



# Strategies of legitimization in Mesoamerica. Uses of greenstone figurative plaques during the Epiclassic (AD 600–900)

Juliette Testard

## ► To cite this version:

Juliette Testard. Strategies of legitimization in Mesoamerica. Uses of greenstone figurative plaques during the Epiclassic (AD 600–900). Res: Anthropology and aesthetics, 2021, 75-76, pp.118-136. 10.1086/717940 . hal-03625856

**HAL Id: hal-03625856**

**<https://hal.science/hal-03625856>**

Submitted on 12 Dec 2023

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Strategies of legitimization in Mesoamerica

---

## *Uses of greenstone figurative plaques during the Epiclassic (AD 600–900)*

JULIETTE TESTARD

Despite the abundant quantity of greenstone artifacts found in Teotihuacan, to the best of our knowledge, only one example of a figurative plaque has ever been recovered from the site.<sup>1</sup> This plaque (British Museum, Am1938,1021.25) was recovered from an unknown and probably intrusive context within the Pyramid of the Feathered Serpent, deposited long after its construction (Digby 1972, 30; Nagao 2006, 420; Sugiyama and López Luján 2006, 145). By contrast, in Cacaxtla-Xochitécatl (Tlaxcala) and Xochicalco (Morelos), several Epiclassic figurative plaques have been found in archaeological contexts (fig. 1). How can we explain their appearance in the central Mexican highlands? What were their uses and functions? What can be said about them in terms of sociopolitical processes?

The present study converges with Solar Valverde's (2002) and Nagao's (2006, 2014) previous works on greenstone figurative plaques but seeks to add examples and deepen considerations regarding seventeen figurative plaques from the Cacaxtla-Xochitécatl and Xochicalco archaeological sites: seven from Cacaxtla-Xochitécatl (A to G) and ten from Xochicalco (H to Q) (fig. 2).<sup>2</sup> I will evaluate their contexts, uses, and

sociopolitical significance in relation to processes of legitimization (Testard 2014a, 2018b). From an anthropological point of view, I reexplore the idea that political strategies of legitimization were made possible by a rhetorical process in which elites were represented as mediators between different agents, both human and nonhuman (see Helms 1988, 1993; Solar Valverde 2002; Nagao 1989). This analysis of the ideological, political, and cultural significance of these greenstone plaques is part of a more general questioning of the material culture found at these sites. My research on this theme indicates how, and by what modalities, the elites of Cacaxtla-Xochitécatl and Xochicalco constructed a new discourse of local social negotiation, displaying their collaboration but also their confrontation with other societies—in particular those of eastern Mesoamerica (Gulf Coast and Maya zone). This study of interaction through material culture enables me to make several hypotheses about political strategies during the Epiclassic period (Testard 2014a, 2018b).

### **The provenance, value, and status of greenstone in Mesoamerica**

Under the generic term “greenstone,” “social jade,” or “cultural jade” (Lange 1993)—an emic and coherent category of material—there are actually several petrographic categories, including jadeite, serpentine,

---

This article results from data analyzed in my doctoral dissertation (Testard 2014a) and during a project conducted at the Museo Nacional de Antropología in Mexico City in 2016 and approved by the Consejo Nacional de Arqueología, INAH (Mexico). This research was presented at the 82nd annual meeting of the Society for American Archaeology (2017, Vancouver, BC, Canada). I would like to thank Sylvie Eliès for her fine drawings. I am indebted to Chloé Andrieu for her helpful comments on an earlier draft and to Clarissa Cagnato, Andrew Seidel, and Anne Dalles for their English proofreading. Finally, I thank the anonymous reviewer whose suggestions helped improve this text.

1. My consultations of the Archaeological Zone of Teotihuacan collection (ZAT) and the related bibliography (Testard 2011) confirm this assertion.

2. A, B, C: Museo de Sitio de Cacaxtla, inv. nos. INAH 10-426767, INAH 10-426766, INAH 10-426765. D, E, F: Museo de Sitio de

---

Xochitécatl, inv. nos. INAH 10-546078, INAH 10-546077, INAH 10-546079. G: location unknown, published in Spranz et al. (1978), plates 9–10. H, I, J, L, M, N, O, P, Q: Museo Nacional de Antropología, Mexico City, inv. nos. INAH 10-0081739, INAH 10-0081746, MNA 14-52, INAH 10-008173, INAH 10-0081742, MNA 15-704/14-54, MNA 15-703/14-68, MNA 15-705/14-55, MNA 15-289269. K: Instituto Nacional de Antropología e Historia, Cuernavaca, Morelos, inv. no. INAH XOCH-2022, published in González Crespo et al. (2008), 108.



Figure 1. Map with locations mentioned in the text. Cartography: Jean-François Cuenot; locations: Juliette Testard.

and other rocks (Harlow 1993, 10; Filloy Nadal 2011, 340; 2015, 30–31). In Mesoamerica, several serpentine deposits have been located across different zones, including Guerrero, Oaxaca, Puebla, and Honduras (Jaime-Riverón et al. 2012, 77). Jadeite is comparatively scarce: geological studies conducted in the middle Motagua valley (Guatemala) have revealed that most of the Mesoamerican archaeological jadeite artifacts analyzed to date originate from these sources. Its grain size can vary significantly as can its shades of green (Rochette 2006, 3; Harlow 1993, 9–20).

The intrinsic qualities of greenstone artifacts—their hardness, color, translucence, and polish—made them highly valuable (Thouvenot 1982; Rochette 2006, 2; Wiesheu and Guzzy 2012). Mesoamerican societies considered greenstone to be a precious commodity: its use was mostly restricted to elite groups, but its value also depended on the type of artifact and color of the stone (Proskouriakoff 1974; Thouvenot 1982; Freidel 1993; Daneels and Ruvalcaba Sil 2012; Andrieu et al.

2014, 141; Kovacevich and Callaghan 2019). Jadeite in particular was likely especially significant in Mesoamerica, on account of its hardness, its rarity, and the remoteness of its source, especially in relation to the central Mexican highlands.

According to Digby (1972, 11) and Taube (2005, 30–32; 2015), in Mesoamerican thought, greenstone was symbolically related to wind, the carrier of rain and the essence of vital force. Indeed, greenstones seem to have sonic qualities when manipulated and clattered that would have evoked the rustling of the wind (García Vierna 2012, 133). Furthermore, Maya and Nahuatl studies have revealed an emic relationship between greenstone and breath, humidity, freshness, and vegetation (Thouvenot 1982, 38, 120, 143–44; Sahagún 2001; Freidel 1993, 160). The polysemy of the material appears to extend to a metaphorical relation with fertility and with corn, which was connected in Mesoamerican cosmogony to centrality and power (Coe 1988, 225, citing Thompson 1950 and Tibón 1983).

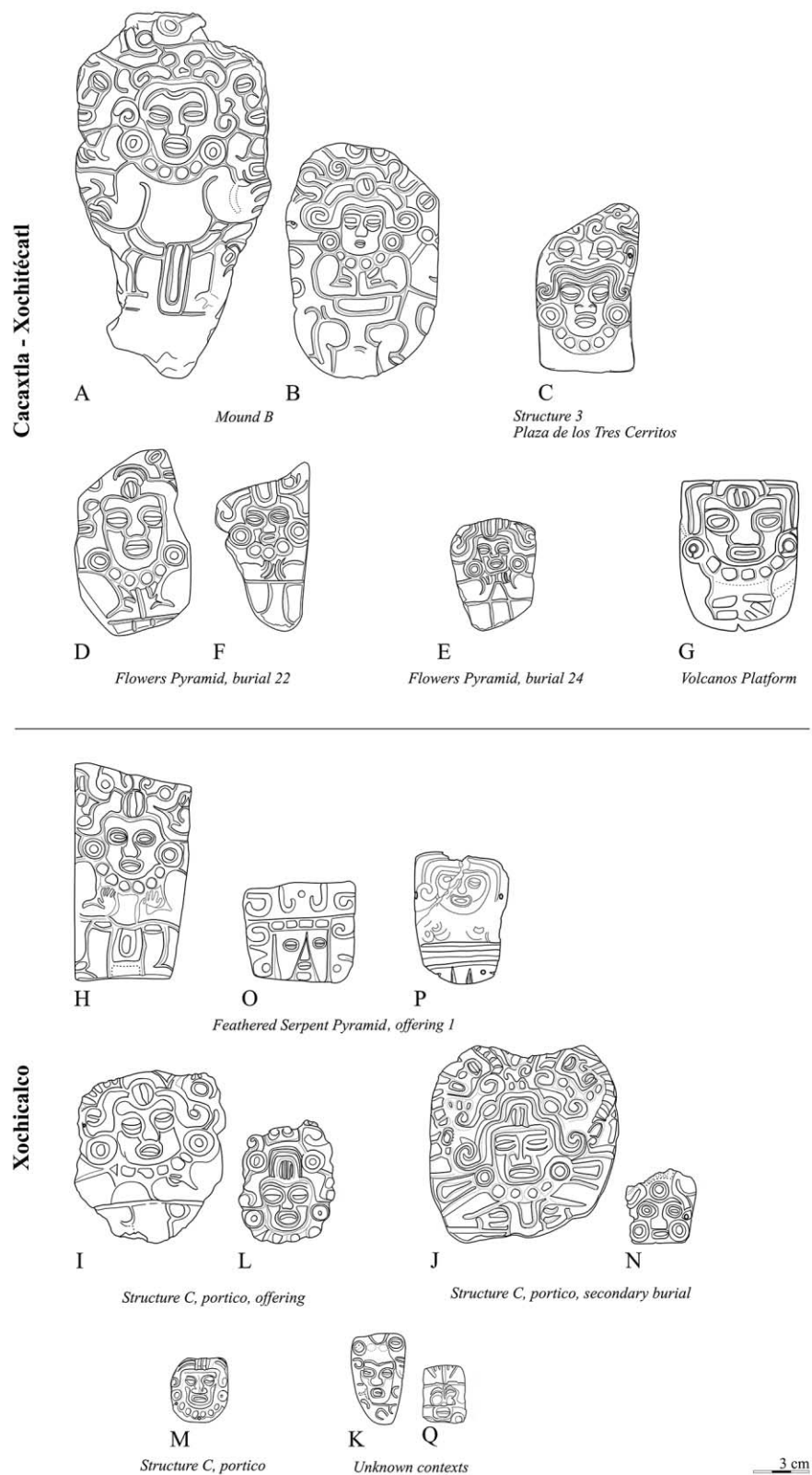


Figure 2. Cacaxtla-Xochitécatl and Xochicalco figurative plaques grouped by their archaeological contexts. Drawings: Sylvie Eliès.



### Greenstone figurative plaques

What I call greenstone figurative plaques<sup>3</sup> are flat artifacts (on average 1 centimeter thick), with rather small dimensions (on average 9.5 centimeters high and 6.5 centimeters wide).<sup>4</sup> They are carved in low relief and show anthropomorphic representations, either standing figures or faces only. Most have a vertical configuration; only complex types have a horizontal orientation. Some have perforations indicating that they were worn or at least hung. In defining this category, I deliberately exclude other types of small greenstone artifacts used as pendants that are more three-dimensional and have different (sometimes zoomorphic) iconography (Testard 2014a, 973; 2018a, 18); I view these as a different type of artifact from a technical and social point of view. Figurative greenstone plaques should also be distinguished from incised shell plaques, such as those analyzed by McVicker and Palka (2001). Although showing similarities in their size, carving technique (incision and engraving), flatness, and anthropomorphic representations, they deserve to be examined separately, at least given the current state of our knowledge. First, as noted above, jade material bears a symbolic specificity. Second, whereas shell plaques include figuration of typical Maya figures (of the Nebaj type, discussed below) and Maya glyphs, greenstone plaques exhibit several iconographic types and do not bear inscriptions, which may relate to their distribution across different linguistic zones, since the glyphs would have been legible to a limited audience.<sup>5</sup> Greenstone figurative plaques therefore constitute a distinctive category.

Our knowledge of greenstone figurative plaques—their typology, chronology, cultural origin, manufacturing process, and use—is currently quite limited. The first study was carried out by Rands and presented in his essay of 1965, “Jades of the Maya Lowlands” (Rands 1965). In 1974, in *Jades from the Cenote of Sacrifice*, Proskouriakoff provided a detailed technological and iconographic analysis of plaques and other artifacts found at Chichen Itza, resulting in several chronological propositions (Proskouriakoff 1974, 12, 90–

92, 98–100, 159–61, 174–77, 192–94). In their study of an incised shell plaque from Tula, McVicker and Palka (2001) addressed, for comparative purposes, the well-known greenstone plaques of the Nebaj type and discussed their roles in elite interaction. In 2002, Solar Valverde (2002) presented her thesis on interregional interactions during the Epiclassic, focusing on the roles played by figurative plaques from central and northern Mesoamerica. Thus, aside from some cursory mentions, only two major studies on greenstone figurative plaques are currently available: those by Proskouriakoff (1974) and Solar Valverde (2002). Proskouriakoff’s book focuses on a particular sample found within the sanctuary of an international center of worship, Chichen Itza. These plaques are by definition very eclectic and diachronic. Solar Valverde’s study takes a multisite approach, focusing on cultural contexts located north of the Maya area. As this study is de facto macro-scaled, it did not discuss in detail the specific contexts of each site.

Some scholars have addressed greenstone plaques from Cacaxtla-Xochitécatl and Xochicalco, but not as a comprehensive group. Ringle, Gallareta Negrón, and Bey (1998, 207) addressed four plaques from Xochicalco, and Solar Valverde (2002, 15–16, 33–34) studied ten plaques from the same site, from a historiographic and contextual perspective. Nagao (2006) studied three Cacaxtla plaques and compared them to those of Xochicalco, Monte Albán, and the Maya region to the southeast, and she returned to this theme in her doctoral dissertation (Nagao 2014, 250–61). Most recently, Castillo Bernal (2019) analyzed eight plaques from Xochicalco from the perspective of their context and iconography, relating them to those of Tula and the warlike imagery of the Toltec city.

Although figurative plaques are known across a large portion of Mesoamerica, Solar Valverde (2002, 51–53) is, to my knowledge, the only scholar to have carried out a study of their distribution. She lists twenty-seven sites in the states of Veracruz, Oaxaca (with a high number from Monte Albán), and Puebla; to the west, in Guerrero and Michoacán; to the north, in Querétaro, Hidalgo, Tamaulipas, and San Luis Potosí; and at ten Maya sites in Mexico, Belize, Guatemala, and El Salvador. In addition to these twenty-seven sites, I have documented several plaques coming from caves near Cuetzalan (North Sierra of Puebla) and others from Limoncito (Veracruz) that I was able to find in museum collections (see Testard 2014a). In the Maya region, at least three other sites in Guatemala must be reported: Tikal (Moholy-Nagy and Coe 2008), Cancuén, and Raxruhá (C. Andrieu, pers. comm., 2019). In total, thirty-two locations can to date

3. Solar Valverde (2002, 2) uses the term “figurative jades.”

4. This average is based on forty figurative plaques from different Mesoamerican regions; omitted from the calculation were certain deviations that may be interesting in themselves (see comments in the “Style and iconography” section) (Testard 2014a).

5. The absence of Maya glyphs in the murals of Cacaxtla has also been noted (Baddeley 1983; Graulich 1990). The specificity of such inscriptions would have limited the comprehension of their meaning by a wider and more diverse audience, specifically in the context of the central Mexican highlands.

be considered; among them, fourteen are located in the Maya region and thus represent almost half of the sample. This assessment of the artifacts' distribution remains for now tentative, as quantitative information for the plaques at each site needs to be collected. Nevertheless, it is already clear that they appear in larger quantities at Chichen Itza and Tula (Solar Valverde 2002, 51–53; Proskouriakoff 1974).

Greenstone figurative plaques have often been found with shell artifacts, other greenstone objects, and/or obsidian prismatic blades. Apart from the Chichen Itza shrine context (Proskouriakoff 1974), figurative plaques tend to appear in human burials or offerings (Solar Valverde 2002, 51–55), much like other greenstone artifacts (Andrieu et al. 2012, 146–47). This pattern should be verified, however, since plaques were not found in such contexts in Cuetzalan (Puebla) or in Cancuén and Raxruhá (Guatemala) (C. Andrieu, pers. comm., 2019).

A crucial point for this discussion concerns the chronology of figurative plaques. Some scholars date their first appearance in Mesoamerica to the Early Classic in the Maya region (AD 250–550; Moholy-Nagy and Coe 2008; Rands 1965; Proskouriakoff 1974, 12–13) while others argue for a Middle Classic date (AD 400–700; Garber et al. 1993), but the majority suggest a Late Classic or Epiclassic date (AD 600–900; Ringle et al. 1998, 203–5, 208; Coggins 1984, 27; Solar Valverde 2002, 15, 65, 254). While it is possible that certain types of plaques can be assigned to the Early Classic, it seems that the majority date from the Epiclassic, including the seventeen from Cacaxtla-Xochitécatl and Xochicalco discussed in this essay. However, precisely because of their value, greenstone artifacts were widely reused throughout the ages. Examples include the Preclassic Olmec jades found in Classic Maya contexts, the Classic-period ones found in Epiclassic and Early Postclassic contexts at Chichen, and the Teotihuacan objects discovered among the offerings in Tenochtitlan's Templo Mayor (García Vierna 2012, 134–35; Melgar Tisoc 2012, 183; Nagao 2006, 434; Proskouriakoff 1974, 15, 17; Kovacevich and Callaghan 2019; Castillo Bernal 2019, 267). Their chronology should therefore be cautiously examined in relation to their context and not only their chrono-cultural style.

Although recent studies have addressed the manufacturing regions and production processes of greenstone artifacts in Mesoamerica, there is limited data for the figurative greenstone plaques (Melgar Tisoc et al. 2013, 139; Filloy Nadal 2015, 34). As no workshop has yet been identified, the specifics of their production is

still a matter of debate. However, it is likely that they were created, like other prestige artifacts, by multiskilled craftsmen who were themselves members of the elite (Andrieu et al. 2014; Inomata 2001; Kovacevich and Callaghan 2019, 461, 464).

Figurative plaques are iconographically diverse and have been categorized into different typologies by scholars. Rands (1965, 571) identified four different types. The plaques he categorized as type 1 feature a frontal, full-body standing figure and date between the Early to the Late Classic. His type 2 has only the representation of a face and may be assigned to a longer time span, between the Early Classic and Postclassic. Proskouriakoff (1974, 90–92, 98–100, 159–61, 174–77, 192–94) distinguishes at least six morpho-technical types (with many subtypes), the last four of which seem to date to the Late Classic and Early Postclassic (AD 900–1200; Proskouriakoff 1974, 12–13). Finally, Ringle et al. (1998, 203, fig. 20) define four iconographic types. Their typology is basically structured around headdresses.

The most well-known type of greenstone figurative plaque is the so-called Nebaj type. These are elaborate compositions featuring seated figures with faces in profile and bearing many ornaments and attributes specific to Maya power. The Nebaj type corresponds with Rands's (1965) types 3 and 4, while Proskouriakoff (1974, 13–14, 175–76) considered it a subtype of the "picture-plaque" category, and Ringle et al. (1998) called them "leaning lord jades" (their fourth group). All these authors give plaques of the Nebaj type a Late Classic chronology. The aforementioned lone specimen known from Teotihuacan now in the British Museum clearly belongs to the Nebaj type. Its precise archaeological context within the Feathered Serpent Pyramid remains unknown, but as Sugiyama and López Luján (2006, 145) have noted, assuming its attribution to the Late Classic period is correct, it must have been deposited after the occupation of the pyramid.<sup>6</sup> This assigned dating also makes it contemporary with the seventeen Epiclassic plaques discussed here.

Several authors have argued that the figure of the Feathered Serpent (a divinized hybrid reptilian-bird-feline creature) is closely related to the iconography of figurative plaques. The sociopolitical aura of the Feathered Serpent figure seems to have emerged at the end of the Classic and during the Epiclassic periods, becoming one of the fundamental emblems of the top

6. The *adosada* platform of the façade of the Pyramid of the Feathered Serpent was built during the Early Classic period, around AD 350 (Gómez Chávez and Gazzola 2015, 129).

tier of the social hierarchy (Brotherston 1989; López Austin and López Luján 2000; Solar Valverde 2002, 128; Testard 2014a, 929–39; 2018b, 167). Indeed, as proposed by López Austin and López Luján (1999), the dignitary who wore a reptilian headdress was invested with the serpent's capacity for transformation, both as an intermediary between the human and superhuman spheres and as a mediator between peoples of different regions. Ringle et al. (1998, 203–8) highlight the strong relation between figurative plaques and the representation of the Feathered Serpent, a central part of Epiclassic regional cult. Solar Valverde (2002, 62–63) contends that the headdress with the effigy of a Feathered Serpent is the main characteristic of the greenstone figurative plaques. My own investigations have led me to conclude that although some headdresses do refer to a reptilian creature, other compositions can also be identified, as will be discussed below.

The imagery found on Classic Maya stelae provides evidence of the functions of greenstone ornaments (Taube 2005, 23). Figurative plaques are rarely represented (Proskouriakoff 1974, 4) and restricted to Rands's type 2 (frontal heads), but those depictions that do exist indicate that they were worn by the elite, at least in their first "social life" (Appadurai 1986), on their costume in sociopolitical and ritual contexts. This hypothesis is supported by the archaeological contexts in which some of the plaques were found, particularly primary burials. Digby (1972, 23) noted that figurative plaques could be worn on beaded necklaces or on headdresses, particularly at the base of a feathered panache. Rands (1965; Nagao 2006, 419) notes that Late Classic figurative plaques often have perforations on their top edges that would have allowed them to be worn vertically on a headdress or garment, unlike Early Classic examples, which were probably worn horizontally.

Solar Valverde (2002, 63–65, 102) proposes that the plaques served as insignias or emblems of their owners' priestly functions, adopting Helms's (1986, 30) argument that they functioned as "active expressions of rank." Castillo Bernal (2019, 266–71) considers these plaques to be a kind of relic—the vestiges of their bearers' ancestors. Ringle et al. (1998, 203–8) propose that figurative plaques played a role in the "international cult" associated with the Feathered Serpent and would have constituted a kind of *ex-voto* offered by pilgrims during their visits to places of worship, as was the case at Chichen Itza. An earlier argument by Proskouriakoff (1974, 91) about reworked plaques may support this proposition. She suggests that after being worn, they may have been morphologically modified to be offered. That

use eventually constituted the second stage of their "social life" and would then explain their placement in dedicatory offerings.

In sum, four factors clearly indicate that figurative plaques were used by elites. First, their manufacture *a priori* requires an esoteric knowledge that was the prerogative of this social sector, members of which reproduced that knowledge. Second, in representations, they are restricted to high-ranking figures. Third, the contexts in which they were deposited (e.g., burials and offerings in civic-ceremonial sectors) are mainly related to elite groups. Finally, their wide stylistic and iconographic variety probably indicates a rhetorical and cultural diversity, as well as complex processes of iconographic hybridization produced by the elite to express their contact with people across long distances (Testard 2013; 2014a, 202–39).

### The sociopolitical context of Cacaxtla-Xochitécatl and Xochicalco

Research on the political and social contexts of the Epiclassic period in the central Mexican highlands indicates that Teotihuacan had been in crisis since AD 550 (Manzanilla 2003; Millon 1988; Cowgill 2009). New political entities—city-states—emerged at this time. These city-states were small and autonomous entities that required a broad spectrum of political and economic collaborations (Hansen 2000, 16–17; Hirth 2000; Marcus 1989). From the perspective of comparative anthropology, Helms (1988, 1993) showed that in several preindustrial societies, contacts with geographically distant zones played a crucial part in the construction of discourses of elite legitimacy. Interactions between political entities became an essential condition for the existence of city-states, economically, politically, and ideologically (Testard 2014a, 2018b).

Cacaxtla-Xochitécatl, one of these city-states, is located in the southern part of the Mexican state of Tlaxcala, in the Nativitas region. During the Epiclassic, it became an extended settlement that included the site of Nativitas (Lombardo de Ruiz et al. 1991, 18; Serra Puche 2012). Between AD 600 and 850, several mural paintings were created in Cacaxtla that combine, on the one hand, a Maya style from the Usumacinta and Río de la Pasión regions, Tabasco, Chiapas, and Guatemala, and, on the other, pictography from Teotihuacan also found in the central valleys of Oaxaca.<sup>7</sup> In Xochitécatl,

7. See, among the many contributions on Cacaxtla's paintings, Foncerrada de Molina 1976, 1982, 1993; Lombardo de Ruiz 1995;



the Pyramid of the Flowers, originally built in the Formative period (from 600 BC to AD 100), was reused during the Epiclassic when seven offerings with more than 360 anthropomorphic figurines were placed below the stairway (Serra Puche and Lazcano 1997, 92; Serra Puche 2012; Testard and Serra Puche 2011, 2020).

Located in the west of the state of Morelos, Xochicalco, another city-state, dominates the Coatlán region (Hirth 1989, 72). Ceramic and lapidary studies have indicated a strong connection with Guerrero cultures (in particular Mezcala), especially evident thanks to the large quantity of surviving figurines and masks (Litvak King 1972, 65), and also with Oaxaca (Hirth 1984, 579). The urban grid occupies a concentric series of landscaped terraces. The most famous building at the site is the Feathered Serpent Pyramid. On its *talud*, figures with typically Maya facial profiles sit cross-legged within the undulations of a monumental Feathered Serpent running all around the building (fig. 3). The *tablero* also includes seated, cross-legged figures, here accompanied by glyphs referring to conquests and tributes (Hirth 1989, 73). Several scholars have compared the figures on the *talud* with plaques of the Nebaj type, which may have served as a portable model for the sculptors of the monument (Sáenz 1962; Nagao 1989; Nagao 2006, 419; Ringle et al. 1998, 205; Taube 2005, 43; Testard 2014a, 504–6; Urcid and López Luján 2019, 34). It is striking, however, that none of the known plaques from Xochicalco or from Cacaxtla-Xochitécatl are of Nebaj type. In contrast, the one deposited at Teotihuacan's Pyramid of the Feathered Serpent during the Epiclassic period is of Nebaj type, though by this time the feathered serpent iconography of its facade was no longer visible, as it had by then been covered by the *adosada* platform. The presence of this Nebaj plaque at Teotihuacan raises thus a multitude of important questions regarding the reasons for the deposit, the transmission of iconography, and the memory and symbolism of the place, answers to which would require much more data on its context.<sup>8</sup>



Figure 3. First figure, northern facade, *talud* of the Feathered Serpent Pyramid of Xochicalco. Drawing: Juliette Testard.

Returning to the seated figures represented on the *talud* of the Feathered Serpent Pyramid at Xochicalco, in addition to their Maya profiles, they also exhibit hand gestures associated with the Maya region, where they were used as a rhetorical convention since the Early Classic period (Bernal Romero and Velázquez García 2005). I propose that this form of communication was imported from the Maya region to the central Mexican highlands during the Epiclassic period (Testard 2013, 2014a, 814–20). For the *talud* figures, it is the left hand in front of the torso that is characteristic of the Nebaj type (as on the Teotihuacan plaque), while the lowered right hand with the index finger pointing outward is visible on some representations of rulers on polychrome Maya vases (Testard 2014a, 505) (fig. 3).<sup>9</sup>

It has long been recognized that the two Epiclassic sites of Cacaxtla-Xochitécatl and Xochicalco possessed eclectic iconographic systems (Kubler 1980; Nagao 1989; Berlo 1989). My own study of 550 artifacts suggests that the use of new artistic conventions, in

Kubler 1980; Quirarte 1983; Berlo 1989; Graulich 2001; Testard 2007; Brittenham 2008, 2015; Uriarte Castañeda and Salazar Gil 2013; Baus de Czitrom 1993.

8. A greenstone plaque recently discussed by Urcid and López Luján (2019, 33–34, fig. 20), found by Leopoldo Batres in Mexico in 1900, provides a fascinating example of revival. Engraved by the Mexicas probably between AD 1400 and 1500, the plaque seems to have been inspired by the seated figures on the facade of Xochicalco's Feathered Serpent Pyramid, itself perhaps inspired by the Nebaj plaques. This took place as part of a larger Mexica revival called *neoxochicalca*.

9. See Justin Kerr's Maya Vase Database, nos. K1222, K6659, K3367; <http://research.mayavase.com/kerrmaya.html>.



particular naturalism and expressionism (Testard 2013, 2014a, 2014b), was part of an elite strategy combining “connection” and “disconnection” (Stone 1989) in the exercise of power, simultaneously generating a link and a rupture between dignitaries and the rest of society. Furthermore, the use of exogenous systems of representation was anchored in a propagandistic discourse that emphasized cosmopolitanism (Nagao 1989). This mechanism demonstrated the ability of those who transmitted it to transcend geographical borders, and legitimized a universal supernatural power that promised to benefit the community at large (Helms 1988, 1993; Testard 2018b).

### **The greenstone figurative plaques from Cacaxtla-Xochitécatl and Xochicalco**

#### ***Archaeological context: Offerings and burials***

The archaeological contexts and associations of the seventeen figurative plaques found at Cacaxtla-Xochitécatl and Xochicalco demonstrate a general consistency (table 1). All were discovered in the civic-ceremonial core of both sites, frequently in pyramidal mounds. Plaques A and B were deposited at the summit of Mound B at Cacaxtla, probably before the construction of the temple, while plaques I, J, L, M, and N were deposited in the portico of Structure C at Xochicalco. The other plaques were deposited during modifications of the buildings. With regards to the type of deposits, plaques D, E, F, and G were found in association with primary burials. Moreover, in the case of plaques D, F, and G, it can be assumed that they were assembled on a necklace or another type of ornament given that they were found with greenstone beads and perforated shells. For all the other plaques, the contexts correspond to offerings: plaques A, B, I, and L were buried in stone boxes, and plaques H, J, O, P, and N were deposited directly in association with secondary burials.

The associated materials found with the plaques include worked or unworked shells, beads, or other greenstone ornaments; exogenous ceramic vessels or ritual forms (parts of a Tlaloc *brasero* in the case of plaque G); ceramic figurines; and, more rarely, obsidian knives (plaque E) or limonite (plaque J). Most of these materials or artifacts correspond to the category of prestige goods in Mesoamerica. The tecalli stuccoed vase found with Xochicalco plaques H, O, and P is atypical, but this type of container was also found with plaques from Sabina Grande (Hidalgo) and San Jerónimo (Guerrero) (Solar Valverde 2002, 52–54). This

affiliation with Guerrero can be understood in terms of Xochicalco's material culture, in particular the gray mica and orange mica ceramic types imported from this zone (Cyphers and Hirth 2000). In addition, comparison with a vase from the Palmarejo valley in Honduras dating to AD 600–800 (Wells et al. 2014) indicates another cultural relationship and a continuity of contexts, uses, and chronology. Therefore, I am inclined to suggest that tecalli vases may have constituted prestige goods exchanged between the elites of the central Mexican highlands and those of Veracruz or the Maya region (Testard 2014a, 725–26; 2018b, 179).

#### ***Production, chronology, and types***

To date, no Epiclassic greenstone workshop for the production of elaborated pieces has been discovered in Cacaxtla-Xochitécatl or Xochicalco. However, a long uncarved greenstone fragment found at Cacaxtla (Nagao 2006, 421), a triangular piece with unfinished carving (Xochitécatl site museum), and an unfinished carved plaque fragment found in the Pyramid of the Flowers in Xochitécatl suggest that a certain amount of raw material was transported to the site and transformed into elaborate ornaments.<sup>10</sup> Unfortunately, as no other evidence is currently available, the question of whether the seventeen plaques under discussion were produced locally or imported as finished artifacts remains debatable.

Concerning the types of plaques and their relative chronology, as Nagao (2006, 418–19) previously noted, Rands's (1965) types 1 (Early to Late Classic periods) and 2 (Early Classic to Postclassic periods) can serve as a chronological point of reference, albeit a loose one.<sup>11</sup> I will therefore note that eleven plaques can be assigned to Rands's type 1, as they show standing figures or fragments thereof, and six to type 2, as they show only heads (fig. 4).<sup>12</sup> It is striking that the plaques from Xochicalco are equally distributed between types 1 and 2, while those from Cacaxtla-Xochitécatl are nearly all type 1. Moreover, at Xochicalco, it seems that type 1

10. The latter fragment is recorded in the database edited by Serra Puche for the Xochitécatl archaeological project (INAH-UNAM) based at the Instituto de Investigaciones Antropológicas, UNAM.

11. Other formal elements may help reveal relative chronology: for example, plaque C, from Cacaxtla, seems to have characteristics typical of the Late Classic period: double rounded ear ornaments and T-shaped nose (Proskouriakoff 1974, 99, plate 54b3).

12. It is possible, however, that plaques L and O once possessed bodies that are now lost (see comments in the “Use in life and afterlife” section).

TABLE 1 ARCHAEOLOGICAL CONTEXTS OF GREENSTONE FIGURATIVE PLAQUES  
FROM CACAXTLA-XOCHITÉCATL AND XOCHICALCO.

Site	Plaque	Structure	Localization	Context	Associated Material	References
Cacaxtla-Xochitécatl	A, B	Cacaxtla Mound B	Summit	Offering (stone box)	Large quantity of <i>Oliva</i> sp. shells and bivalves	Espinoza García and Ortega Ortiz 1988, 19; Delgadillo Torres 1996, 1
	C	Structure 3, Plaza de los Tres Cerritos	Northern trench	?	?	Serra Puche et al. 1995, 37; Lazcano and Palavicini Beltrán 1996, 89, 96
	D, F	Flowers Pyramid	N6 E13, grids 25, 26, 35, 36, stratum 2	Burial 22 (direct primary)	2 greenstone beads and 1 perforated marine shell	Serra Puche 1995; Serra Puche et al. 2003, 47–49
	E	Flowers Pyramid	N5 E11, grids 13, 14, 23, 24, stratum 2	Burial 24 (indirect primary)	3 tripod ceramics, figurines, fragments of figurines, and 10 obsidian blades	
	G	Volcanos Platform		Offering 6 (primary burial)	Offering: 190 figurines and 26 fragments ( <i>anfitrionas</i> , articulated figurines) and Tlaloc brasero applications Offering 6: 1 marine shell necklace (12 <i>Oliva</i> sp.), 2 greenstone beads	Spranz et al. 1978, 5–6; Spranz 1996, 162
Xochicalco	H, O, P	Feathered Serpent Pyramid		Offering 1 (secondary burial)	11 perforated marine shells, 1 stone disk and 1 stuccoed tecalli vase	Sáenz 1963; Garza Gómez and González Crespo 2008
	I, L	Structure C portico	Fill of the structure (center)	Offering (stone box)	Marine shells, shell beads, 1 greenstone disk, 1 greenstone ornament, 1 anaranjado B pot, 1 bowl	Sáenz 1963; Sáenz 1971, 10–11; Garza Gómez and González Crespo 2008
	J	Structure C portico		Secondary burial	Limonite disk, marine shells, shell beads, 2 small greenstone figurine heads, and 2 greenstone disks	
	M	Structure C portico	?	?	?	
	N	Structure C portico	Fill of the structure	Secondary burial	?	
	K, Q	?	?	?	?	González Crespo et al. 2008

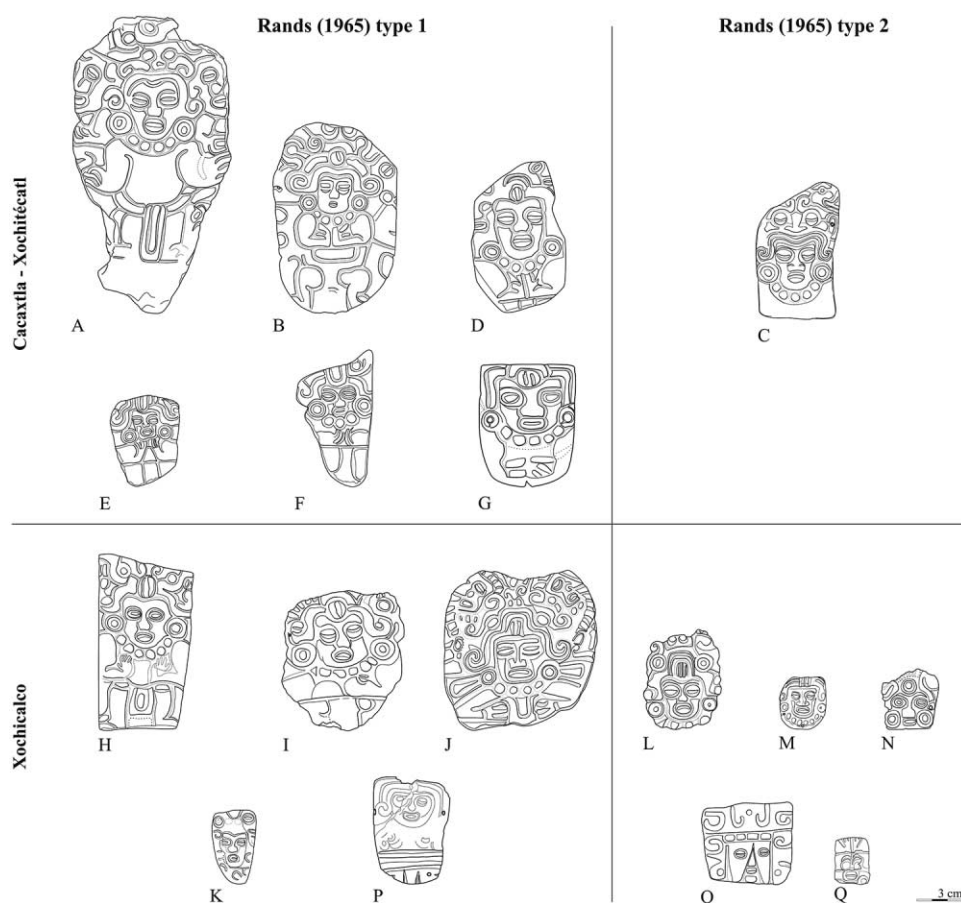


Figure 4. Classification of figurative plaques of Cacaxtla-Xochitécatl and Xochicalco based on Rands's (1965) typology. Drawings: Sylvie Eliès.

and type 2 plaques operated as a pair in each sealed context (plaques H and O; I and L; J and N; fig. 2). I noted a similar distribution of types when studying Xochitécatl's Epiclassic figurines and speculated on the significance of their copresence in each offering. Relying on diachronic evidence, I suggested that the figurines' repartition corresponds to an intentional and codified variety of representations and that the groupings of figurines cohere as "discursive units" (Testard 2010, 73–76; Testard and Serra Puche 2020, 285–86; López Luján 1993; López Luján et al. 2012, 16). This rhetorical and ritual arrangement could in turn explain the synchronous appearance of plaques of different types and styles in Xochicalco.

In other Mesoamerican contexts, color differences are good indicators of category and hierarchy among greenstone artifacts (Andrieu et al. 2012) and seem to have chronological significance (Filloy Nadal 2015, 34–35). Cacaxtla plaques A, B, and C are of two shades of

bright green whereas Xochitécatl plaques D, E, and F are gray-green.<sup>13</sup> The plaques from Xochicalco exhibit a wide range of colors. Plaque H from Offering 1 in the Feathered Serpent Pyramid, plaque J from Structure C, and plaque Q (findspot unknown) are olive green. Plaques M and N from Structure C are light green. Plaques I and L from Structure C, plaque O from the Feathered Serpent Pyramid, and plaque K (findspot unknown) are various shades of gray-green. Plaque P, also found at the Feathered Serpent Pyramid, is partly gray-green but mostly orange in color, which may be the result of a chemical alteration, such as oxidation. Generally speaking, while the plaques from Cacaxtla-Xochitécatl exhibit chromatic homogeneity—possibly due to similar petrography—those from Xochicalco are

13. The color of plaque G cannot be ascertained because it is known only from a black-and-white photograph.

more diverse within structures and even within sealed contexts. A similar tendency can be noted in the culturally diverse iconographic traditions present at Xochicalco (Testard 2014a, 514–15; Nagao 1989).

### *Uses in life and afterlife*

In considering the uses of the plaques from Cacaxtla-Xochitécatl and Xochicalco, we can look to their possible representation in the imagery of the sites. Many figures in the mural paintings at Cacaxtla and relief carvings at Xochicalco wear greenstone artifacts, particularly beads.<sup>14</sup> Interestingly, eight possible representations of figurative plaques can be documented at Cacaxtla—all frontal faces, consistent with Maya examples—but none at Xochicalco. The plaques depicted at Cacaxtla are worn by Maya characters in the Battle Mural and are assembled on necklaces with circular shell beads and tubular greenstone beads.<sup>15</sup> This use is therefore consistent with the material associations and contexts of plaques D, F, and G, although, contrary to those in the paintings, all of these plaques are standing frontal figures.

My observations confirm that plaques C, D, E, F, L, N, O, and P have perforations, suggesting that they were worn on costumes (Testard 2018a), at least during their first stage of use. Plaques A and B lack perforations, consistent with the dedicatory function of their deposition. However, plaques L and O, which were also found in offering contexts, do have perforations. It is then very plausible that these two plaques were reworked and reused, a hypothesis supported by the fact that both seem to have truncated motifs (the necklace is incomplete in the case of plaque L). Furthermore, plaques A and C show traces of red pigment, a coloring practice that evoked sacrifice and the ritual death of the object, frequently found among offerings (Gazzola 2004; Testard 2019; Castillo Bernal 2019, 268) (fig. 5).



Figure 5. Greenstone figurative plaque from Cacaxtla-Xochitécatl (Tlaxcala), Museo de Sitio de Cacaxtla (plaque C). Courtesy of Proyecto Xochitécatl (INAH-UNAM 1992–1994).

### *Style and iconography*

As Solar Valverde (2002, 18–20) and Nagao (2006, 422–30; 2014, 251–60) have already discussed several formal and symbolic elements of figurative greenstone plaques, I will focus on how their style and iconography relate to cultural interactions and legitimization strategies. The seventeen plaques from Cacaxtla-Xochitécatl and Xochicalco all depict frontal anthropomorphic figures wearing headdresses, but they are heterogeneous in size and appearance. Plaque A is the largest at 19.5 centimeters high, while the smallest, plaque M, is only 3.4 centimeters. Furthermore, with the exception of plaques H and O, which have relatively

14. Small tubular beads appear frequently in the paintings at Cacaxtla, on clothing, as nasal ornaments, and on leggings, bracelets, and necklaces. They are also found on the *taludes* and *tableros* of the Feathered Serpent Pyramid in Xochicalco, where figures wear bracelets composed of two rows of tubular beads. Large pectorals composed of small plaques (or circular beads) probably made of greenstone are also figured at both sites. On the Feathered Serpent Pyramid, this ornament appears at least eight times (Testard 2014a, 791–92).

15. See Individuals E6, E8, E11, E24; W5, W6, W10, W12. However, only those worn by E11, E6/W5 (the same character represented twice), and W10 clearly represent figurative plaques.



straight edges, all the plaques have very irregular contours that follow the elements of the composition, something that Proskouriakoff (1974, 99, 160) noted with regard to the Late Classic plaques from Chichen Itza.

Several trends in the carving lines and design of patterns might tentatively be linked to cultural regions. Plaques A, B, C, H, L, and M exhibit very round shapes and meticulously described details (headdresses, hand gestures, ornaments, loincloths) that can be associated with a southern Maya lowlands style (Testard 2013, 2014b). Plaque G was described as “estilo Monte Albán” by Spranz (1996, 162), and, given the similarity of the noses (see examples from Oaxaca in Paddock 1966), Xochicalco plaques K and N might also be associated with Oaxaca. Plaques D, E, F, and I share round design elements but are much less detailed and have quite rigid corporeal postures, possibly indicating an adaptation of a Maya style. I have discussed elsewhere the different iconographic strategies used to create hybrid configurations, adapted to varying degrees from one or more existing prototypes (Testard 2013, 2014a). In view of the possible evidence of local production (the fragments of raw and unfinished material mentioned above), the long-standing debate regarding the characterization (local or exogenous) of the pictorial tradition of Cacaxtla (see note 7), and my analysis of more than five hundred figurative objects in multiple materials (Testard 2014a), it is quite conceivable that these four plaques were produced locally, adapting Maya models. Plaques O and Q from Xochicalco are very different, since they show much straighter and more geometric shapes that may be tentatively related with Guerrero and Mezcala cultures. Finally, plaque J has a profusion of details with straighter lines, recalling the traditions of the Gulf Coast or Guatemalan highlands (Testard 2014a, 971; 2018b, 179). Nevertheless, it is conceivable that it was also produced locally.

Seven iconographic types can be identified on the basis of the figures’ headdresses, with some plaques (B, D, and J) falling into two different categories (fig. 6). I agree with Langley’s (1992, 262–63) argument, pertaining to Teotihuacan iconography, that a clear association exists between groups of signs (or symbols) and headdresses, which in turn conveys information about the rank and function of the figure shown. The examination of headdresses can therefore be useful in establishing typologies.

The upper parts of plaques A, B, D, F, H, J, and K (although K is more fragmentary) show “mirror” configurations: heads in profile facing in opposite directions. A, B, J, and K show anthropomorphic figures

while F and H show reptilian creatures with open jaws. Plaque D shows a variation on this configuration: two small faces are visible on the right side and upper-left side of the plaque, but both are not depicted in profile but rather frontally (nose, mouth, and eyes are visible). This symmetrical organization, called “twin heads/serpent headdress jades” by Ringle et al. (1998, fig. 20), seems to go back to the Early Classic period and to extend into the Late Classic. According to Proskouriakoff (1974, 99, 160), it is more frequent in the latter period, in particular when the carving “depends heavily on sharp-edged rounded grooves.”

Plaques J and L from Xochicalco show a feline monster with its upper jaw wide open, the double volute depicting the feline’s nose. This feature, which Ringle et al. (1998) call the “monster maw,” is characteristic of Proskouriakoff’s “full figure” type (1974, 160, plate 67), and it is feasible that plaque L was itself once a full figure. I agree with Ringle et al. (1998, 205–7) that this feline jaw headdress is related to the “mosaic” headdress,<sup>16</sup> one attribute of Teotihuacanoid warrior costume, but I diverge from their association of it specifically with the Feathered Serpent. Plaque C from Cacaxtla shows a headdress with an anthropomorphic face with closed eyes, a motif that Nagao (2006, 436; 2014, 260) connected with ancestry (fig. 5).

At the upper corner of the plaque is a zoomorphic head in profile with open jaws, probably a feline.

The figures depicted on plaques B, D, E, and G from Cacaxtla-Xochitécatl as well as plaques I, M, and probably P from Xochicalco wear a circular/ovoid ornament at the base of their headdress with a vertically striped motif (single or double). The headdress is a sort of large band whose sides finish in volutes (except plaques D and G, which lack volutes). This central striped motif also appears on several Chichen plaques (Proskouriakoff 1974, 90, plates 49a2, 49a3, 49a6, 54a2, 54a3, 54a5, 54a6, 54b2, 55a, and 55b2–4). Ringle et al. (1998, 207, fig. 20) label this type as “top-knot jades.” Taube (2005, 25–28, fig. 4b) identified the striped motif on anthropomorphic beads in the Pakal shrine of Palenque; in this case, it would refer to the maize god, identifying its bearer with the *axis mundi*. This proposition can also be applied to the motifs of the plaques discussed here, especially since their materiality (greenstone) is the same.

16. A rather imposing headdress composed of small quadrangular motifs referring to mosaic tesserae, originally depicted on the façade of the Pyramid of the Feathered Serpent at Teotihuacan.

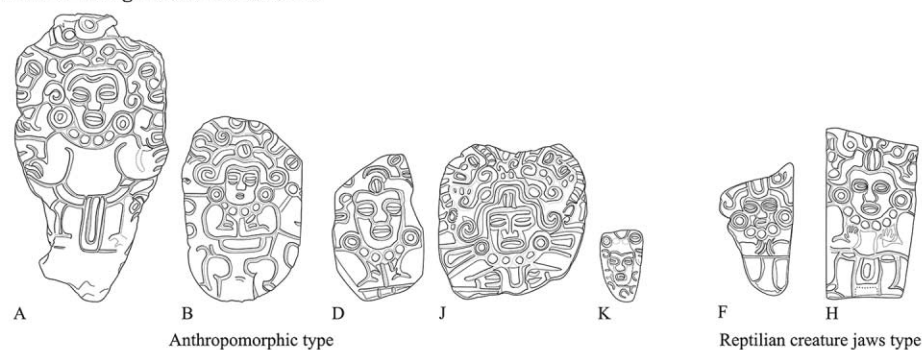
**Mirror configuration headdresses****Feline monster headdresses****Ancestor headdress****Striped motif headdresses****Geometric headdresses****Circular ornament headdress**

Figure 6. Cacaxtla-Xochitécatl and Xochicalco figurative plaques by headdress type. Drawings: Sylvie Eliès.

Xochicalco plaque N has a double-concentric circle at the base of the headdress, which is also found on Chichen plaques (Proskouriakoff 1974, 118, 128, 130, plates 49a5, 54a4, 54c1, and 55b3) and is very similar to ear ornament designs. Finally, plaques O and Q from Xochicalco have geometric patterns on their headdresses.

### Perspectives and conclusions

The continuity of contexts, types of deposits, and associated artifacts and materials corresponding with

figurative plaques shows that they were exchanged and used as prestige goods over a large portion of Mesoamerica. During the first stage of their “social life” (Appadurai 1986; Overholtzer and Stoner 2011; Kopytoff 1986), they may have constituted “active expressions of rank” (Helms 1986, 30). After receiving plaques from other members of the elite and then wearing them in political and ritual contexts, local dignitaries would have been buried with such objects, prolonging their status beyond death. The imagery of the plaques made it possible for the bearer to embody the represented figure, enabling communication with nonhuman agents. In the

second stage of their “social life,” the plaques would have been deposited in offerings together with other prestige goods, such as shells, exogenous ritual ceramics, and tecalli vases. Although not systematic, the association between greenstone artifacts and shells is evident from the Preclassic period both in offering and in burial contexts (Garber et al. 1993). This indicates a high sumptuary value as well as a symbolic connection, since both greenstone and shells alluded to humidity, breath, and fertility and therefore constituted a metaphoric “discursive unit” in ritual deposits, as López Luján (1993; López Luján et al. 2012, 16) has shown for the later offerings at Tenochtitlan’s Templo Mayor. It is then probable that the high sumptuary value of figurative greenstone plaques as part of a “trousseau de prestige” (Testard 2014a, 968–74; 2018b, 175) was brought to the fore in burial contexts, while in the dedicatory contexts, the symbolic dimensions of their material and their iconography prevailed.

Prior studies of the figurative plaques’ imagery have focused in large part on its relationship to the Feathered Serpent. Because they are made of greenstone, a material related to wind, centrality, and related concepts, the figurative plaques probably do have a close relationship with the Feathered Serpent (Taube 2005, 47; 2015, 54). However, only two of the seventeen plaques from Cacaxtla-Xochitécatl and Xochicalco incorporate the iconography of a reptilian creature. Among the other identifiable iconographic motifs are felines, a striped motif associated with corn, and central ornaments. I suggest that these distinctive motifs appearing on the headdresses constitute different hierarchical insignia that merge the figure of the sovereign—the one represented in the plaque as well as the one wearing it—with divine beings and high mediators (feline / maize god / *axis mundi* / Feathered Serpent).

The style and iconography of the figurative plaques are strong indicators of networks of interaction, and they confirm previous observations about the eclectic and hybrid visual culture of Xochicalco and Cacaxtla-Xochitécatl. The figurative plaques of Xochicalco in particular exhibit a diversity of style, typology, and coloring, comparable with that of other images found at the site (sculptures, architectural reliefs, ceramic vessels, and lithic figurines). This eclecticism, which warrants deeper investigation in future studies, indicates culturally diverse rhetorical, economic, and political affiliations (with Gulf, Maya, Oaxaca, and Guerrero societies).

Like other artifacts at Cacaxtla-Xochitécatl and Xochicalco, the appearance of figurative plaques in the Epiclassic context clearly indicates a shift in

sociopolitical and ritual systems, with elites representing themselves as mediators between different beings, both human and nonhuman. Importing these artifacts or even creating locally adapted versions, the elites used the plaques to display their political and ritual relationships with foreign contemporaries. Greenstone figurative plaques are thus crucial to the study of interaction during the Epiclassic, but much remains unknown about these artifacts. Their assumed Maya origin and their link with the Feathered Serpent have yet to be elucidated. Furthermore, we need to clarify their geographic and chronological distribution (by going beyond stylistic associations that, even if they are valuable, need to be clarified), as well as their patterns of circulation in order to better understand their specific cultural and social significance. Finally, knowledge concerning their place of manufacture and their associated objects and contexts would help us understand how and why they were widely exchanged in Mesoamerica.

## REFERENCES

- Andrieu, C., M. Forné, and A. Demarest  
2012 “El valor del jade: Producción y distribución del jade en el área maya con base en el taller de Cancún,” in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 145–80. Mexico City: Instituto Nacional de Arqueología e Historia.
- Andrieu, C., E. Rodas, and L. Luin  
2014 “The Values of Classic Maya Jade: A Reanalysis of Cancun’s Jade Workshop.” *Ancient Mesoamerica* 25 (1): 141–64.
- Appadurai, A., ed.  
1986 *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge: Cambridge University Press.
- Baddeley, O.  
1983 “The Relationship of Ancient American Writing Systems to the Visual Arts,” in *Text and Image in Pre-Columbian Art: Essays on the Interrelationship of the Verbal and Visual Arts*, ed. J. C. Berlo, 55–65. Oxford: B.A.R.
- Baus de Czitrom, C.  
1993 “La escritura y el calendario en las pinturas de Cacaxtla,” in *La escritura pictográfica en Tlaxcala: Dos mil años de experiencia mesoamericana*, ed. L. Reyes García, 23–36. Tlaxcala: Universidad Autónoma de Tlaxcala.

- 
- Berlo, J. C.  
1989 "Early Writing in Central Mexico: *In Tlilli, In Tlapalli* before A.D. 1000," in *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, ed. R. A. Diehl and J. C. Berlo, 19–47. Washington, DC: Dumbarton Oaks.
- Bernal Romero, G., and E. Velázquez García  
2005 "Manos y pies en la iconografía y la escritura de los antiguos Mayas." *Arqueología Mexicana* 11 (71): 28–33.
- Brittenham, C.  
2008 "The Cacaxtla Painting Tradition: Art and Identity in Epiclassic Mexico." PhD diss., Yale University.  
2015 *The Murals of Cacaxtla: The Power of Painting in Ancient Central Mexico*. Austin: University of Texas Press.
- Brotherston, G.  
1989 "Sacerdotes, agricultores, guerreros: Un modelo tripartita de historia mesoamericana." *Estudios de Cultura Nahuatl* 19:95–106.
- Castillo Bernal, S.  
2019 "Memorias de piedra verde: Miradas simbólicas de las reliquias toltecas." *Cuicuilco* 75:249–75.
- Coe, M. D.  
1988 "Ideology of the Maya Tomb," in *Maya Iconography*, ed. E. P. Benson and G. G. Griffin, 223–35. Princeton, NJ: Princeton University Press.
- Coggins, C. C.  
1984 "The Cenote of Sacrifice: Catalogue," in *Cenote of Sacrifice: Maya Treasures from the Sacred Well at Chichén Itzá*, ed. C. C. Coggins and O. C. Shane. Austin: University of Texas Press.
- Cowgill, G.  
2009 "La cité de Teotihuacan: Croissance, développements architecturaux et culture matérielle," in *Teotihuacan: Cité des dieux*, exh. cat., 83–89. Paris: Musée du Quai Branly.
- Cyphers, A., and K. Hirth  
2000 "Ceramics of Western Morelos: The Cañada through Gobernador Phases at Xochicalco," in *The Xochicalco Mapping Project*, ed. K. Hirth, 102–35. Vol. 2 of *Archaeological Research at Xochicalco*. Salt Lake City: University of Utah Press.
- Daneels, A., and J. L. Ruvalcaba Sil  
2012 "Cuentas de piedra verde en una residencia clásica del Centro de Veracruz," in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 81–113. Mexico City: INAH.
- Delgadillo Torres, R.  
1996 "Las ofrendas del Montículo B de la zona arqueológica de Cacaxtla, Tlax." *Cacaxtla. Programa de Vinculación Secretaría de Educación Pública / Zonas Arqueológicas de Cacaxtla y Xochitécatl*. San Miguel del Milagro, Nativitas, Tlax. Mexico.
- Digby, A.  
1972 *Maya Jades*. London: British Museum.
- Espinoza García, L., and P. Ortega Ortiz  
1988 "Informe Cacaxtla, Tlaxcala, 1985–87, 1 et 2." Project report, Archivo Técnico del INAH, Mexico City.
- Fillooy Nadal, L.  
2011 "Costume et insignes d'un roi maya de Palenque: K'inich Janaab' Pakal. Vie et mort d'un souverain maya du Classique Récent." PhD diss., Université Paris 1 Panthéon-Sorbonne.  
2015 "El jade en Mesoamérica." *Arqueología Mexicana* 23 (133): 30–36.
- Foncerrada de Molina, M.  
1976 "La pintura mural de Cacaxtla, Tlaxcala." *Anales del Instituto de Investigaciones Estéticas* 46:5–20.  
1982 "Signos glíficos relacionados con Tláloc en los murales de la batalla en Cacaxtla." *Anales del Instituto de Investigaciones Estéticas* 50:23–33.  
1993 *Cacaxtla: La iconografía de los Olmecas-Xicalanca*, ed. E. A. Carreón Blaine. Mexico City: UNAM.
- Freidel, D. A.  
1993 "The Jade Ahau: Toward a Theory of Commodity Value in Maya Civilization," in *Precolumbian Jade: New Geological and Cultural Interpretations*, ed. F. W. Lange, 149–65. Salt Lake City: University of Utah Press.
- Garber, J. F., D. C. Grove, K. G. Hirth, and J. W. Hoopes  
1993 "Jade Use in Portions of Mexico and Central America: Olmec, Maya, Costa Rica, and Honduras—a Summary," in *Precolumbian Jade: New Geological and Cultural Interpretations*, ed. F. W. Lange, 211–31. Salt Lake City: University of Utah Press.
- García Vierna, V. A.  
2012 "Función de las máscaras de jade entre las élites mayas del Clásico: Implicaciones en el proceso de manufactura," in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 115–43. Mexico City: INAH.
- Garza Gómez, I., and N. González Crespo  
2008 "Informe del Proyecto Xochicalco 1993/94 del material óseo. 16 páginas, 5 planos, 2 fotocopias,



- 2 dibujos." Project report, Archivo Técnico del INAH, Mexico City.
- Gazzola, J.  
2004 "Uso y significado del cinabrio en Teotihuacan," in *La Costa del Golfo en tiempos Teotihuacanos: Propuestas y perspectivas; Memoria de la segunda Mesa Redonda de Teotihuacan*, ed. M. E. Ruiz Gallut and A. P. Soto, 541–69. Mexico City: INAH.
- Gómez Chávez, S., and J. Gazzola  
2015 "Una posible cancha de juego de pelota en el área de la Ciudadela, Teotihuacan." *Anales de Antropología* 49 (1): 113–33.
- González Crespo, N., S. Garza Tarazona, C. Alvarado de León, E. Melgar Tisoc, B. Palavicini Beltrán, M. de Ángeles Guzmán, F. Sánchez Martínez, and J. B. Albaitero Rosales  
2008 "Informe: Trabajos de campo del proyecto especial Xochicalco 1993/94. 278 páginas, 571 fotocopias, 18 dibujos, 27 planos." Project report, Archivo Técnico del INAH, Mexico City.
- Graulich, M.  
1990 "Dualities in Cacaxtla," in *Mesoamerican Dualism: Symposium ANT. 8 of the 46th International Congress of Americanists, Amsterdam 1988*, 94–113. Utrecht: RUU-ISOR.  
2001 "El simbolismo del Templo Mayor de México y sus relaciones con Cacaxtla y Teotihuacan." *Anales del Instituto de Investigaciones Estéticas* 79:5–28.
- Hansen, M. H., ed.  
2000 *A Comparative Study of Thirty City-State Cultures: An Investigation Conducted by the Copenhagen Polis Centre*. Copenhagen: Royal Danish Academy of Sciences and Letters.
- Harlow, G. E.  
1993 "Middle American Jade: Geologic and Petrologic Perspectives on Variability and Source," in *Precolumbian Jade: New Geological and Cultural Interpretations*, ed. F. W. Lange, 9–29. Salt Lake City: University of Utah Press.
- Helms, M.  
1986 "Art Styles and Interaction Spheres in Central America and the Caribbean: Polished Black Wood in the Greater Antilles." *Journal of Latin American Lore* 12 (1): 25–43.  
1988 *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton, NJ: Princeton University Press.  
1993 *Craft and the Kingly Ideal: Art, Trade and Power*. Austin: University of Texas Press.
- Hirth, K. G.  
1984 "Xochicalco: Urban Growth and State Formation in Ancient Mexico." *Science* 225 (4662): 579–86.  
1989 " Militarism and Social Organization at Xochicalco, Morelos," in *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, ed. R. A. Diehl and J. C. Berlo, 69–81. Washington, DC: Dumbarton Oaks.  
(ed.) 2000 *Ancient Urbanism at Xochicalco: The Evolution and Organization of a Pre-Hispanic Society*. Vol. 1 of *Archaeological Research at Xochicalco*. Salt Lake City: University of Utah Press.
- Inomata, T.  
2001 "The Power and Ideology of Artistic Creation: Elite Craft Specialists in Classic Maya Society." *Current Anthropology* 42 (3): 321–49.
- Jaime-Riverón, O., M. D. Tenorio Castilleros, T. Calligaro, J. C. Cruz Ocampo, and M. Jiménez  
2012 "Estudio de serpentina olmeca: Extracción, producción y consumo de piedra verde durante el Formativo temprano y medio en el sur de la Costa del Golfo," in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 55–80. Mexico City: INAH.
- Kopytoff, I.  
1986 "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. A. Appadurai, 64–91. Cambridge: Cambridge University Press.
- Kovacevich, B., and M. G. Callaghan  
2019 "Fifty Shades of Green: Interpreting Maya Jade Production, Circulation, Consumption, and Value." *Ancient Mesoamerica* 30 (3): 457–72. <https://doi.org/10.1017/S0956536118000184>.
- Kubler, G.  
1980 "Eclecticism at Cacaxtla," in *Third Palenque Round Table 1978*, ed. M. G. Robertson, 2:163–72. Austin: University of Texas Press.
- Lange, F. W., ed.  
1993 *Precolumbian Jade: New Geological and Cultural Interpretations*. Salt Lake City: University of Utah Press.
- Langley, J. C.  
1992 "Teotihuacan Sign Clusters: Emblem or Articulation?" in *Art, Ideology, and the City of Teotihuacan*, ed. J. C. Berlo, 247–79. Washington, DC: Dumbarton Oaks.
- Lazcano, J. C., and B. Palavicini Beltrán  
1996 "Proyecto Xochitécatl. Informe Técnico Plaza de Los

- Tres Cerritos, Excavación. Vol. 5. 133 páginas, 79 dibujos, 1 croquis, 48 fotos." Project report, Archivo Técnico del INAH, Mexico City.
- Litvak King, J.  
1972 "Las relaciones externas de Xochicalco: Una evaluación de su posible significado." *Anales de Antropología* 9:53–73.
- Lombardo de Ruiz, S.  
1995 "Contribución del estudio de la forma a la iconografía de Cacaxtla," in *Antología de Cacaxtla*, ed. Á. García Cook, B. L. Merino Carrión, and L. Mirambell Silva, 1:248–63. Mexico City: INAH.
- Lombardo de Ruiz, S., D. López de Molina, D. Molina Feal, C. Baus de Czitrom, and O. Polaco  
1991 *Cacaxtla: El lugar donde muere la lluvia en la tierra*. Mexico City: INAH.
- López Austin, A., and L. López Luján  
1999 *Mito y realidad de Zuyuá: Serpiente emplumada y las transformaciones mesoamericanas del Clásico al Posclásico*. Mexico City: FCE.  
2000 "The Myth and Reality of Zuyuá: The Feathered Serpent and Mesoamerican Transformations from the Classic to Postclassic," in *Mesoamerica's Classic Heritage: From Teotihuacan to the Aztecs*, ed. D. Carrasco, L. Jones, and S. Sessions, 21–84. Boulder: University Press of Colorado.
- López Luján, L.  
1993 *Las ofrendas del Templo Mayor de Tenochtitlán*. Mexico City: INAH.
- López Luján, L., X. Chávez Balderas, B. Zúñiga-Arellano, A. Aguirre Molina, and N. Valentín Maldonado  
2012 "Un portal al inframundo: Ofrendas de animales sepultadas al pie del Templo Mayor de Tenochtitlán." *Estudios de Cultura Náhuatl* 44:9–40.
- Manzanilla, L. R.  
2003 "The Abandonment of Teotihuacan," in *The Archaeology of Settlement Abandonment in Middle America*, ed. T. Inomata and R. W. Webb, 91–101. Salt Lake City: University of Utah Press.
- Marcus, J.  
1989 "From Centralized Systems to City-States: Possible Models for the Epiclassic," in *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, ed. R. A. Diehl and J. C. Berlo, 201–8. Washington, DC: Dumbarton Oaks.
- McVicker, D., and J. W. Palka  
2001 "A Maya Carved Shell Plaque from Tula, Hidalgo, Mexico: Comparative Study." *Ancient Mesoamerica* 12 (2): 175–97. <https://doi.org/10.1017/S0956536101122054>.
- Melgar Tisoc, E. R.  
2012 "Análisis tecnológico de los objetos de piedra verde del Templo Mayor de Tenochtitlan," in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 181–95. Mexico City: INAH.
- Melgar Tisoc, E. R., R. B. Solís Ciriaco, and L. Filloy Nadal  
2013 "Análisis tecnológico de las piezas de jadeíta y pedernal del cinturón de poder y de la banda frontal de K'inich Janaab' Pakal de Palenque," in *Técnicas analíticas aplicadas a la caracterización y producción de materiales arqueológicos en el área maya*, ed. A. Velázquez Castro and L. S. Lowe, 135–62. Mexico City: UNAM.
- Millon, R.  
1988 "The Last Years of Teotihuacan Dominance," in *The Collapse of Ancient States and Civilizations*, ed. N. Yoffee and G. Cowgill, 102–64. Tucson: University of Arizona Press.
- Moholy-Nagy, H., and W. R. Coe  
2008 *Tikal Report No. 27, Part A. The Artifacts of Tikal: Ornamental and Ceremonial Artifacts and Unworked Material*. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.
- Nagao, D.  
1989 "Public Proclamation in the Art of Cacaxtla and Xochicalco," in *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, ed. R. A. Diehl and J. C. Berlo, 83–104. Washington, DC: Dumbarton Oaks.  
2006 "Piezas lapidarias de Cacaxtla, Tlaxcala en el contexto del Epiclásico," in *Memorias del Primer Coloquio Internacional Cacaxtla a sus treinta años de investigación, 25 al 29 de septiembre del 2006*, 417–40. Tlaxcala: INAH.  
2014 "An Interconnected World? Evidence of Interaction in the Arts of Epiclassic Cacaxtla and Xochicalco, Mexico." PhD diss., Columbia University.
- Overholtzer, L., and W. Stoner  
2011 "Merging the Social and the Material: Life Histories of Ancient Mementos from Central Mexico." *Journal of Social Archaeology* 11 (2): 171–93.

- 
- Paddock, J., ed.  
1966 *Ancient Oaxaca: Discoveries in Mexican Archeology and History*. Stanford, CA: Stanford University Press.
- Proskouriakoff, T.  
1974 *Jades from the Cenote of Sacrifice, Chichen Itza, Yucatan*. Cambridge, MA: Peabody Museum of Archaeology and Ethnology.
- Quirarte, J.  
1983 "Outside Influence at Cacaxtla," in *Highland-Lowland Interaction in Mesoamerica: Interdisciplinary Approaches*, 201–21. Washington, DC: Dumbarton Oaks.
- Rands, R. L.  
1965 "Jades of the Maya Lowlands," in *Archaeology of Southern Mesoamerica*, part 2, ed. G. R. Willey, 561–80. Handbook of Middle American Indians 3. Austin: University of Texas Press.
- Ringle, W. M., T. Gallareta Negron, and G. J. Bey  
1998 "The Return of Quetzalcoatl: Evidence for the Spread of a World Religion during the Epiclassic Period." *Ancient Mesoamerica* 9 (2): 183–232.
- Rochette, E. T.  
2006 "Investigating Jade Prestige Goods Production, Middle Motagua Valley, Guatemala." FAMSÍ report. <http://www.famsi.org/reports/05069/05069Rochette01.pdf>.
- Sáenz, C.  
1962 "Exploraciones arqueológicas en Xochicalco." *Boletín INAH* 7:1–3.  
1963 "Exploraciones en la Pirámide de las Serpientes Emplumadas, Xochicalco, Morelos." *Revista Mexicana de Estudios Antropológicos* 19:7–25.  
1971 "Informe de los trabajos en la Zona Arqueológica de Xochicalco. Mor. (60's). 43 páginas." Project report, Archivo Técnico del INAH, Mexico City.
- Sahagún, Bernardino de  
2001 *Historia general de las cosas de la Nueva España*, ed. J.-C. Temprano. 2 vols. Madrid: Dastin.
- Serra Puche, M. C.  
1995 "A) Informe correspondiente a 1994. Proyecto Xochitécatl, enero 1994. B) Informe de las excavaciones realizadas en 1993, enero 1993. C) Actividades realizadas en el laboratorio de materiales arqueológicos 1993–1994, julio 1993. D) Informe geológico Newton Quiroz. 303 páginas." Project report, Archivo Técnico del INAH, Mexico City.
- 2012 "La vida cotidiana en Xochitécatl-Cacaxtla." *Arqueología Mexicana* 19 (117): 38–45.
- Serra Puche, M. C., L. Beutelspacher, and E. Dubois López  
1995 "Informe Proyecto Cacaxtla, Tlaxcala, primera temporada, 1994." Project report, Archivo Técnico del INAH, Mexico City.
- Serra Puche, M. C., L. Beutelspacher, L. Torres Sanders, and E. Mejía Reyes  
2003 "Proyecto arqueológico 'El Hombre y sus recursos en el sur del Valle de Tlaxcala durante el Formativo y el Epiclásico.' Sitio Nativitas. 2002. Tomo IV: Proyecto Arqueológico Xochitécatl. Informe técnico final de análisis de entierros." Project report, Archivo Técnico del INAH, Mexico City.
- Serra Puche, M. C., and J. C. Lazcano  
1997 "Xochitécatl-Cacaxtla en el periodo Epiclásico (650–950 d. C)." *Arqueología* 18:85–101.
- Solar Valverde, L.  
2002 "Interacción interregional en Mesoamérica, una aproximación a la dinámica del Epiclásico." Tesis de Licenciatura, Escuela Nacional de Antropología e Historia, Mexico City.
- Spranz, B.  
1996 "Investigaciones arqueológicas en el cerro Xochitécatl-Tlaxcala. Temporada 1969–1970," in *Antología de Tlaxcala*, ed. Á. García Cook and B. L. Merino Carrión, 1:160–63. Mexico City: INAH.
- Spranz, B., D. E. Dumond, and P. P. Hilbert  
1978 *Las Pirámides del Cerro Xochitecatl, Tlaxcala*. Wiesbaden: Steiner.
- Stone, A.  
1989 "Disconnection, Foreign Insignia, and Political Expansion: Teotihuacan and the Warrior Stelae of Piedras Negras," in *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, ed. R. A. Diehl and J. C. Berlo, 153–72. Washington, DC: Dumbarton Oaks.
- Sugiyama, S, and L. López Luján  
2006 "Simbolismo y función de los entierros dedicatorios de la Pirámide de la Luna en Teotihuacan," in *Arqueología e historia del centro de México: Homenaje a Eduardo Matos Moctezuma*, ed. L. López Luján, D. Carrasco, and L. Cué, 131–52. Mexico City: INAH.
- Taube, K. A.  
2005 "The Symbolism of Jade in Classic Maya Religion." *Ancient Mesoamerica* 16 (1): 23–50.

- 2015 "Los significados del jade." *Arqueología Mexicana* 23 (133): 48–55.
- Testard, J.  
 2007 "Les peintures murales de Cacaxtla : Syncrétisme sur les hauts plateaux mexicains." Master's thesis, Université Paris-Sorbonne (Paris IV).  
 2010 "Iconografía epiclásica en Xochitécatl, Tlax: Las figurillas de la Pirámide de las Flores. Informe final de investigación doctoral." Project report, Programa de becas 2010 para extranjeros de la Secretaría de relaciones Exteriores del Gobierno de México, IIA, UNAM, Mexico City.  
 2011 "Consulta de los fondos iconográficos epiclásticos de los estados de Puebla Tlaxcala y Morelos. Un estudio de los materiales cerámicos y líticos como índices de tradiciones exógenas. Informe Final." Project report, Archivo Técnico del INAH, Mexico City.  
 2013 "Expressionnisme et naturalisme à Cacaxtla-Xochitécatl et Xochicalco (Mexique): Une approche des interactions culturelles pendant l'Épiclassique." *Archéo.doct* 5:111–39.  
 2014a "Pouvoir et altérité: Interactions suprarégionales à l'Épiclassique (600 à 900 apr. J.-C.) dans le Mexique central (Puebla-Tlaxcala et Morelos)." PhD diss., Université Paris 1 Panthéon-Sorbonne.  
 2014b "Transformations des représentations corporelles durant l'Épiclassique mésoaméricain (600 à 900 apr. J.-C.)." *Ateliers d'Anthropologie* 40. <http://ateliers.revues.org/9628>.  
 2018a "Proyecto consulta de la Sala Tolteca del Museo Nacional de Antropología (México) y del Museo de Sitio de Cantona (Puebla). Contribución a un estudio de las interacciones suprarregionales durante el Epiclásico. Informe final de las consultas realizadas en 2016 (mayo–junio)." Project report, Archivo Técnico del INAH, Mexico City.  
 2018b "Intercambiar en Mesoamérica durante el Epiclásico (600 a 900 d.C.): Poder, prestigio y alteridad; Un análisis de la cultura material de Puebla-Tlaxcala y Morelos (México)." *Journal de la Société des Américanistes* 104 (2): 153–201. <https://doi.org/10.4000/jsa.16165>.  
 2019 "Secuencias performativas y destrucción ritual de esculturas en Mesoamérica: Algunas hipótesis desde Cacaxtla, Xochicalco y Cholula (México) durante el Epiclásico (600 a 900 d. C.)." *Americae: The European Journal of Americanist Archaeology* 4:71–90.
- Testard, J., and M. C. Serra Puche  
 2011 "Las figurillas epiclásticas de la Pirámide de las Flores de Xochitécatl, Tlax., México: Tipología y simbolismo." *Itinerarios* 14:213–50.  
 2020 "Epiclastic Figurines of Xochitécatl, Tlaxcala, Mexico: Hypotheses on Their Social Lives and Their Ideological Relevance," in *Anthropomorphic Imagery in the Mesoamerican Highlands: Gods, Ancestors, and Human Beings*, ed. B. Faugère and C. Beekman, 266–300. Louisville: University Press of Colorado.
- Thompson, J. E. S.  
 1950 *Maya Hieroglyphic Writing: Introduction*. Washington, DC: Carnegie Institution.
- Thouvenot, M.  
 1982 *Chalchihuitl: Le jade chez les Aztèques*. Paris: Muséum National d'Histoire Naturelle.
- Tibón, G.  
 1983 *El jade de México: El mundo esotérico del "chalchihuite"*. Mexico City: Panorama Editorial.
- Urcid, J., and L. López Luján  
 2019 "Xochicalco en México-Tenochtitlan: Apropiaciones gráficas en la tradición escrituraria tardía de la Cuenca de México." *Estudios de Cultura Náhuatl* 58:15–58.
- Uriarte Castañeda, M. T., and F. Salazar Gil, eds.  
 2013 *Cacaxtla. La pintura mural prehispánica en México* 5. Mexico City: IIE, UNAM.
- Wells, C. F., K. L. Davis-Salazar, J. Moreno-Cortes, G. S. L. Stuart, and A. C. Novotny  
 2014 "Analysis of the Context and Contents of an Ulua-Style Marble Vase from the Palmarejo Valley, Honduras." *Latin American Antiquity* 25 (1): 82–100.
- Wiesheu, W., and G. Guzzy  
 2012 "Introducción," in *El jade y otras piedras verdes: Perspectivas interdisciplinarias e interculturales*, ed. W. Wiesheu and G. Guzzy, 9–16. Mexico City: INAH.