near the end of the Epiclassic period (Smith and Berdan 2003:4). In the centuries following the fall of Teotihuacan, commercialized long-distance exchange increased, likely a result of decentralized trade undertaken by specialized merchants who drew distant regions closer through their entrepreneurial practices (Diehl and Berlo 1989). This pattern leads to the Early Postclassic period, the beginning of monumental construction at Tula Grande, the emergence of an international symbol set, and increased interaction between representatives of Tula and Chichen Itza (Bey and Ringle 2011).

Within the Maya area, researchers consider the tenth century to be Terminal Classic or Early Postclassic, depending on the presence or absence of chronologically sensitive evidence from each site. This is a culture-historical issue that fails to account for behavioral causes to material variation (Braswell 2023; Chase and Chase 2008; Urban et al. 2013). Historically, the Terminal Classic was proposed by Patrick Culbert (1973a:16-17) to describe both continuity with Late Classic cultural patterns and the destruction of those patterns. One of these traditions—the declining use of Long Count dates in the dedication of stela—provides temporal context for the Terminal Classic period from A.D. 780 (9.18.0.0.0) to A.D. 909 (10.4.0.0.0). However, because the Terminal Classic period denotes the cultural processes of collapse—such as demographic decline, abandonment of urban centers, sociopolitical fragmentation, and simplification of material assemblages due to the reduction of craft specialists—it is possible to extend this period by a century or more (Chase and Rice 1985b:1-2). Nevertheless, a common convention is to mark the transition between Classic and Postclassic periods around A.D. 900/950 (Braswell 2015).

The cultural processes used to describe the Early Postclassic period include the decline or absence of Late Classic patterns coupled with the introduction or rise of processes indicative of late pre-Columbian Mesoamerica. Technological advances in the production of prismatic blades (Healan 2009) and the innovation of metallurgy (Hosler 2009; Paris 2008; Shugar and Simmons 2013), for example, help to define the Postclassic period. It is during this period that alternatives to exclusionary dynastic political rule become increasingly common (McFarlane 2005), and strategies are implemented that draw on collective action (e.g. Blanton and Fargher 2016; Carballo 2013). The Early Postclassic period is also a time of increased intensity of interregional interaction and connectivity across a variety of behavioral domains, including militarism, long-distance trade, and religious or ideological movements (Bey and Ringle 2011; Feinman 2019; Geurds 2023:646; Glover and Rissolo 2023; Ringle et al. 1998; Smith 2003). Although the Early Postclassic period has been disparagingly characterized as “decadent” or inferior to preceding generations, it should be defined by innovation and as a precursor to Late Postclassic processes (Braswell 2023:316; Stanton et al. 2023).

A result of conflating temporal periods with cultural developments is the inconsistent application of terminology. Mesoamericanists may ascribe different cultural periods to the same century depending on how they interpret specific facets of the evidence and their interests: the collapse of Late Classic sociopolitical organization or the emergence of international exchange spheres (Braswell 2003:141, 146; Joyce 1986, 2019). Others are more inclusive and use both—Terminal Classic and Early Postclassic—to describe the transitional nature of this period and accommodate culture-historical conventions between regions (Glover et al. 2018:476; Urban et al. 2013a). In a widely cited article by Anthony Andrews and colleagues (2003), a convincing argument was proposed to extend the Terminal Classic period through the eleventh century and remove the Early Postclassic period entirely (but see Stanton and Bey 2023). In some regions, chronological debates have grown so contentious that scholars may solely discuss cultural processes and circumvent the temporal issue entirely to avoid acrimony (Kepecs 2011:95).

To be clear, I contend that the tenth-century contexts at El Coyote correspond best with the cultural processes of the Early Postclassic period for two reasons. The first is empirical. There is a great deal of consistency with comparable assemblages also considered to be Early Postclassic. To illustrate this point, I turn to the Ejar-phase postcollapse settlement of Copan. Debate about the nature and timing of the collapse of the Copan polity and hinterland notwithstanding (Braswell 1992; Manahan and Canuto 2009; McNeil et al. 2022; Webster and Freter 1990; Webster et al. 2004), there is convincing evidence for the abandonment of the monumental center during the mid-ninth century, followed by a tenth-century resettlement among the monumental ruins by a distinctly different postcollapse society (Fash et al. 2004; Manahan 2008).

The Ejar settlement shares striking similarities with those described at El Coyote and in central Honduras (Manahan 2004:120). Architecture consists of low-lying platforms supporting perishable superstructures constructed of wattle and daub. Daily domestic and ritual activities were carried out within these buildings, which were situated around an unmodified communal plaza. Locally manufactured utilitarian pottery is crude, or charitably described as favoring “expedience over standardization of forms and attention to finishing techniques” (Manahan and Canuto 2009:570). The presence of Tohil Plumbate; Las Vegas Polychrome; and obsidian blades with ground platforms reduced from the Mexican sources of Pachuca, Pico de Orizaba, and Ucareo places the Ejar inhabitants within the tenth-century pan-Mesoamerican exchange networks.

This material pattern is associated with nine radiocarbon assays anchoring this brief occupation between A.D. 970 and 1085, which Manahan (2004:114) conservatively expands to A.D. 950–1100. The Ejar settlement is both culturally and temporally separated from dynastic rule of the Copan polity and relatively brief Terminal Classic period (e.g. Bill 2014; Viel 1993:17). Due to the absolute dates and chronologically relevant material culture, both the Ejar settlement and the Northeast Complex at El Coyote not only are

contemporaneous but also reflect sensibilities indicative of the Early Postclassic period.

The second reason is semantic—that is, “Early Postclassic” cultural processes can be interpreted from the tenth-century contexts of El Coyote. Although the Northeast Complex represents continuity with the Classic population of El Coyote, it is also a rejection or break from the Classic-period notions of sociopolitical organization, exclusionary leadership, and power relations. The decline of cultural patterns associated with the Classic period ended with the abandonment of the Main Plaza and the disassembling of its architectural facades. Leaving behind these ancestral trappings, the community engaged with the increasingly commercialized pan-Mesoamerican exchange spheres and international information networks, which in part help to define the Postclassic period. Along with many of the Early Postclassic centers of highland Mexico and the Northern Lowlands, the population living at El Coyote represent continuity and adaptive change (Braswell 2023:337).

To better understand the macroregional developments occurring during the tenth century, we need to be clearer and more precise in the construction of macroregional chronologies. The evidence for demographic and sociopolitical transformations demonstrates that major centers across the Maya Lowlands fell into decline during the ninth and tenth centuries. Contemporary with these patterns of collapse is evidence for increasing international trade. By failing to align the temporal framework with cultural processes, we limit our ability to determine what—if any—relationship exists between increasingly decentralized sociopolitical organizations and expanding mercantile economies (Braswell and Glascock 2002; Golitko and Feinman 2015; Golitko et al. 2012). The fact that the tenth-century complex of resources, commodities, and ideological practices circulating through pan-Mesoamerican exchange networks does not fit easily within existing chronological frameworks should not be a source of consternation. Rather, it should be seen as an opportunity for asking more nuanced questions about the entanglements of craft production, specialized trade, religious movements, and cultural change.

## Conclusion

In 2018, Geoffrey Braswell, then coeditor of *Latin American Antiquity*, commented on a debate over the chronology at Teotihuacan. He noted, “Chronologies are fragile structures that depend upon each other like a house of cards. Changes to the chronology of a pivotal city often have consequences for distant sites” (Braswell 2018: 403). My purpose with this article is not to upset the fragile structure but instead to lend support and reinforce this chronological house of cards by coupling chronological markers with radiocarbon assays. In doing so, presenting the extent of a tenth-century international interaction network—described by many others—should not contradict models of sociopolitical decline. Rather, it is now clear that the growth of Late Postclassic mercantile economies can be traced to the trade-oriented



endeavors of communities on both a local and regional scale. At the same time, it is important to recognize that variation in the distribution of temporally sensitive materials can be the result of social practices and not due to abandonment or persistence (Chase and Chase 2008; Urban et al. 2013). Despite the increased connectivity among communities resulting in the exchange of tradewares, obsidian, and metal objects, not all people experienced the same capability to acquire these valued goods.

In this article, I place the archaeological evidence from El Coyote into the chronological context of the ninth and tenth centuries. El Coyote grew rapidly during the Classic period but underwent significant reorganization by A.D. 900, resulting in the construction of the Northeast Complex. Although the people who built and lived in this new complex were the descendants of the founders of El Coyote, they participated in transformative regional and international developments. Radiocarbon assays and comparison with interregional collections help anchor the material assemblage from the late occupation of El Coyote to A.D. 900–1050. The presence of fancy Tohil Plumbate, obsidian imported from Pachuca, and copper metallurgy is consistent with cultural processes described elsewhere as Early Postclassic (Stanton et al. 2023, ed.).

It is worth noting that a relatively marginal village in a narrow valley with little agricultural viability participated in these macroregional trade networks. That anyone in this community was aware of the potential for copper production suggests that the movement of technical expertise was robust, to say the least. Once the copper was extracted, the final products were removed from the valley for consumption elsewhere. One outcome of the present study is to suggest how metallurgy, long-distance trade, and the Early Postclassic sociopolitical transformation of El Coyote may have been entangled.

El Coyote was, of course, important to the people who called it home. However, the relative paucity of tradewares through much of its Classic-period occupation suggests that people living beyond the valley gave it little attention. It was not until the late ninth century, at the earliest, that the situation began to change. Just as many major centers around it were falling into decline, the inhabitants of El Coyote reimagined their political economy and engaged with an increasingly integrated Mesoamerican commercialized economy.

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