



## **'Where the sun came into being'**

### **Rites of Pyrolatry, Transition, and Transformation in Early Classic Teotihuacan**

Nielsen, Jesper; Helmke, Christophe

*Published in:*

Smoke, Flames, and the Human Body in Mesoamerican Ritual Practice

*Publication date:*

2018

*Document version*

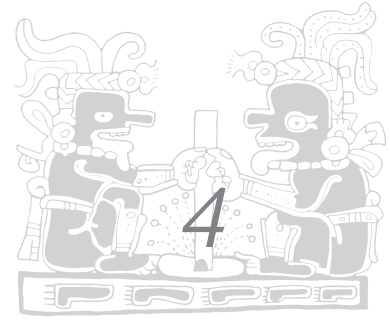
Publisher's PDF, also known as Version of record

*Document license:*

[Unspecified](#)

*Citation for published version (APA):*

Nielsen, J., & Helmke, C. (2018). 'Where the sun came into being': Rites of Pyrolatry, Transition, and Transformation in Early Classic Teotihuacan. In *Smoke, Flames, and the Human Body in Mesoamerican Ritual Practice* (pp. 77-107). Washington, D.C.: Dumbarton Oaks Research Library and Collection.



## ‘Where the sun came into being’

### Rites of Pyrolatry, Transition, and Transformation in Early Classic Teotihuacan

JESPER NIELSEN AND CHRISTOPHE HELMKE

**I**N THE PRESENT ESSAY, WE EXPLORE THE importance of pyrolatry in the archaeological record, as well as in the iconography and epigraphic corpus of Early Classic Teotihuacan (ca. AD 1–650). We will focus on the role of fire in rituals related to transition and transformation, review the evidence of New Fire rituals that appear to have been centered on the Pyramid of the Sun, and discuss the role of fire as a transformative agent in funerary rituals at Teotihuacan. This discussion builds on Karl Taube’s seminal work on the iconography of elaborate, theater-style incense burners as well as on the religious and metaphorical significance of butterflies as these pertain to a cult of elite warriors (Taube 2000). We wish to emphasize the conceptual overlap between the cremation of the bundled years that have expired and human mortuary bundles. This may add to our understanding of years and time intervals as personified entities, which could be born, named, and enthroned and would eventually die and undergo the same conflagratory transformation as prominent human

beings. In addition, we offer a reexamination of the Late Postclassic Aztec perception of Teotihuacan as the place where the sun was created by fire rituals and immolation, and we suggest that the above-mentioned aspects may indeed be traced all the way back to Teotihuacan.

#### Fire, Flames, and the Sun at Teotihuacan

In an attempt to understand the relationship between flames, fire, and the human body at Teotihuacan, and, in particular, the role of fire as a transformative agent, a first important step is recognizing the inherent relationship between fire and the sun—the hot, burning, and powerful celestial body par excellence. On its daily course, the sun is the quintessential exemplar of the transitional and transformational powers of fire and the warmth it generates. The sun transforms the cold darkness of the night into the warmth of day. The sun enables life to unfold, but, in accordance with Mesoamerican



*figure 4.1.*

The Pyramid of the Sun at Teotihuacan. Note the *talud-tablero* structure, known as the *Adosada* platform, built at the base of the pyramid. Photograph by Christophe Helmke.

worldview, such mighty powers are also potentially destructive, causing droughts and unwanted fires. In Late Postclassic Aztec mythology, as recounted in the Florentine Codex and the *Leyenda de los soles* (Bierhorst 1992:147–149; Sahagún 1953:4–7, 1978:1; Taube 1993:33–36), the flames of a primordial bonfire atop the Pyramid of the Sun at Teotihuacan (Figure 4.1) were instrumental in bringing about the first transformation of eternal darkness into structured time, divided by days—that is, solar periods, of life and movement, and darkness, death, and stillness (see also Umberger 1987:437–439).<sup>1</sup> In an act of self-immolation, the gods leapt into a sacrificial pyre, thereby burning, or cremating, themselves. Fire and flames initiated time and, therefore, life, and also possessed the power to transform the dead into other life forms, just as offerings thrown into the fire were transmuted and made available to supernatural entities.

In the following pages, we shall discuss several contexts in which flames, fire, and the sun

functioned, literally or symbolically, as life-giving and/or transformative forces. In order to do so, it is pertinent to clarify how these elements are represented in Teotihuacan iconography. Whereas the conventional visual forms of smoke and flames have long been identified and used in iconographic interpretations of torches, for instance (Nielsen 2003:89–93, 2006; Von Winning 1979, 1987:2:15–27; see also Fash, Tokovinine, and Fash 2009) (Figure 4.2), depictions of the sun itself are rarely, if ever, discussed by scholars. Laurette Séjourné first published a drawing of an engraved and incised tripod vase from Teotihuacan, which we think may include a representation of the sun (Séjourné 1966:101) (Figure 4.3a). It shows a Teotihuacan warrior-priest with a shell-platelet headdress that also includes butterfly elements and two possible torches. The figure is carrying an incense bag and a large, unusually shaped speech-scroll emanates from his mouth. In front of him is a star sign within a circle marked by small dots and surrounded by flames. It is this

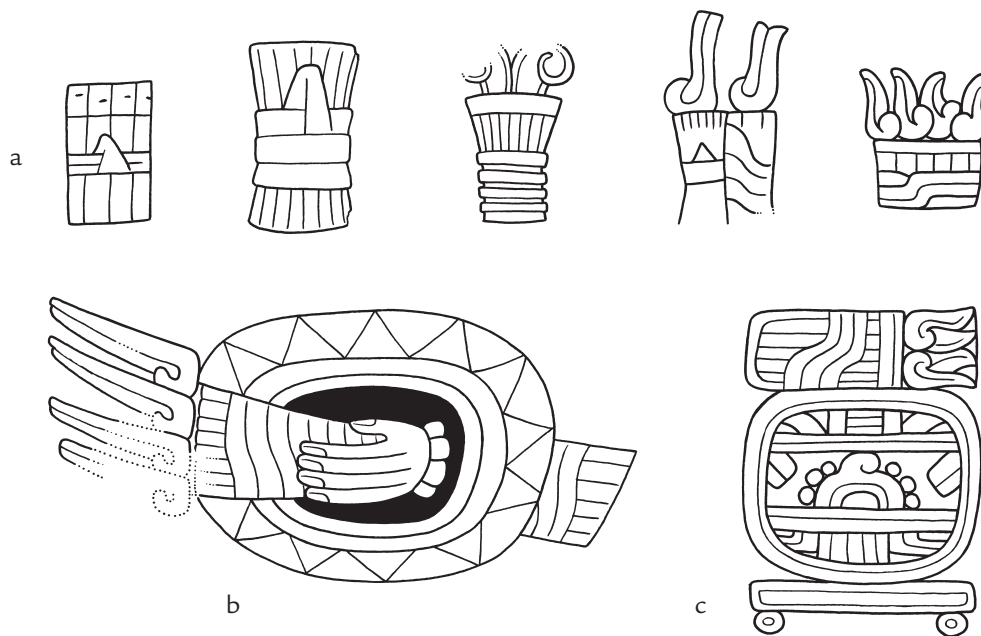


figure 4.2.

Torches in Teotihuacan iconography: (a) assorted examples of unlit, smoking, and lit torches, topped by stylized flames (after Taube 2000:figs. 10.4c–d, 10.5a, c, and d); (b) glyphic collocation on a bowl in the collection of the Musée du Cinquantenaire, Brussels, including a hand holding a flaming torch (after drawing by Nicolas Latsanopoulos); and (c) detail of the stela from Piedra Labrada, Veracruz, showing a calendrical date topped by a lit torch. Drawings by Christophe Helmke.

rare flaming star that we suggest represents the sun, and it is worth noting that the Aztec would also sometimes draw the sun's rays as flames. In the *Codex Xolotl*, the sun is depicted as a round disk surrounded by flames (Dibble 1980:pl. 8) and interestingly, this sign is used as the toponym for Teotihuacan (see Figure 4.6c), a point to which we shall return later. In the specific context of the tripod, the sun may be directly linked to the butterfly warrior. Janet Berlo, Karl Taube, and others have presented strong evidence that the Central Mexican belief of dead warriors being transformed by cremation into butterflies and birds (to eventually arrive in a solar afterworld) was already in place at Teotihuacan (Berlo 1983; Taube 2000, 2006). In this context, the fiery sun motif may indeed refer both to the cremation of the dead warrior and to his future and serene abode.

A stuccoed, painted, and lidded Teotihuacan-style tripod, now in the collection of the De Young Museum in San Francisco, displays such a solar

image (Figure 4.3b). Here, a disk is surrounded by flame-like elements. Distinct flames are seen to radiate outward, delineating the four world directions, suggesting an antecedent form of the Aztec solar disk with its characteristic solar rays or darts (e.g., Beyer 1921; see also Taube 2015). In some cases, Aztec representations of the sun also include flames and/or smoke (e.g., *Codex Borgia*, fol. 43). The famous Aztec Calendar Stone is framed by *xiuhcocoah*, or 'fire-serpents' adorned with fire symbols (see Taube 2000:319–323). On the Teotihuacan-style tripod, the central star sign is replaced by the trapeze-and-ray sign, also known as the Mexican year sign (Caso 1962:69–71; Miller and Taube 1993:112–113, 192). A knotted piece of cloth or paper is set right beneath it, probably denoting a headband. Taube has shown how these elements—the trapeze-and-ray sign and the knotted headband—may occur together (Taube 2000:277–280), and recent findings suggest that this particular type of headdress was of utmost importance at Teotihuacan. Later adoptions of



*figure 4.3.*  
 (a) Teotihuacan tripod vase with flaming sun motif and butterfly warrior (after Séjourné 1966:101); and  
 (b) Teotihuacan tripod vase with trapeze-and-ray sign inside a flaming sun disk (photograph by Daderot, courtesy of Wikimedia Commons, from the collection of the de Young Museum, inv. no. 1989.55.3a–b). Drawings by Christophe Helmke.



this particular type of headdress can be found at Epiclassic Xochicalco and Cacaxtla (Helmke and Nielsen 2011:15–16), as well as at Late Classic Maya sites such as Piedras Negras, Yaxchilan, and Copan (e.g., Stone 1989; Taube 2000:274–280). As we have pointed out elsewhere, the trapeze-and-ray headdress marks the high status and duties of its carriers and, when found in combination with calendrical year bearers, designates them as crowned and invested with commensurate status for the coming period, as though personified entities of time (see Helmke and Nielsen 2011:15, 17, 2012). The exact significance of the headdress embedded in the flaming solar disk is difficult to ascertain, but it is possible that the headdress serves as a reference to a year, or a period of years, either to be burned or celebrated by means of fire rituals. It may, thus, be compared to

an Epiclassic petroglyph from Cerro de la Estrella that records a New Fire ceremony (Helmke and Nielsen 2011:17, 19; Helmke and Montero García 2016a, 2016b) (Figure 4.13b) or to representations of New Fire rituals in Late Postclassic and colonial sources (e.g., the Codex Mendoza), where smoke and flames emerge from the fire drill attached to the given year. What is important to note is the role played by the fire and flames (and the sun) in bringing about transitions and changes.

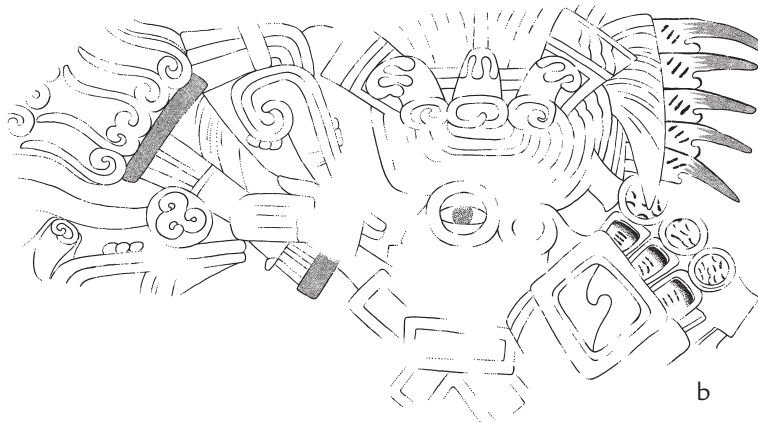
### Flames of Foundations

In previous publications, the senior author has discussed the recurring torch motif in Teotihuacan iconography, focusing on its many attested



figure 4.4.

(a) Small stela-like monument from northern Guerrero in the Rufino Tamayo Collection in Oaxaca, showing a Teotihuacan warrior with darts, a shield, and a burning torch (drawing by Nicolas Latsanopoulos); and (b) detail of mural at El Rosario (Querétaro, Mexico), showing a similar warrior (drawing by Christophe Helmke).



occurrences in Teotihuacan-style iconography in various parts of Mesoamerica during the late fourth to early fifth centuries. His research suggests that these images should be related to the Mesoamerican concept of *toma de posesión*; they do not merely denote foreign cities or temples being ablaze at the hands of Teotihuacan warriors (Nielsen 2003:88–93, 2006, n.d.; see also Nielsen and Helmke 2014b; Nielsen, Jiménez García, and Rivera Guzmán n.d.) (Figure 4.4). In the Late Postclassic Central Mexican tradition, the ceremony of the *toma de posesión* was crucial for the legitimization of a new ruler and for the initial founding of a new settlement. Thus, first and foremost, the ceremony marked the act of founding a

new dynasty (or dynastic successor), town, or settlement, but it could also refer to the appropriation of new land, including the conquering of already inhabited areas. It was essentially a sequence of rituals performed to ensure the beginning of a new era. Michel Oudijk has provided the most in-depth study of this ritual sequence and notes that it consisted of a number of different elements (Oudijk 2002:102) (Table 4.1).

It is well known that Mesoamerican peoples had a widely shared repertoire for the visual representation of military conquests and acquisitions of new territory (Scherer and Verano 2014). In Central Mexico and Oaxaca, for example, military power was displayed by means of warriors grasping the

**Table 4.1**

The main ritual actions performed as part of the *toma de posesión* (after Oudijk 2002:102).\*

1	To shoot arrows in the direction of the four cardinal points	<i>Tirar flechas hacia los cuatro puntos cardinales</i>
2	To kindle New Fire and other related rites and ceremonies	<i>Hacer el Fuego Nuevo así como otros ritos y ceremonias relacionadas</i>
3	To send four nobles in order to take possession of lands	<i>Mandar a cuatro señores para tomar posesión de la tierra</i>
4	To demarcate the lands	<i>Demarcación de las tierras</i>
5	To divide the lands among nobles	<i>División de la tierra entre los nobles</i>

\* The original Spanish text is indicated in the second column.

hair of defeated enemies, toponyms pierced by darts, or burning and partially toppled temples (Marcus 1992:353–434). By showing victorious aggressors engaged in the drilling of a new fire, however, a conquest or takeover could be depicted in a more subtle way. If we are correct that fire-drilling and lit torches signaled military and political superiority and dominance, then we must assume that such *toma de posesión* ceremonies took place after the conclusion of military actions proper. As a powerful symbol of transformation and recentering, the flaming torch symbolized the enthronement of a new ruler, the founding of a new town, and the arrival of a new order (Nielsen 2006; see also Jansen and Pérez Jiménez 2007:49–50, 85–86).

There is increasing evidence to suggest that New Fire ceremonies were also celebrated at Teotihuacan. A number of stone reliefs found near the Pyramid of the Sun show carved scenes of fire-drilling. In addition, a stone sculpture representing a bundle of wooden sticks was discovered nearby, similar to Aztec sculpted stone year bundles (see Berrin and Pasztory 1993:173; Fash, Tokovinine, and Fash 2009; Von Winning 1979) (Figure 4.5a). The Teotihuacan-style inscription on Stela 1 from Piedra Labrada in Veracruz bears a striking reference to a probable New Fire ceremony celebrated in the year ‘7 Reptile Eye’ (which, in all likelihood, corresponds to the Aztec day-sign ‘reed’), a lit torch lying atop the calendrical sign (see Helmke and Nielsen 2011:17–18) (Figure 4.2c). It should also be recalled that the Mexica associated the Pyramid of the Sun with the creation of the sun and rituals of fire. Aztec myths pertaining to the sun and fire may

well have had their roots in Classic Teotihuacan traditions (Boone 2000:372–376).

When considered together, the available evidence strongly suggests that New Fire rituals played a prominent role in Teotihuacan religious and political life at home as well as abroad. Outside of Teotihuacan, a number of high-ranking individuals are shown with headdresses that included flaming torches, similar to those depicted at Teotihuacan itself. Elsewhere, we have suggested that these headdresses may identify these people with the important title of ‘fire-house-keeper’ (Nielsen and Helmke 2014a). The clearest example of this adscription appears on a finely carved stone slab from Soyaltepec in Veracruz (Bolz 1975:LXX) (Figure 4.5b). It shows an individual wearing a Feathered Serpent headdress (possibly including features of the War Serpent) and brandishing two burning torches in his hands. The torches reappear in his headdress, crossed and set below the roof of a building. As has recently been suggested by William Fash, Alexandre Tokovinine, and Barbara Fash (2009:221), there is evidence that a ‘fire-house’ (possibly the Pyramid of the Sun or its *Adosada* platform) played center stage in much of Teotihuacan’s ritual and political life, and that dynasties, even in distant parts of Mesoamerica, actively sought to demonstrate a connection to this structure and the power and status associated with it. Assuming that the ‘fire-house-keeper’ title was derived from the ‘fire-house’ at Teotihuacan, it follows that the individual portrayed was a representative or emissary of the same place.

Another significant example of the torch-headdress appears on the famed Stela 31 at Tikal

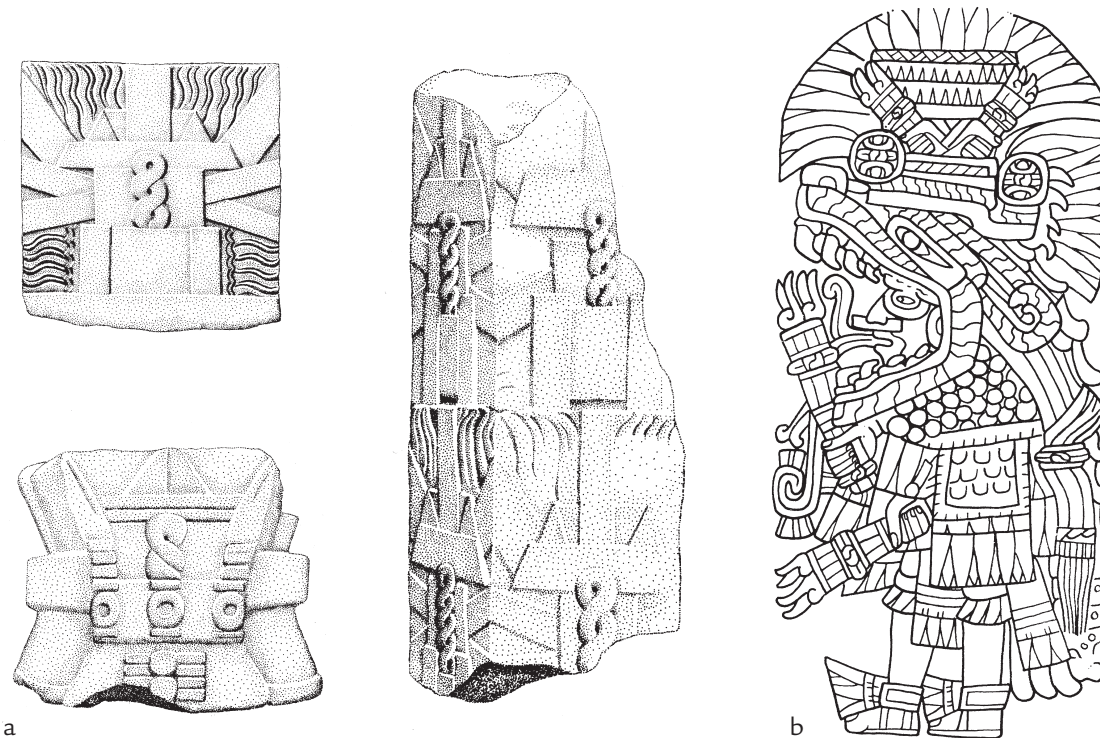


figure 4.5. Sculptures and reliefs related to New Fire rituals, from: (a) the Pyramid of the Sun at Teotihuacan (drawings by Alexandre Tokovinine); and (b) Soyltepec, Veracruz (drawing by Jesper Nielsen).

(dedicated in AD 445), the one Maya monument that has provided the most crucial evidence of Teotihuacan’s influence in the Maya area. The left side of the stela is carved with a portrait of Yax Nuun Ahiin I, son of “Spearthrower Owl,” most probably the fourth ruler of a Teotihuacan dynasty, ruling from AD 374 to 439 (Stuart 2000:467–490). Small Teotihuacan-style torches, practically identical to those seen at Piedra Labrada and Soyltepec, are set in the headdress of Yax Nuun Ahiin I. While there seems to be no visual reference to a house in the headdress of Yax Nuun Ahiin I, it is quite plausible, once again, that the elements of these Teotihuacan headdresses identify their wearers as representatives of the ‘fire-house’.

To recapitulate briefly: the drilling of a New Fire or the carrying of torches ignited by the New Fire to newly conquered or otherwise subjugated areas or towns vividly symbolized a shift in power relations and, in some cases, even a rupture in the

local dynastic sequence. As shown, the Teotihuacan title that is associated with a ‘fire-house’ is ascribed to individuals (sometimes of very high rank, as in the case of Yax Nuun Ahiin I) that are documented far away from Teotihuacan, thereby suggesting the presence of ethnic Teotihuacan imperial emissaries in these areas. In these contexts, the burning torches symbolized the transformative powers of fire (and the sun) and were used as a metaphor for political change, just as we have seen among the Aztecs.

#### Teotihuacan: ‘Where the sun came into being’

The archaeological site of Teotihuacan never fell into complete oblivion, as it persisted prominently and phenomenologically for all who beheld its pyramids, ruined palaces, and buildings. The very name *Teotihuacan* was attributed to the ruined



city by the Aztec and is, therefore, of some antiquity. The Aztecs are known to have made annual pilgrimages to the site, and some of the sculptures found at the foot of the Pyramid of the Sun may well have been raised in the Late Postclassic period (Gamio 1922:170–171, lám. 82; Pazstory 1997:141). Examinations of the architecture of the Templo Mayor in Tenochtitlan reveal clear equivalences between the buildings raised by the Aztec and their Classic period forerunners. Thus, much as the Classical world of the Mediterranean has had lasting influences on European perceptions of aesthetics, proportions, and what are deemed to be beautiful sculptures and architecture, so too did the Aztec deliberately and willfully emulate certain buildings, architectural features, and murals while incorporating and recycling ancient artifacts into their own material culture. The two so-called Red Temples that frame the Templo Mayor are cases in point of what could be called Pre-Columbian neo-classical, or neo-Teotihuacan, architecture (López Luján 1989:37–42; Olmedo Vera 2002), whereas the benches of the Casa de las Águilas are clear copies of architectural units in the palatial complexes of Tula (López Luján 2006:1:265–271). As such, there is an evident and deliberate continuity from the Early Classic to the Late Postclassic periods in Central Mexico. As we have seen, Aztec mythology identified Teotihuacan as the place where the gods immolated themselves in a primordial bonfire in order to give rise to the sun of the present creation. This myth echoes several aspects of the New Fire ceremony: the bonfire of solar creation can be equated to that of the New Fire ceremony and the act of divine immolation finds parallel in the burning of the sacrificial victim, who in large measure was time incarnate.

What is intriguing here is the marked disjunction between Aztec creation mythology and the translations offered for the toponym *Teotihuacan*. Aztec myth underlines the sacrifice of the gods as the *primus motor* for the creation of the sun. In contrast, common etymological understandings suggest that the toponym should be glossed as ‘birthplace of the gods’, ‘place where gods were born’, ‘place where the gods abound’, or even ‘place

where they become gods’ (e.g., Berrin and Pasztory 1993; Headrick 2007:64; Launey 1992:225; Pasztory 1997:7; Rodríguez Villegas 2014; Thouvenot 1987:177). However, the myth of the *Leyenda de los soles* does not speak of the birth of gods, nor deities. To what do we owe this disjunction?

Here, we offer an alternate and more philological interpretation and etymology of the toponym, one based on our growing understanding of the Aztec writing system and its glyphic corpus. That Aztec writing is just that and can be read and deciphered phonetically is now clear, even though it still generates debate among specialists (e.g., Boone 2011; Mikulska 2014). Yet great strides have been made in identifying phonograms and logograms in Aztec writing, functioning essentially as they do in all other Mesoamerican scripts, including Maya writing (Lacadena 2011; Zender 2011). More traditional interpretations of the toponym usually take as their point of departure the initial segment <teo>, which is interpreted as reflecting the lexeme *teoo-tl* ‘god’ and as the initial element in compound forms as the adjectival ‘godly, divine’ (Karttunen 1983:228; Siméon 1992:490), or as the reflexive verbal form *teooti(aa)*- ‘to become a god’, or ‘to adore as a god’ (Karttunen 1983:227; Launey 1992:227; Siméon 1992:490). The <hua> segment corresponds to the possessive suffix *-wa*, which is frequently seen in place names and found affixed to roots ending in vowels (Launey 1992:282). Finally, the <can> ~ *-kaan* suffix is a locative or toponymic and marks a specific ‘place, time, point’, and affixes to the preterit or perfective form of verbs and with possessive derivations, including those ending in *-wa*, as is the case here (Karttunen 1983:24; Launey 1992:282). Based on these analyses, the toponym *Teotihuacan* can be translated as ‘place where the gods came into being’ (see Launey 1992:225).

However, this etymology does not resonate well with some of the earliest maps of Teotihuacan, produced in the latter part of the sixteenth century as part of the *Relaciones geográficas*. These maps sketch out the monumental architecture of the site, including the Pyramid of the Sun, the Pyramid of the Moon, and the Ciudadela. They also mark off

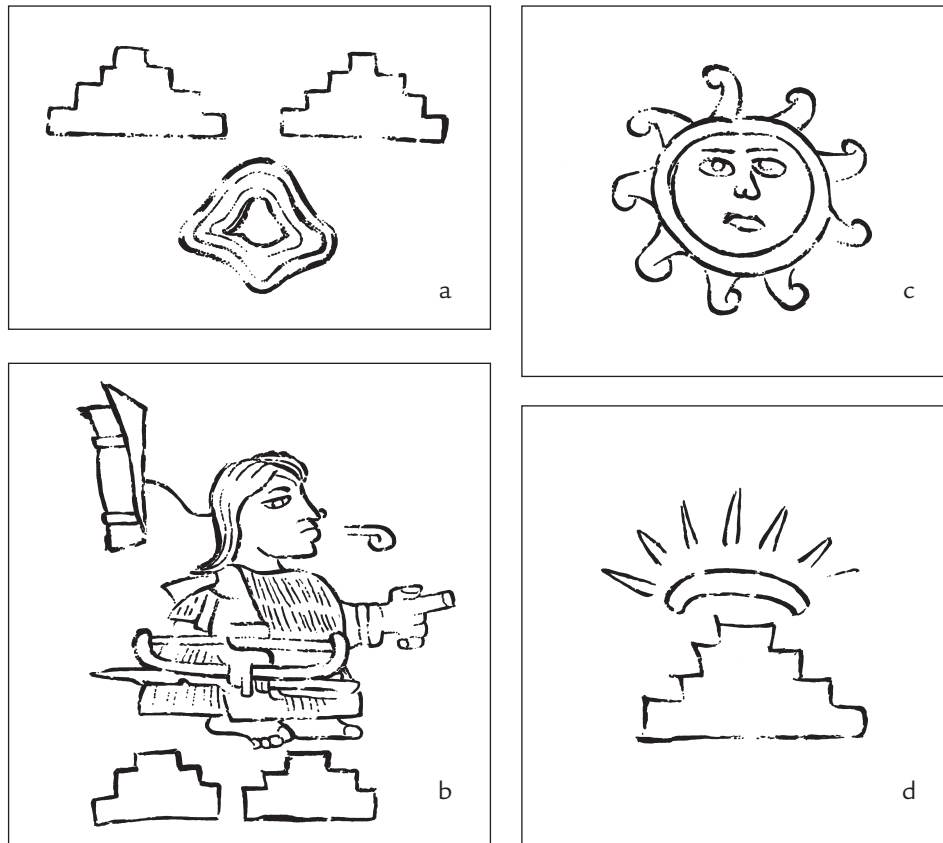


figure 4.6.  
Toponymic references to  
Teotihuacan in the Codex  
Xolotl: (a) Planche 1;  
(b) Planche 3; (c) Planche 8;  
and (d) Planche 6. Drawings  
by Christophe Helmke.

the Avenue of the Dead as <micca otli> and show a series of adjoining pyramidal structures. These *mapas* are the Saville map (now in the collections of the American Museum of Natural History), the Ayer map (in the Newberry Library), and the Mazapan map, which only survives as a nineteenth-century copy (Kubler 1982; see also Boone 2000:373–374). Among the glosses in European lettering that can be discerned are those that label and correctly identify the Pyramid of the Sun and the Pyramid of the Moon, whereas those around the Ciudadela are variously marked as “*oraculo*,” and the caption “*oraculo de monteçuma*” labels a depiction of Teotihuacan on the map of the *Relación de Tequizistlán* (Nuttall 1926:pl. 1). Other glyphic glosses accompany depictions of the Ciudadela and include a shining sun paired off with the caption <Tonali itlaltlioyan> or ‘burial place of the sun.’<sup>2</sup> This source is of great importance, as it suggests to us that the mythological sun was perhaps a part of the site’s name and designation in the sixteenth century.

Rather than just mere continuities in symbolism, we find additional examples to support this hypothesis. Great points of continuity with the manner in which glyphic captions for Teotihuacan are rendered on the Mazapan and Saville maps can be found in the Codex Xolotl. This wonderful codex records the achievements of the Chichimec leader Xolotl, from his arrival to the Valley of Mexico to the founding of Texcoco in the twelfth century (Dibble 1980). Since this manuscript follows the cartographic tradition—wherein historical events are framed in geographical space, actors are seen moving across the landscape, and key events of the narrative take place at various locations—a large number of toponyms appear. What interests us is the way in which Teotihuacan is written in Aztec glyphs on four of its pages. In two instances, the toponym is marked off solely by a pair of glyphs representing stylized and terraced pyramidal platforms (Figure 4.6a–b). In the third instance, which we have already mentioned, the shining face of the

sun appears (Figure 4.6c), foreshadowing the examples from the later *mapas*, whereas in the fourth instance we see a sun rising from behind a pyramidal platform (Figure 4.6d) (Thouvenot 1987:549, 552–553).

What is interesting here is not only the solar symbolism that echoes the cosmogonic myth but also the manner in which the sign is rendered as a partial sun disk, emerging at the horizon. In fact, this convention is significant, since it is one that appears in Aztec writing. Whereas a complete solar disk serves as the logogram **TONAL** or **TONATIW**, for ‘sol, astro, día’ (Karttunen 1983:246; Lacadena 2014:29; Siméon 1992:716, 717; Thouvenot 1987:550–556), a partial or halved sun disk, in contrast, functions as the logogram **TEO** (Lacadena 2014:44; Thouvenot 1987:177, 557, 1998:79). This is demonstrated by a series of different glyphic examples and accompanying glosses in Latin lettering, including those represented in the tribute pages of the

Codex Mendoza and the *Matrícula de los tributos*, from which the former is drawn. Clear examples (Figure 4.7) from the Codex Mendoza are presented in Table 4.2.

The combination of glyphic signs and Spanish captions make it clear that the halved sun sign must function as the logogram **TEO**, and yet intriguingly, these toponyms have all been understood as involving the lexeme *teoo-tl* ‘god’, as is made clear by the early etymological work of Antonio Peñafiel (1885:182–187, 1897:256–258) as well as the recent research by Francis Berdan and Patricia Anawalt (1992:163–238). Thus, for example, the toponym *Teotenango* has been translated as ‘On the sacred wall’, *Teotlalpan* as ‘On the god’s land’, and *Teoçiocan* as ‘Place of sacred young maize ears’ (Berdan and Anawalt 1992:209; see also Peñafiel 1897:257–258). Yet, given the form of this sign and its juxtaposition with other glyphs, we suspect that it represents a particular aspect of the sun as it rises

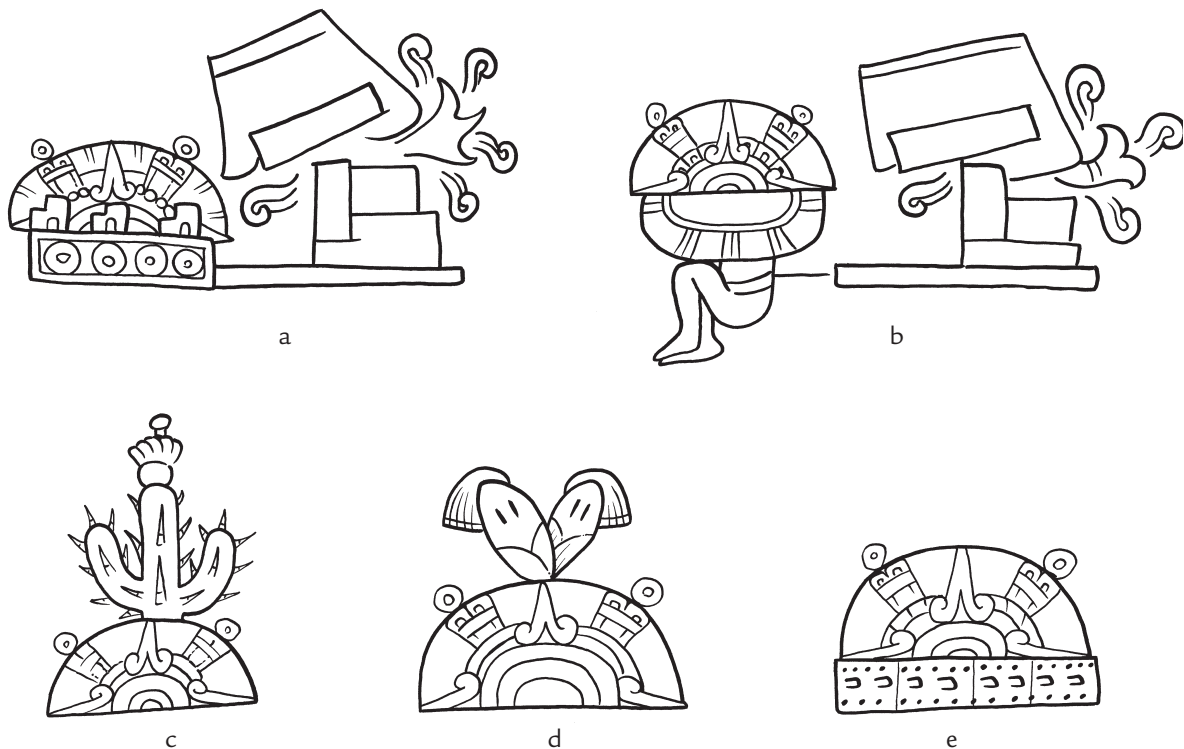


figure 4.7.

Toponyms from the Codex Mendoza, including the **TEO** logogram representing a halved sun disk: (a) **TEO-TENAM** <Teotenango> (fol. 10r); (b) **TEO-A-TZIN** <Teoatzingo> (fol. 16r); (c) **TEO-NOCH** <Teonochtitla> (fol. 42r); (d) **TEO-XILO** <Teoçiocan> (fol. 49r); and (e) **TEO-TLAL** <Teotlalpan> (fol. 51r). Drawings by Christophe Helmke.

Table 4.2

Examples of toponyms in the Codex Mendoza in Aztec writing with the halved sun logogram and accompanying glosses.

TRANSLITERATION	TRANSCRIPTION	COLONIAL GLOSS	SOURCE
TEO-TENAM	<i>teotenaam</i> [ko]	<Teotenango>	fols. 10r and 33r
TEO-TLAL	<i>teotlaal</i> [pan]	<Teotlalpan>	fol. 51r
TEO-NOCH	<i>teonoch</i> [titlan]	<Teonichtitla>	fol. 42r
TEO-A-TZIN	<i>teoaatzin</i> [ko]	<Teoatzingo>	fol. 16r
TEO-XILO	<i>teoxiiloo</i> [kaan]	<Teoçiocan>	fol. 49r

or sets and in fact, a more thorough lexical search yields several entries, including *teōtlāc*, ‘afternoon, evening; a puesta de sol, la tarde del día’, as well as the variants *teōtlācco*, ‘evening; noche’, *teōtlācpa*, ‘in the afternoon; por la tarde’, *teōtlacti*, ‘it is late; ser tarde’, and *teōtlāquiliz-tli*, ‘evening; noche, anochecer’ (Karttunen 1983:228; Siméon 1992:490; see also Hvidtfeldt 1958:77–78). In contrast, the compound form *tlacateo* occurs several times in the anthroponym <Tlacateotzin>, cited in the Codex Xolotl, with reference to the sovereign of Tlatelolco (Thouvenot 1987:554–556). In these instances, the compound form includes the root of *tlaca-tli* ‘day’ and *teo* ‘sun’, followed by the honorific suffix *-tzin*, as is made clear by the glyphic examples in the Codex Xolotl. Another example is found in Book 8 of the Florentine Codex (fol. 5v), wherein we can see <Tlacateutl>, the regnal name of the second king of Tlatelolco (Sahagún 1954:pl. 3, no. 19). In this case, the anthroponym is written in the glyphic caption as **te-TEO**, with a sun sign for the logogram **TEO** rising above a horizontal line, accompanied by a stone sign **te**, as a phonetic complement to ensure the correct reading. Based on these entries and the use of the partial sun sign in these proper names, it seems plausible that there is a contrastive minimal pair, involving *teoo* ‘god’ (with long terminal vowel) versus a rare lexeme *teo* ‘sun’ (with short vowel). Thus, the toponyms we have mentioned here may have less to do with ‘god’ or the ‘divine’, than to the ‘sun’ in general terms and with the sun’s diurnal cycle in particular. This conclusion is substantiated by a revealing Nahuatl entry in the second addendum to Book 1 of the Florentine Codex,

which clarifies an idiomatic expression for calamities that involves a solar eclipse and an earthquake:

<i>Tevtl qualo tlallolini</i>	Tevtl is eaten; there is an earthquake <sup>3</sup>
<i>yn teutl. quitoz-nequi tonatiuh</i>	‘(the word) <i>teutl</i> means sun’ (Sahagún 1978:82)

Returning to the toponym *Teotihuacan*, we are left to conclude that this place name was once written with a sun logogram, as is made clear by the examples in Codex Xolotl and the later *mapas* of the *Relaciones geográficas*, and, therefore, the initial segment probably pertains directly to the ‘sun’ (see also Thouvenot 1987:177). As such, the toponym may well have been intended to mean ‘Where the sun came into being’—a name that would correspond perfectly to the role played by the ancient metropolis in Aztec creation mythology.

### Cremation Rituals at Teotihuacan

One of the most intriguing representations of flames and the human body at Teotihuacan comes from the now destroyed murals from the Temple of Agriculture excavated by Leopoldo Batres in the 1880s (Figure 4.8). One scene, known as the Offering Scene (Fuente 1995; Miller 1973:62–63), shows numerous individuals engaged in a variety of activities, including the presentation of what appears to be offerings of food. At the center of the scene and drawing the attention of the attendees are two large, human-like effigies, whose eyes,



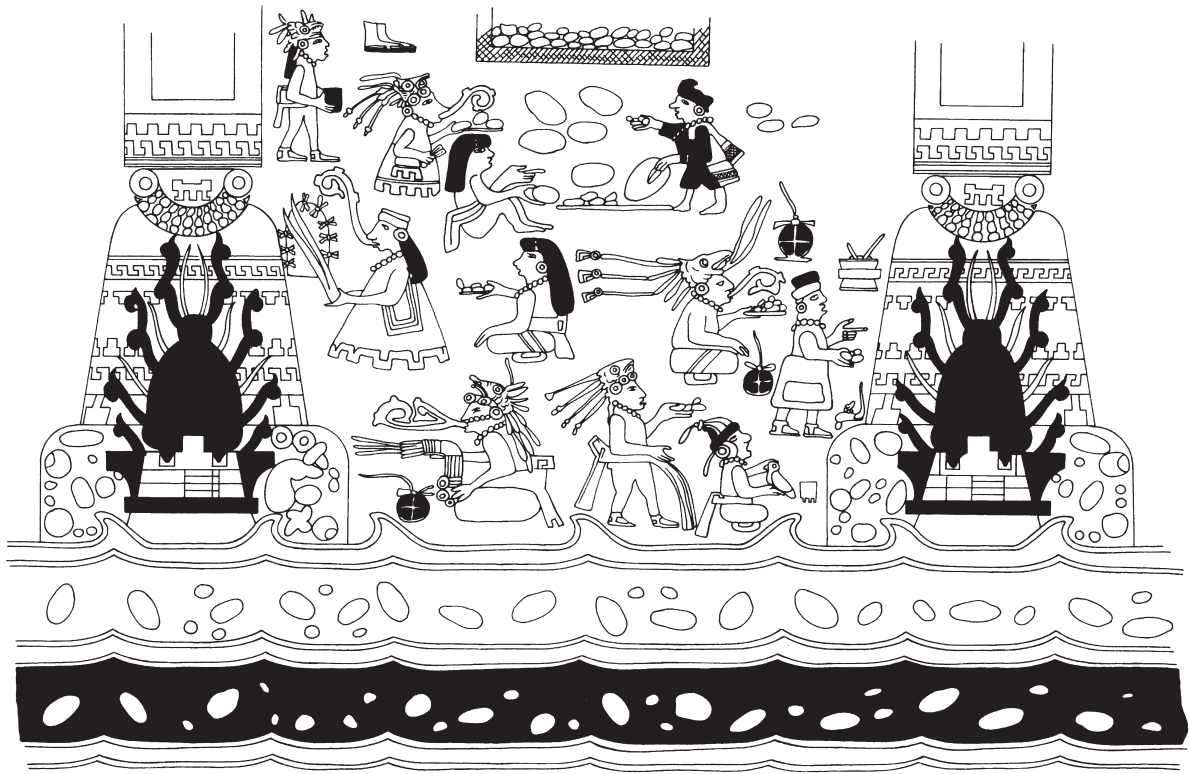


figure 4.8.

The Temple of Agriculture mural from Zone 2, near the Quetzalpapalotl Palace at Teotihuacan, with two flaming mortuary bundles on low platforms or altars. Drawing by Luis Fernando Luín.

mouths, and limbs are concealed but, nonetheless, implied by nose ornaments and other regalia. The two effigies each tower behind a dark-colored bundles—with smoke and flames rising from them—placed upon an altar or raised bier. Hermann Beyer (1922:285–289) interpreted the scene as a cremation scene, with the bundles enshrouding deceased individuals. He drew comparisons with similar imagery from Aztec sources, and several scholars have since followed his idea (Headrick 2007:57–58; Múnera Bermúdez 1991:341; see Séjourné 1966:219, fig. 204).

Despite this evocative imagery, there is relatively little consensus concerning the predominance, or the social and ritual roles of, cremation at Teotihuacan. In the broadest of terms, cremation is “the combination of fire and the body” (Quinn, Kuijt, and Cooney 2014:5) or “the act and process of burning a body as part of a funerary rite;

a ritualized event” (Thompson 2015:3). In premodern times, it was also “a value-laden and socially grounded means of coping with death and reflecting upon the meaning of life” (Davies and Mates 2005:xvii). As manifested archaeologically by human remains, the complete cremation of articulated green bone—which is to say, immediately or closely *postmortem*—reduces bone to small fragments. Typically, cremated bones are calcined and change color, exhibiting a variegated range of tones that vary from black to blue-gray to white. Bone surfaces may show signs of longitudinal striae and splintering as well as transverse cracking (Sempowski 1994:141; Spence 1994:368). These features, in combination, are diagnostic of cremation at high temperatures above 800°C (Buikstra and Swegle 1989; Ubelaker 1989:36). Partial exposure to fire and charring, recognizable by material signatures that differ from those of proper cremations, is

also known for Teotihuacan, but the cultural intent behind partial exposure to fire cannot be accurately determined. In line with these challenges, a classification system reflecting degrees of exposure to fire has been devised for the skeletal remains discovered at Teotihuacan. These remains indicate exposures ranging from Level I (full cremation) to Level IV (some evidence of indirect exposure, as indicated by the adherence of black residue, suggesting traces of fire in reducing environments) (Sempowski 1994:141–145).

Calcined bone and discolored human remains found at Teotihuacan during the first part of the twentieth century suggested to their discoverers that these were the remains of cremations (Serrano Sánchez 1993:110). Seeing cultural continuity with the mortuary practices of the Aztecs, Séjourné was among the first to suggest that cremation was the primary funerary practice at Teotihuacan (Séjourné 1976:127; Sempowski 1999:476). Her hypothesis helped to account for the perceived dearth of human skeletal remains at the site, although hundreds of inhumed skeletal remains are now known and the uneven distribution of burials vis-a-vis biological populations is now recognized as a common Mesoamerican feature. However, the great antiquity of cremation in Western Mesoamerica (see Duncan et al. 2008) and the relatively late distribution of this practice to other culture areas of Mesoamerica do suggest that this mortuary practice is a marker of the cultures and societies of the Mexican Highlands. For instance, cremation only appears on the Gulf Coast during the Late Postclassic period, as do many of the examples from highland Guatemala, perhaps indicating an Aztec influence (Spence 1994:378). Relatedly, some of the earliest examples of cremations in the Maya Lowlands—including those found at Río Azul, Copan, and, most recently, Caracol—date to the latter facet of the Early Classic period, following the so-called Teotihuacan *entrada* in the fourth century. Researchers have, therefore, readily identified these as interments that conform to the funerary practices of the great and distant metropolis to the west (Adams 1999:61–62; Chase and Chase 2011; Fash 1998:228–229; Iglesias Ponce de León 2003, 2008).

Yet at Teotihuacan itself the situation is less clear cut. Of the 373 burials analyzed by Spence (1994) and Sempowski (1994), only seventy-seven showed any signs of exposure to fire, and of these only nine can be classed as Levels I and II in terms of fire exposure. This means that less than 21 percent of the known assemblage exhibits any signs of exposure to fire and less than 3 percent can be classed as complete cremations. While highly informative, what these figures signify remains open to discussion, since their implications are at least two-fold. First, it is evident that one of the most prevalent funerary practices at Teotihuacan, as with the remainder of Mesoamerica, was by means of direct inhumation. Yet whereas inhumation comprises a set of funerary practices that leave a clear material trace that is liable to be recovered, it is equally clear that the remainder of the biological population, which is not represented osteologically, must have been disposed of in death by another and more prevalent means, one that remains unknown, since it has left little or no recoverable material trace. As such, one of the funerary practices that has been, and continues to be, invoked is cremation, since such a practice may significantly affect the number of skeletal individuals identified in the archaeological record (Sempowski 1994:29).

Negative evidence aside, several unambiguous examples of incinerated burials have been found at some of the residential compounds of Teotihuacan, including La Ventilla, Zacuala, Tetitla, and Tlamimilolpa, which, based on associated funerary goods, appear to be the remains of high status individuals (Sempowski 1994:141–142, 144–145; Serrano Sánchez 1993:110). In addition, several instances of *in situ* cremations are known, such as those from La Ventilla and Tlamimilolpa, and human remains recovered as part of surface collections in the northwestern portion of the city have been identified as the vestiges of a crematory (Sempowski 1994:141; Spence 1994:367–379). The latter site is unique at Teotihuacan and represents the remains of about twenty-nine adults and three children, identified on the basis of small cranial and mandibular fragments, with the remains of terminal phalanges serving as evidence of *in situ*

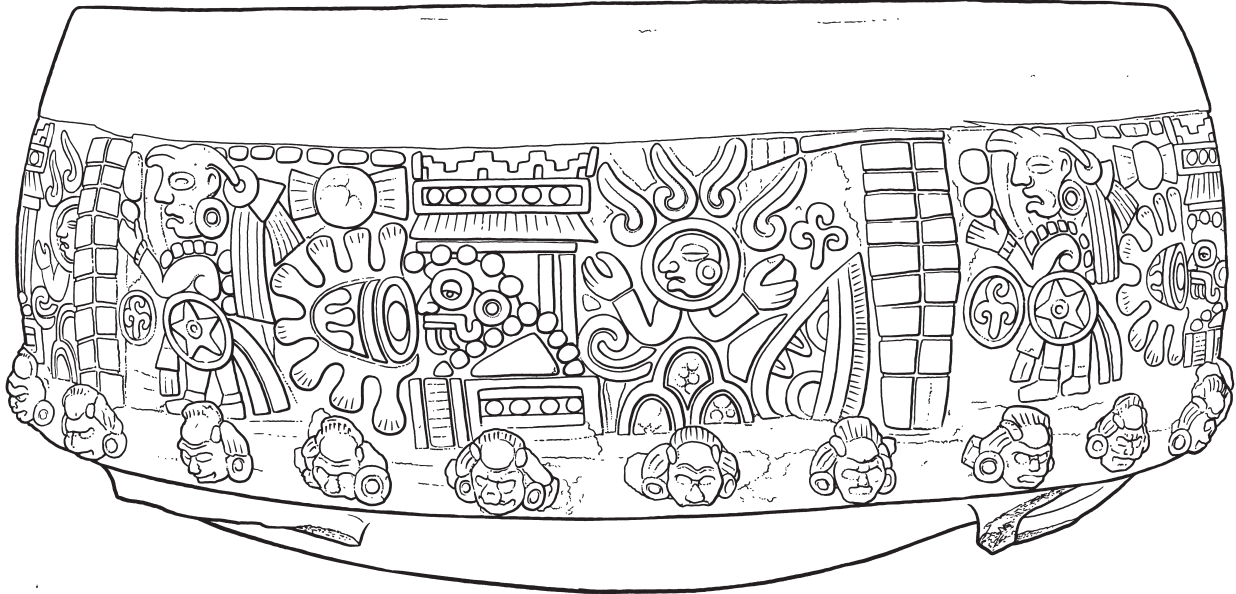


figure 4.9.

Detail from a Teotihuacan-style tripod vessel from the Escuintla region in Guatemala, showing a possible cremation scene. Drawing by Nicolas Latsanopoulos.

cremation (Spence 1994:368–370; see also Scherer and Houston, this volume). Confirmation of the existence of *in situ* cremations at Teotihuacan leads us to believe that many of the skeletal remains—those that only exhibit partial charring and were coated in fine carbonate powder—may have been failed cremation attempts in partially enclosed reducing environments. Sampling may account for the variable and disparate distribution of cremation versus inhumation in the various compounds where both funerary practices have been found (Sempowski 1994:143–144). Yet the one recurrent statistical trend is the predominance of adult cremations in contrast to those of subadults, which is counter to the expected patterns of biological mortality. The burials analyzed by Sempowski (1994:144) show that 93.1 percent of cremations are those of adults, whereas Spence’s (1994:369–370) work on the remains from the crematory indicate that 90.6 percent are adults, with a predominance of young adults.<sup>4</sup> Taken together, the low incidence of cremations at Teotihuacan and the marked preference for adult cremations suggests that this funerary practice was tied to

a particular social segment and served a means of communicating social roles. As such, we are beginning to shed the misconception of cremation as a marker of ethnic Teotihuacan identity in favor of understanding cremation as a primarily elite phenomenon with specific ritual significance. It may be that cremation transformed and transported deceased elite individuals and other distinct members of society, such as warriors, to an “otherworld,” perhaps as winged beings via ethereal and insubstantial smoke (see also Umberger 1987:428–437).

Returning to the iconographic evidence, we do not know of any representations of cremations from Teotihuacan itself, apart from the aforementioned mural from the Temple of Agriculture. There is, however, a possible depiction of such a rite on a Teotihuacan-style tripod vessel from the Escuintla region of Guatemala (Hellmuth 1975:20, 1978:81–83) (Figure 4.9). The image is part of a larger scene that involves a Teotihuacan warrior and a temple associated with the Teotihuacan Storm God. A so-called tri-mountain sign is discernible below a human face with two arms attached.

Four flames and a single smoke scroll surround the human features. To the right is a tri-spiral motif representing a stylized human heart in cross section (Séjourné 1976:119–120) and a single butterfly forewing. Nicholas Hellmuth first interpreted this collocation of elements as writing, possibly related to the later Cotzumalhuapa writing system (Hellmuth 1975:20–21). However, based on the context of these signs, we suggest an alternative interpretation. Considering the warrior and the Teotihuacan-style temple with the affixed bleeding heart, it is more plausible that this is a visual reference to a cremation ritual, and it should be kept in mind that numerous theater incense burners exhibiting warrior and butterfly attributes have been found in precisely this part of Guatemala (Berlo 1984; Bove and Medrano Busto 2003). The individual, whose lower part is not depicted, is a representation of a mortuary bundle (see Headrick 1999), and he is placed on top of the mountain sign. He shares facial features with the striding warrior figure and the tri-spiral appears with them both, indicating that they are related or identical. The warrior's shield is marked by a star motif that may be compared to the flaming star on the tripod published by Séjourné (Figure 4.3a) and thus hints at his association with the sun. We interpret the flames and smoke as evidence of an ongoing cremation, and the single butterfly wing informs the viewer of the ultimate result of the pyrolatric ritual: the warrior's metamorphosis into a butterfly.<sup>5</sup> Two vases from the Tiquisate region in Guatemala bear a mold-impressed image of a Teotihuacan-style individual with a large composite head-dress. The figure has his arms down in a peculiar pose, perhaps performing a dance. Attached to or emanating from his arms are flames (Hellmuth 1975:30–32). Whether these can be related to the cremation and transformation of butterfly warriors is as yet unclear. Nevertheless, they resonate with Taube's observation that some of the warriors from Tepantitla and the White Patio at Atetelco have flames emanating from their bodies, dress, and paraphernalia, thus demonstrating the close association between warriors, fire, and, ultimately, the sun (see Taube 1992:78–79).

## Fiery Rebirths and Butterflies

Building on our discussion of cremation at Teotihuacan, we will explore some of the related religious ideas and concepts that seem to have been associated with this particular kind of processing of the dead body. Drawing on Postclassic and colonial Aztec sources, Berlo and others have pointed out the widespread belief in Central Mexico that individuals who died in battle were transformed into winged beings (Berlo 1983; Taube 2000).<sup>6</sup> At Teotihuacan, dead and bundled warriors are also frequently portrayed with butterfly attributes (Berlo 1983; Headrick 1999, 2003, 2007:125–145), resonating with Bernardino de Sahagún's statement that Mexica warriors who had fallen in battle were transformed into butterflies and birds after four years in the realm of the Sun God. They would then return to earth to sip nectar from the flowers:

And when they had passed four years there, then they changed into precious birds—hummingbirds, orioles, yellow birds, yellow birds blackened about their eyes, chalky butterflies, feather down butterflies, gourd bowl butterflies; they suckled honey there where they dwelt. And here upon earth they came to suck from all the various flowers (Sahagún 1978:49).<sup>7</sup>

The Franciscan friar Toribio de Benavente Motolinía notes in his description of the funeral rituals of Aztec rulers that, after they had been cremated, the ashes and remaining bones were collected and deposited in a box or an urn. Once a year for each of the four consecutive years, offerings—most notably, sacrificed birds and butterflies—were placed before the urn (Umberger 1987:431; see also Chávez Balderas, this volume; Olivier, this volume). In a seminal work published in 2000, Taube further suggested that the mortuary bundles of Central Mexico could be compared to the chrysalis or pupa of the butterfly (Taube 2000:285–289, 301–309) (Figure 4.10). In his own words: “The souls of Teotihuacan warriors were transformed into butterflies during rites of cremation. In fact, [the] burning of the warrior bundle symbolized



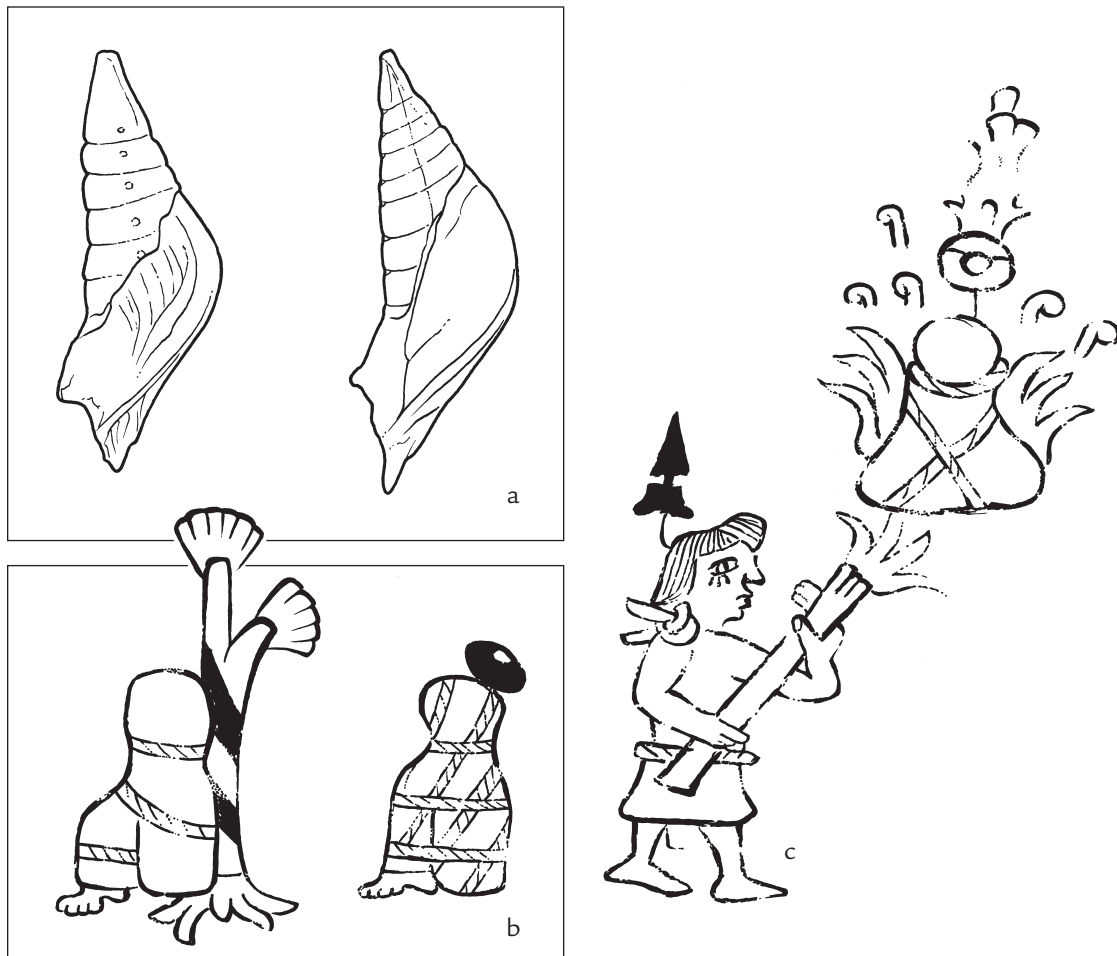


figure 4.10.  
 Comparison between (a) butterfly pupae and (b) mortuary bundles from the Codex Mendoza and Codex Telleriano-Remensis; and (c) the cremation of the bundled remains of Ixtlilxochitl as represented in the Codex Xolotl. Drawings by Christophe Helmke.

the metamorphosis from the moribund chrysalis to the brilliant butterfly” (Taube 2006:154). Thus, it is the transformative powers of fire that allowed for the rebirth of the dead warriors, their bundled remains undergoing a miraculous process modeled on that of the butterfly chrysalis. Taube has also argued that these butterflies and bird warrior-souls could be linked to the concept of an otherworldly solar realm known as a “Flower World,” which is found across Mesoamerica and in the American Southwest (Taube 2004, 2006; see also Hays-Gilpin and Hill 1999; Hill 1992). Beyond Mesoamerica, many cultures perceived or continue to regard butterflies as symbols of regeneration or as the souls of

the departed. Similar beliefs can be found in early Mediterranean cultures, including ancient Greece and Rome, and in Eastern cultures, as for example in Japan (e.g., Howse 2010).

Scholars have suggested that the so-called theater incense burners found at Teotihuacan (and at sites with connections to Teotihuacan) mimic mortuary bundles placed on top of altars or within shrines. The central clay masks probably represent the finely carved stone masks that are assumed to have been attached to the actual mortuary bundles, as was practiced by the Mixtec and Tarascans (Berlo 1984; Headrick 1999; Múnica Bermúdez 1991; Young-Sánchez 1990; see also Pereira, this volume).

Friar Juan de Torquemada also noted that among the Aztecs some dead were wrapped in fifteen or twenty precious woven mantles, and that a ‘painted mask’ (*máscara pintada*) was then placed on the bundle (Múnera Bermúdez 1991:339). As previously noted, such bundles were subsequently cremated. The small clay elements, called *adornos*, that are attached to the front of the theater incense burners represent a variety of objects, but particularly common are weapons (shields and darts), thus suggesting an association with warfare and warriors. The idea that incense burners had an important role in a cult centered on dead warriors is supported by the discovery of an incense burner workshop in a compound attached to the Ciudadela in Teotihuacan. Based on this finding, Saburo Sugiyama suggested that the state controlled the manufacture and distribution of these elite items and that “some censers were used for mortuary rituals, representing specific dead soldiers or groups affiliated with each social unit” (Sugiyama 1998:5). Other *adornos* that occur frequently on the censers are flowers, vegetables, fruits, and butterflies—either complete butterflies or represented *pars pro toto* by way of wings (typically either two or four representing the forewings and/or the hind wings), antennae, proboscises, and large feather-rimmed eyes (see Berlo 1983:83–84, 1984:63–65; Headrick 2003; Manzanilla and Carreón 1991; Von Winning 1987:1:115–124) (Figure 4.11).<sup>8</sup>

A brief comment on the issue of taxonomy is pertinent here. In Book 11 of the Florentine Codex, butterflies are described and illustrated along with other insects (and separate from avians), thus following a sixteenth-century European taxonomy (Sahagún 1963:94–95). Yet in Pre-Columbian taxonomies, nectar-feeding birds and butterflies may well have been conceived as being closely related. In Hopi iconography, it is highly difficult to distinguish between butterflies and birds: “The word for one is often used for the other, anatomical distinction not being recognized to any extent . . . and a figure of a butterfly with bird characters was not regarded as a violation of primitive art although it would shock the realistic ideas of a naturalist” (Fewkes 1910:583). The latter point is interesting

considering the known examples of “butterfly-birds” in Teotihuacan iconography, where birds appear with butterfly traits or vice versa (Paulinyi 2014). In sum, we can conclude that butterflies (represented whole or *pars pro toto*) are one of the most frequent *adorno* motifs on Teotihuacan theater incense burners. We, thus, surmise that a set of closely related beliefs concerning death, rebirth, butterflies, and the souls of dead warriors existed at Teotihuacan.

As already described, the transformation of the butterfly from “dead” bundle-like pupa to a winged creature associated with flowers and the sun served as the natural, observable backdrop for such religious ideas. We believe, however, that this relationship can be explored, and we suggest that, apart from the metamorphosis that all butterflies undergo, a spectacular natural phenomenon that continues to take place just to the west of the Basin of Mexico may have played a central role in the formation of these beliefs. Each year, billions of monarch butterflies (*Danaus plexippus*) take part in a two-way migration that may have provided the basis for the Pre-Columbian notion of a return of transformed warriors. In the spring, the monarchs travel north to the United States and Canada. They return between late August and October, flying more than 4,800 kilometers before reaching their overwintering areas in California and the western highlands of Central Mexico (Solensky 2004a). The monarch butterflies headed to the highlands of Central Mexico target a very limited number of locations in the states of Mexico and Michoacán, all situated within an 11,700 km<sup>2</sup> area. The butterflies seek out these areas, located some 2,700–3,600 amsl, since they prefer the oyamel fir and pine forests for their long roosting period. These important locations are home to colonies with up to an estimated sixty-one million monarchs per hectare (García-Serrano, Lobato Reyes, and Mora Alvarez 2004; Solensky 2004b). Astonishingly, these sites remained unknown to the scientific community until 1975 (Urquart 1976). Today, several are protected and serve as reserves or sanctuaries.<sup>9</sup>

Here, we would like to reintroduce Berlo’s original hypothesis that the yearly return of the

*figure 4.11.*  
So-called theater incense burner from Teotihuacan embellished with several *adornos* representing butterflies. Photograph © Instituto Nacional de Antropología e Historia / Museo Nacional de Antropología, Mexico City.



monarchs was instrumental in the formation of the Central Mexican belief that the souls of the dead would return at specific intervals of time (Berlo 1984:65). We know that the passage of the year was avidly observed and recorded in Mesoamerica. As members of agricultural societies, the people of Central Mexico had for millennia observed weather phenomena and animal behavior to predict the change of seasons. Several religious beliefs and practices were, thus, tightly associated with

and modeled on phenomena observed in the flora and fauna of the region. It is difficult to imagine that a yearly event such as the return of billions of monarch butterflies went unnoticed. Arriving from the north, the direction associated with death in Mesoamerican cosmology, they returned in uncountable numbers. Their return may literally have been perceived as a great army of dead soldiers coming back at the same time each year and a remarkable depiction of a whole swarm



figure 4.12.

Fragmentary Teotihuacan-style tripod vessel decorated with a swarm of butterflies. Drawing by Christophe Helmke, after Franco 1961:lám. 5.

of butterflies on a Teotihuacan vessel may relate to such beliefs (see Franco 1961:210–211, lám. V) (Figure 4.12).<sup>10</sup> Painted with a broad brush, it would seem that butterflies were symbols of the transformed dead, as seen in so many places of the world, and their remarkable migration patterns may have fostered a belief in an annual return of the souls of the dead. From these considerations on the fiery transformations of mortuary bundles and their symbolic relationship to the metamorphosis of butterflies, we now return to the role of fire in rituals related to the sun and the passing of the year.

### Years Born, Bundled, and Burned

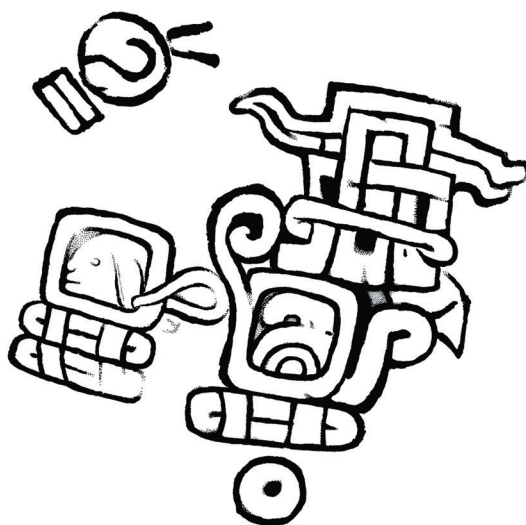
The ethnohistorical sources compiled by members of the mendicant orders during the sixteenth and seventeenth centuries declare that the passing of the months and seasons, among the Aztec, was accompanied by rituals and celebrations. In many ways, the attentiveness with which the colonists recorded these celebrations reveals the degree to which these rituals were conceived of as analogous to the saintly patronal feasts and fiestas of Old Spain. Indeed, Book 2 of the Florentine Codex reads as a liturgical calendar, dutifully assigning one celebration per

Aztec “month” (Sahagún 1981). Paramount among these feasts was the New Fire ceremony, which, according to the same ethnohistorical sources, was celebrated every fifty-two years, at the juncture between great cycles, wherein the complete permutations of the ritual *tonalpohualli* calendar had been exhausted. Each year that elapsed was symbolized by a reed, and years gone by were bound together into a large metonymic bundle, an act known as the *xiuhmolpolia*, or ‘binding of the years’ (Sahagún 1953:25). Upon completion, when the bundle comprised fifty-two reeds, the New Fire ceremony was celebrated, a ritual that is best known from the descriptions made of the last such ceremony celebrated in 1507. That particular Aztec ceremony was celebrated at the summit of a small volcanic peak now known as the Cerro de la Estrella, at the very tip of the peninsula that once separated Lake Texcoco from Lake Xochimilco (Figure 4.13a). The small Aztec temple where the ceremony reached its pinnacle was, aptly enough, erected at the very summit of the Cerro de la Estrella, and excavations reveal that it was refurbished in time for the 1507 ritual that was celebrated under the reign of Motecuhzoma II. Based on the account provided by Sahagún and his informants, one might conclude that the New Fire ceremony had been celebrated at this location for





a



b

figure 4.13.

New Fire rituals and the Cerro de la Estrella: (a) the temple erected at the summit where the Aztec conducted the New Fire ceremony of 1507; and (b) Epiclassic petroglyph recording a New Fire ritual on the south flanks of the mountain. Photograph and drawing by Christophe Helmke.

time immemorial and at precisely the same date.<sup>11</sup> What is less well known is that this temple was refurbished at various times and that its earliest construction phase and foundation may well date to the Epiclassic period (Pérez Negrete 2002). Based on continuities in the archaeological record and rock art on the Cerro de la Estrella, it is increasingly clear that the New Fire ceremony was, indeed, celebrated here for at least six centuries before the well-known and final New Fire ceremony of 1507 (Figure 4.13b). Recent salvage excavations have also revealed the presence of a *talud-tablero* platform at the northern shoulder of the Cerro de la Estrella, dating to ca. AD 350–450, which corresponds nicely with the Teotihuacan-style compounds discovered nearby in the 1970s (Flores Jiménez 2008; Reinhold 1979).

Together, these finds suggest the existence of not only some kind of settlement dating to the Early Classic period but also that this was a place of great importance to Teotihuacan. Thus, it may well be that the New Fire ceremony was celebrated at the Cerro de la Estrella for large parts of the Classic,

Epiclassic, and Postclassic periods (Helmke and Montero García 2016a, 2016b).

The New Fire ceremony is a ritual that serves to mark the very end of a calendrical cycle and, providence permitting, the start of a new cycle. Terms that have been used to describe the ritual include “pivotal,” “liminal,” “cyclical,” “cosmological,” and “cosmogonic,” and, as such, the New Fire ceremony is openly at the heart of rites of transition, time, and transformation (see Anders, Jansen, and Reyes García 1991:33–40; Broda 1982; Read 1998). The liminal phase surrounding this ritual was marked by darkness and the extinguishing of fires. All households, shrines, and temples were expected to douse their fires and to let untempered night fall upon the land, marking the start of a period of fasting and ritual cleansing. This important symbolic act served to slay the light of the previous cycle, after it—at least nominally—had been brought forth at the last New Fire ceremony. Five agonizing days passed before the preparations for the New Fire ceremony were concluded and the fire-priests, the *tlenamacac*,

ascended to the summit of the Cerro de la Estrella, dressed in the guise of *xiuhcocoah* or ‘fire-serpents’. There, in the dead of night, the priests stretched a sacrificial victim upon the stone, and, having removed the heart, made a cavity within the victim’s chest. The cavity was filled with a small bundle of tinder and kindling. Then, waiting for a particular constellation, in the shape of a fire-drill, to rise at the eastern horizon, the priests vigorously began drilling atop the captive’s chest, hoping to ignite the small bundle. Failure to do so would bring calamity upon the earth, as time would stand still and the world would be overrun by night and monstrous creatures. If, however, fortune smiled upon the priests, they would succeed in igniting the fire and would set the *xiuhmolpolli* alight from the New Fire.

The correspondence between the stellar constellation and the fire drill that made fire manifest suggests that the New Fire was essentially thought to be a celestial light channeled from the stars, through the *xiuhcocoah*. The ethnohistoric accounts make it clear that the individual selected for sacrifice was one who included the root *xiuh* in his name, a term with a wide semantic domain, including ‘turquoise, grass, year’ (Karttunen 1983:324; Siméon 1992:770–771), and we would argue, by extension, ‘time’. Clearly, many degrees of correspondence and symbolic equivalences permeated the New Fire ceremony. The priests were garbed as *xiuhcoatl*, a ‘fire serpent’, a being that, in many respects, served as the mounts of pure stellar light. These holy men were tasked with harnessing the fire and bringing forth time itself from an eponymous sacrificial victim. Thus, the New Fire sprang forth and had as its hearth a sacrificial victim that was immolated at the crux between temporal cycles, teetering at the edge of global collapse and renewal. This fire was tended and carried by runners to the central religious precinct of Tenochtitlan and from there, the fire was distributed to the other temples, neighborhood shrines all the way to individual households. Thus, all the people of the land were bound together in this single act of pyrolatry, fostering not only the ties that bind but also a debt of gratitude to the state, the priests who harnessed the fire, and the *tla-toani* that nominally officiated the rituals. As such,

to be Aztec was to share in the celestial light that the rulers bestowed benevolently upon the people. It is precisely such rituals—and the New Fire ceremony, in particular—that reify the importance of fire and igneous rituals in Mesoamerica, as a means of fostering identity and social cohesion.

Having reviewed the evidence for New Fire rituals observed and performed in Central Mexico in Late Postclassic times and most likely also at Teotihuacan, we now briefly wish to put forward some preliminary ideas concerning the life, death, and rebirth of time periods. We suggest that this cycle mimics that of humans and that, just as fire and cremation played an essential role in human funerary rites, these acts were invoked in the death rituals of years and greater calendrical cycles. Scholars have long noticed that time periods or intervals such as days and years were sometimes regarded and represented as personified entities, as time made manifest (López Austin 1963:74; Stuart 2005:272–273). First of all, it is worth noting that, in the Central Mexican tradition, the consecutive years were named after the days in the 260-day calendar that corresponded to the first day of the new solar year. Thus, just as humans, the year was named after its “birthday.” From Classic Maya writing we know that calendrical entities, such as the *k’atun* periods, were often personified as zoomorphic or anthropomorphic beings and could be depicted as seated upon cosmic thrones (Stuart 2011:256–257). Similarly, the first day of a “month” in the *haab* calendar is referred to as the *chum*, ‘seating’, drawing a direct parallel to the seating or enthronement of rulers by using precisely the same verb and idiomatic expression (Schele 1980:28–51; Thompson 1950:119–120, fig. 19). Comparable practices are evident among the cultures of Central Mexico, where important calendrical glyphs, presumably all year bearers, are sometimes represented wearing royal headdresses. We also see this at Teotihuacan, where the so-called Reptile Eye or ‘reed’ glyph is commonly depicted wearing the trapeze-and-ray headdress (see Helmke and Nielsen 2011:15–17, fig. 9, 2012). At Epiclassic Xochicalco, calendrical glyphs are shown as partly personified with arms and hands moving numbers around and pulling

other glyphs with ropes (Helmke and Nielsen n.d.; see also Chinchilla Mazariegos 2011:59–60), and at Early Postclassic Tula, we have examples of zoomorphic and anthropomorphic year bearers, shown as beings carrying the year as a heavy burden in their tumplines (Helmke and Nielsen 2011:15, fig. 8; Miller and Taube 1993:193; Von Winning 1987:1:154, fig. 3). The Cotzumalhuapan writing system from the Pacific coast of Guatemala provides additional examples of a similar tradition of animated glyphs, as recently discussed by Oswaldo Chinchilla Mazariegos (2011). Thus, we see that calendrical periods such as years were thought to be born, to perform, and to act much like humans, and an interesting question is what happens when the year passed, or rather, passed away. Do we have any evidence that the end of the year was conceived of as a death, perhaps to be bundled and burned, and hence transformed and reborn? A first indication may be the five-day period (known as *wayeb* among the Postclassic Maya and *nemontemi* among the Aztec) at the end of the solar year, which may be interpreted as the interval between the old and the new, reborn year, in which progressive time is essentially suspended, dead, and society anxiously awaits its rebirth. These inauspicious days are similar to the five days at the end of every 52-year calendrical cycle, which are terminated by the ignition of the New Fire rituals. As for treating the old, defunct time period as a dead body that was bundled and prepared for cremation, we must also recall the fate of the sacrificial victim, named ‘year’ and in many ways identified as time incarnate. It was he who was to serve as the vessel for the New Fire, only to be incinerated by the conflagration, just as the gods were immolated at Teotihuacan, in order to promote the rise of the sun and to foster the perduration of time.

## Conclusions

To briefly conclude and summarize the main points put forward in this essay, we hope to have demonstrated the overall importance of pyrolatric rituals at Teotihuacan. Although we are still faced with the daunting task of reconstructing and understanding

religion, mythology, and ritual practices in Early Classic Central Mexico, the available archaeological remains, iconographic representations, and surviving hieroglyphic texts from the region (in conjunction with analogies from other Mesoamerican cultures) allow for some preliminary observations and hypotheses related to the meaning of fire, flames, and smoke at Teotihuacan. Our present examination suggests that fire was considered one of the—if not *the*—primary transformative power in Teotihuacan religion and ideology. This is reflected in the display or inclusion of torches—alluding to the drilling of a New Fire—in references to conquests, foundation rituals, and a specific elite title. Fire and flames also played a central role in the funerary practices at Teotihuacan, which included cremations, and particularly so in the complex of practices and beliefs surrounding the dead, bundled warriors, the spectacular theater censers, and the fiery rebirth of souls of warriors in the shape of butterflies. Furthermore, we have discussed some of the current evidence for New Fire rituals at Teotihuacan, and pointed to the possible continuity in the use of the Cerro de la Estrella as one of the main ritual loci for this all-important ceremony—also in Classic times. The reference to the New Fire ritual as *xiuhmolpolia* (‘binding of the years’) among the Aztec has led us to reconsider the life and death of time periods, thereby suggesting that the “life-histories” of years may be compared to those of rulers elsewhere in Mesoamerica, in that they were born, enthroned, carried heavy burdens and responsibilities, and ultimately passed away—only to be bundled, cremated, and reborn (see also Scherer and Houston, this volume). In all the aforementioned cases, it is fire and the process of burning that are the symbolic and/or functional means of transformation, transition, and change. Heat and warmth are the essence of life: the warm body of a living person in contrast to a cold, dead body, and the warmth of the day differentiated from the chill of night. In ancient Central Mexico, fire and flames may well have been seen as extensions of the heavenly fire or heat—and the life-bringing force—of the sun. Thus, it is the sun’s light, warmth, and transformative power that continually brings

about new life. With the celebrated Aztec creation myth in mind, the suggested importance of New Fire rituals at the Pyramid of the Sun makes perfect sense: to the Aztec, this was, indeed, where the sun, and a new world, came into being, and where the dark, timeless chaos was transformed into a ordered regime governed by days and years. Very similar thoughts and concepts were likely part of Teotihuacan cosmology and religion. And so, rather than the self-immolating gods, it was the sun that came into being at Teotihuacan. On the basis of several sources, we have, therefore, suggested an alternative translation of the Nahuatl toponym for the ancient metropolis—namely, ‘Where the sun came into being’. Whether this name is in any way related to or derived from the original name for the city is difficult to ascertain from the available sources, but there can be little doubt that fiery rituals directed at the sun once took place here, just as fires and flames served as a paramount transformative power in rituals throughout much of the ancient metropolis.

## Acknowledgments

First and foremost, we would like to thank Vera Tiesler and Andrew Scherer for their kind invitation to participate in the symposium and to contribute this essay to the volume. We offer the editors as well as the anonymous reviewers our thanks for their comments on earlier versions of this essay. A warm thanks also to Colin McEwan, Kelly McKenna, and all others involved in organizing the wonderfully inspiring symposium at Dumbarton Oaks. Likewise, we wish to extend our gratitude to a number of colleagues who have been helpful with valuable comments, references, and drawings, among them Oswaldo Chinchilla Mazariegos, Agapi Filini, Annabeth Headrick, Nicolas Latsanopoulos, Luis Fernando Luín, Katarzyna Mikulska, Magnus Pharaoh Hansen, Karl Taube, Alexandre Tokovinine, and Kasper Wrem Anderson. All errors and misinterpretations, however, remain our sole responsibility.

## NOTES

- 1 For a discussion of the many solar metaphors in use among the Aztec, see Umberger 1987:424–427. For example, she notes that the sun’s movement across the sky is used as a reference to “success or progress in life,” but could also apply to political issues: “‘now the sun shineth’ means ‘something new comes to pass. A new law begins. Or the ruler is installed, is selected.’” In contrast, the absence of the sun is associated with death and periods of chaos, insecurity, and violence.
- 2 José María Arreola (1922:555) first translated the term as ‘place of burials in honor of the sun’.
- 3 Translation by the authors.
- 4 The distribution for males and females does not follow biological patterns either, as Sempowski (1994:144) presents a distribution of 57.6 percent males ( $n = 34$ ) versus 42.4 percent females ( $n = 25$ ); this distribution accords well with that presented by Spence (1994:370–372), who suggests a breakdown of 60.0 percent male ( $n = 12$ ) versus 40.0 percent

female ( $n = 8$ ). These figures suggest ratios of 3:2 and 7:5 in favor of males, demonstrating a significant gender bias in crematory practices.

- 5 Another tripod vessel from Escuintla shows a decapitation scene, as it seemingly represents the head of the victim being burned as an offering (see Hellmuth 1975:17, pl. 9, 1978:80, fig. 11).
- 6 See Franco (1961) for an excellent early study of butterfly iconography in Mesoamerica.
- 7 Other interesting symbolic overlaps between warriors and butterflies are to be found. In the early twentieth century, Eduard Seler pointed out that the central effigy in the yearly *Xocotl uetzi* feast took the shape of a butterfly and represented “the god of the warrior’s death or the spirit of the dead warrior” (Seler 1904:1039, cited after Berlo 1983:85) and that Mexica warriors are sometimes shown wearing large butterfly effigies on backracks. From the Early Postclassic period, the famous warriors from Tula’s Pyramid B are represented with

- stylized butterfly pectorals, just as several of the individuals portrayed on the pillars of the same structure have butterflies incorporated into their headdresses, strongly suggesting continuity in the close association between butterflies and warriors. Early scholars like Selser and Hermann Beyer also concluded that similar, if not identical, beliefs about butterflies as the souls of deceased warriors existed in Teotihuacan (see Headrick 2003:158).
- 8 It has also been suggested that a specific deity, the Butterfly God (Dios Mariposa), is represented in the iconography of Teotihuacan (Paulinyi 2014; Von Winning 1987:1:123–124; see also Manzanilla and Carreón 1996:304–306).
- 9 The archaeology of these overwintering areas is not well known, and we have little information about archaeological sites, such as temples, shrines, or burials in the vicinity of the sanctuaries; interestingly, however, Agapi Filini notes that in the

- Classic period iconography of the Cuitzeo Basin in Michoacan, less than one hundred kilometers from the monarch areas, “the butterfly complex constitutes a major iconographic theme” (Filini 2004:66).
- 10 Of the comparable examples of religious interpretations of butterfly migrations, a fascinating case is known from Java. In 1883, shortly after the disastrous eruption of the volcano Krakatau, the migration of large groups of butterflies was believed to be the incarnations of the more than thirty thousand people killed by the eruption (Rödén 2012:103).
- 11 A different and more varied picture emerges, however, from a more careful reading of the extant ethno-historic sources as well as the epigraphic evidence from the Late Postclassic and Epiclassic periods in Central Mexico. As a result, it is increasingly clear that the New Fire ceremony was, at times, celebrated on different dates and that different city-states conducted their rituals at different intervals.

#### REFERENCES CITED

- Adams, Richard E. W.  
1999 *Río Azul: An Ancient Maya City*. University of Oklahoma Press, Norman.
- Anders, Ferdinand, Maarten E. R. G. N. Jansen, and Luis Reyes García  
1991 *El Libro del Ciuacoatl: Homenaje para el año del Fuego Nuevo; Libro explicativo del llamado Códice Borbónico*. Fondo de Cultura Económica, Mexico City.
- Arreola, José María  
1922 Códices y documentos en mexicano. In *La población del valle de Teotihuacan*, edited by Manuel Gamio, vol. 1, pp. 549–594. Secretaría de Educación Pública, Mexico City.
- Berdan, Frances F., and Patricia Rieff Anawalt (editors)  
1992 *The Codex Mendoza*. 4 vols. University of California Press, Berkeley.
- Berlo, Janet Catherine  
1983 The Warrior and the Butterfly: Central Mexican Ideologies of Sacred Warfare and Teotihuacan Iconography. In *Text and Image in Pre-Columbian Art: Essays on the Interrelationship of the Verbal and Visual Arts*, edited by Janet Catherine Berlo, pp. 79–117. British Archaeology Reports, Oxford.
- 1984 *Teotihuacan Art Abroad: A Study of Metropolitan Style and Provincial Transformation in Incensario Workshops*. 2 vols. British Archaeology Reports, Oxford.
- Berrin, Kathleen, and Esther Pasztory (editors)  
1993 *Teotihuacan: Art from the City of the Gods*. Thames and Hudson, New York.
- Beyer, Hermann  
1921 *El llamado “Calendario azteca”: Descripción y interpretación del cuauhxicalli de la “Casa de las águilas.”* Verband Deutscher Reichsangehöriger, Mexico City.
- 1922 Relaciones entre la civilización teotihuacana y la azteca. In *La población del valle de Teotihuacán*, edited by Manuel Gamio, vol. 2, pp. 273–293. Secretaría de Agricultura y Fomento, Mexico City.



- Bierhorst, John  
 1992 *History and Mythology of the Aztecs: The Codex Chimalpopoca*. University of Arizona Press, Tucson.
- Bolz, Ingeborg  
 1975 *Sammlung Ludwig: Altamerika*. Verlag Aurel Bongers, Recklinghausen.
- Boone, Elizabeth Hill  
 2000 Venerable Place of Beginnings: The Aztec Understanding of Teotihuacan. In *Mesoamerica's Classic Heritage: From Teotihuacan to the Aztecs*, edited by David Carrasco, Lindsay Jones, and Scott Sessions, pp. 371–395. University Press of Colorado, Boulder.  
 2011 The Cultural Category of Scripts, Signs, and Pictographies. In *Their Way of Writing: Scripts, Signs, and Pictographies in Pre-Columbian America*, edited by Elizabeth Hill Boone and Gary Urton, pp. 379–390. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Bove, Frederick J., and Sonia Medrano Busto  
 2003 Teotihuacan, Militarism, and Pacific Guatemala. In *The Maya and Teotihuacan: Reinterpreting Early Classic Maya Interaction*, edited by Geoffrey E. Braswell, pp. 45–79. University of Texas Press, Austin.
- Broda, Johanna  
 1982 La fiesta azteca del Fuego Nuevo y el culto de las Pléyades. In *Space and Time in the Cosmivision of Mesoamerica*, edited by Franz Tichy, pp. 129–158. Wilhelm Fink Verlag, Munich.
- Buikstra, Jane E., and Mark Swegle  
 1989 Bone Modification Due to Burning: Experimental Evidence. In *Bone Modification*, edited by Robson Bonnichsen and Marcella H. Sorg, pp. 247–258. Center for the Study of the First Americans, Institute for Quaternary Studies, University of Maine, Orono.
- Caso, Alfonso  
 1962 Calendario y escritura en Xochicalco. *Revista mexicana de estudios antropológicos* 18:49–79.
- Chase, Arlen F., and Diane Z. Chase  
 2011 Status and Power: Caracol, Teotihuacan, and the Early Classic Maya World. *Research Reports in Belizean Archaeology* 8:3–18.
- Chinchilla Mazariegos, Oswaldo  
 2011 The Flowering Glyphs: Animation in Cotzumalhuapa Writing. In *Their Way of Writing: Scripts, Signs, and Pictographies in Pre-Columbian America*, edited by Elizabeth Hill Boone and Gary Urton, pp. 43–75. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Davies, Douglas J., and Lewis H. Mates (editors)  
 2005 *Encyclopedia of Cremation*. Ashgate, Aldershot, U.K.
- Dibble, Charles E.  
 1980 *Códice Xolotl*. 2 vols. Universidad Autónoma de México, Instituto de Investigaciones Históricas, Mexico City.
- Duncan, William N., Andrew K. Balkansky, Kimberly Crawford, Heather A. Lapham, and Nathan J. Meissner  
 2008 Human Cremation in Mexico 3,000 years ago. *Proceedings of the National Academy of Sciences* 105(14):5315–5320.
- Fash, William L.  
 1998 Dynastic Architectural Programs: Intention and Design in Classic Maya Buildings at Copan and Other Sites. In *Function and Meaning in Classic Maya Architecture*, edited by Stephen D. Houston, pp. 223–270. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Fash, William L., Alexandre Tokovinine, and Barbara W. Fash  
 2009 The House of New Fire at Teotihuacan and Its Legacy in Mesoamerica. In *The Art of Urbanism: How Mesoamerican Kingdoms Represented Themselves in Architecture and Imagery*, edited by William L. Fash and Leonardo López Luján, pp. 201–229. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Fewkes, J. Walter  
 1910 The Butterfly in Hopi Myth and Ritual. *American Anthropologist* 12:576–594.

- Filini, Agapi  
 2004 *The Presence of Teotihuacan in the Cuitzeo Basin, Michoacán, Mexico*. Archaeopress, Oxford.
- Flores Jiménez, María de los Ángeles  
 2008 *Informe de salvamiento arqueológico, sustitución de las cruces realizadas en el Cerro de la Estrella, predio La Pasión, Iztapalapa, marzo*. Archivo Técnico de la Coordinación Nacional de Arqueología, Mexico City.
- Franco C., José Luis  
 1961 Representaciones de la mariposa en Mesoamérica. *México antiguo* 9:185–244.
- Fuente, Beatriz de la  
 1995 Zona 2. Templo de la Agricultura. In *La pintura mural prehispánica en México*. Tomo 1, vol. 1, *Teotihuacán: Catálogo*, edited by Beatriz de la Fuente, pp. 102–107. Universidad Nacional Autónoma de México, Mexico City.
- Gamio, Manuel  
 1922 Arquitectura y escultura. In *La población del valle de Teotihuacan*, edited by Manuel Gamio, vol. 1, pp. 99–174. Secretaría de Educación Pública, Mexico City.
- García-Serrano, Eligio, Jaime Lobato Reyes, and Blanca Xiomara Mora Alvarez  
 2004 Locations and Area Occupied by Monarch Butterflies Overwintering in Mexico from 1993 to 2002. In *The Monarch Butterfly: Biology and Conservation*, edited by Karen S. Oberhauser and Michelle J. Solensky, pp. 129–133. Cornell University Press, Ithaca, N.Y.
- Hays-Gilpin, Kelley, and Jane H. Hill  
 1999 The Flower World in Material Culture: An Iconographic Complex in the Southwest and Mesoamerica. *Journal of Anthropological Research* 55:1–37.
- Headrick, Annabeth  
 1999 The Street of the Dead . . . It Really Was: Mortuary Bundles at Teotihuacan. *Ancient Mesoamerica* 10:69–85.  
 2003 Butterfly War at Teotihuacan. In *Ancient Mesoamerican Warfare*, edited by M. Kathryn Brown and Travis W. Stanton, pp. 149–170. AltaMira Press, Walnut Creek, Calif.
- Hellmuth, Nicholas M.  
 1975 The Escuintla Hoards: Teotihuacan Art in Guatemala. *Foundation for Latin American Anthropological Research, Progress Reports* 1(2):5–58.  
 1978 Teotihuacan Art in the Escuintla, Guatemala Region. In *Middle Classic Mesoamerica: AD 400–700*, edited by Esther Pasztory, pp. 71–85. Columbia University Press, New York.
- Helmke, Christophe, and Ismael Arturo Montero García  
 2016a A la sombra del Gólgota: Observancias rituales en el Cerro de la Estrella del periodo clásico hasta hoy. Paper presented at the 81st Annual Meeting of the Society for American Archaeology, Orlando.  
 2016b Caves and New Fire Ceremonies in the Central Mexican Highlands: The Case of the Cerro de la Estrella, Iztapalapa, Mexico. *Contributions in New World Archaeology* 10:55–100.
- Helmke, Christophe, and Jesper Nielsen  
 2011 *The Writing System of Cacaxtla, Tlaxcala, Mexico*. Ancient America Special Publication no. 2. Boundary End Archaeology Research Center, Barnardville, N.C.  
 2012 Teotihuacan Writing: Where Are We Now? Paper presented at the Mixtec Codices Workshop, Faculteit Archeologie, Universiteit Leiden, Leiden.  
 n.d. La escritura jeroglífica epiclásica. In *Los sistemas de escritura de Mesoamérica*, edited by Erik Velásquez García. Universidad Nacional Autónoma de México, Instituto de Investigaciones Históricas, Mexico City, in press.
- Hill, Jane H.  
 1992 The Flower World of Old Uto-Aztecán. *Journal of Anthropological Research* 48:117–144.

- Howse, Phillip  
 2010 *Butterflies: Decoding Their Signs and Symbols*. Firefly Books, Buffalo, N.Y.
- Hvidtfeldt, Arild  
 1958 *Teotl and \*Ixiptlatli: Some Central Conceptions in Ancient Mexican Religion*. Munksgaard, Copenhagen.
- Iglesias Ponce de León, María Josefa  
 2003 Contenedores de cuerpos, cenizas y almas: El uso de urnas funerarias en la cultura maya. In *Antropología de la eternidad: La muerte en la cultura maya*, edited by Andrés Ciudad Ruiz, Mario Humberto Ruz, and María Josefa Iglesias Ponce de León, pp. 209–254. Sociedad Española de Estudios Mayas, Madrid; and Centro de Estudios Mayas, Instituto de Investigaciones Filológicas, Universidad Nacional Autónoma de México, Mexico City.
- 2008 Actualizando la controversia: El clásico temprano en Petén, Guatemala. *Mayab* 20:125–144.
- Jansen, Maarten E. R. G. N., and Gabina Aurora Pérez Jiménez  
 2007 *Encounter with the Plumed Serpent: Drama and Power in the Heart of Mesoamerica*. University Press of Colorado, Boulder.
- Karttunen, Frances  
 1983 *An Analytical Dictionary of Nahuatl*. University of Oklahoma Press, Norman.
- Kubler, George  
 1982 The Mazapan Maps of Teotihuacan in 1560. *Indiana* 7:43–55.
- Lacadena, Alfonso  
 2011 New Research on the Aztec Script: A True Writing System. Paper presented at the Tatiana Proskouriakoff Award Lecture, Peabody Museum of Archaeology and Ethnology, Cambridge, Mass.
- 2014 *Aztec Writing*. Workshop handbook compiled for the conference “Mesoamerican Writing Systems,” University of Helsinki, Helsinki.
- Launey, Michel  
 1992 *Introducción a la lengua y a la literatura náhuatl*. Universidad Nacional Autónoma de México, Mexico City.
- López Austin, Alfredo  
 1963 La fiesta del fuego nuevo según el Códice Florentino. *Anuario de historia* 3:73–91.
- López Luján, Leonardo  
 1989 *La recuperación mexicana del pasado teotihuacano*. García Valadés, Mexico City.
- 2006 *La casa de las águilas: Un ejemplo de arquitectura religiosa de Tenochtitlan*. 2 vols. Fondo de Cultura Económica and Instituto Nacional de Antropología e Historia, Mexico City.
- Manzanilla, Linda, and Emilie Carreón  
 1991 A Teotihuacan Censer in a Residential Context: An Interpretation. *Ancient Mesoamerica* 2:299–307.
- Marcus, Joyce  
 1992 *Mesoamerican Writing Systems: Propaganda, Myth, and History in Four Ancient Civilizations*. Princeton University Press, Princeton, N.J.
- Mikulska, Katarzyna  
 2014 Numbers, Tables, and Calendars: When Writing Appeared. *Contributions in New World Archaeology* 7:47–72.
- Miller, Arthur G.  
 1973 *The Mural Painting of Teotihuacan*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Miller, Mary, and Karl Taube  
 1993 *An Illustrated Dictionary of the Gods and Symbols of Ancient Mexico and the Maya*. Thames and Hudson, London.
- Múnera Bermúdez, Luis Carlos  
 1991 Una representación de bulto mortuario. In *Teotihuacan 1980–1982: Nuevas interpretaciones*, edited by Rubén Cabrera Castro, Ignacio Rodríguez G., and Noel Morelos G., pp. 335–341. Instituto Nacional de Antropología e Historia, Mexico City.
- Nielsen, Jesper  
 2003 Art of the Empire: Teotihuacan Iconography and Style in Early Classic Maya Society (A.D. 380–500). PhD dissertation, University of Copenhagen, Copenhagen.
- 2006 The Coming of the Torch: Observations on Teotihuacan Iconography in Early Classic Tikal. In *Maya Ethnicity: The*

- Construction of Ethnic Identity from Preclassic to Modern Times*, edited by Frauke Sachse, pp. 19–30. Acta Mesoamericana, vol. 11. Verlag Anton von Saurwein, Markt Schwaben.
- n.d. Hearts and Torches: Possible Teotihuacan Military *Entradas* in North-Central and Western Mesoamerica. In *Seeking Conflict: Understanding Ancient Hostilities in Mesoamerica through Text and Image*, edited by Shawn G. Morton and Meaghan Peuramaki-Brown. University Press of Colorado, Boulder, in press.
- Nielsen, Jesper, and Christophe Helmke
- 2014a House of the Serpent Mat, House of Fire: The Names of Buildings in Teotihuacan Writing. *Contributions in New World Archaeology* 7:113–140.
- 2014b Estudio preliminar de la iconografía de los murales de El Rosario, Querétaro, México. In *El valle de San Juan del Río: Un palimpsesto arqueológico*, edited by Juan Carlos Saint-Charles Zetina, pp. 75–83. Archivo Histórico Municipal/Fondo Editorial de Querétaro, Querétaro.
- Nielsen, Jesper, Elizabeth Jiménez García, and Ángel Iván Rivera Guzmán
- n.d. Across the Hills, Towards the Ocean: Teotihuacan-style Monuments in Guerrero, Mexico. In *Exchanging Culture: Interaction and Social Dynamics in Ancient Mesoamerica*, edited by Joshua D. Englehardt and Bryan Schaeffer. University Press of Colorado, Boulder, in press.
- Nuttall, Zelia
- 1926 Official Reports on the Towns of Tequizistlan, Tepechpan, Acolman, and San Juan Teotihuacan Sent by Francisco de Castañeda to his Majesty, Philip II, and the Council of the Indies, in 1580. *Papers of the Peabody Museum of American Archaeology and Ethnology* 11(2):45–84.
- Olmedo Vera, Bertina
- 2002 *Los templos rojos del recinto sagrado de Tenochtitlan*. Instituto Nacional de Antropología e Historia, Mexico City.
- Oudijk, Michel R.
- 2002 La toma de posesión: Un tema mesoamericano para la legitimación del poder. *Relaciones: Estudios de historia y sociedad* 23:97–131.
- Paszatory, Esther
- 1997 *Teotihuacan: An Experiment in Living*. University of Oklahoma Press, Norman.
- Paulinyi, Zoltán
- 2014 The Butterfly Bird God and His Myth at Teotihuacan. *Ancient Mesoamerica* 25:24–48.
- Peñafiel, Antonio
- 1885 *Nombres geográficos de México: Catálogo alfabético de los nombres de lugar pertenecientes al idioma “nahuatl”; Estudio jeroglífico de la matrícula de los tributos del Códice Mendocino*. Oficina Tipográfica de la Secretaría de Fomento, Mexico City.
- 1897 *Nomenclatura geográfica de México: Etimologías de los nombres de lugar correspondientes á los principales idiomas que se hablan en la república*. Oficina Tipográfica de la Secretaría de Fomento, Mexico City.
- Pérez Negrete, Miguel
- 2002 El Templo del Fuego Nuevo del Huizachtécatl: Un espacio ritual en el Cerro de la Estrella. In *Huizachtécatl: Geografía sagrada de Iztapalapa*, edited by Ismael Arturo Montero García, pp. 87–113. Delegación Iztapalapa, Mexico City.
- Quinn, Colin P., Ian Kuijt, and Gabriel Cooney
- 2014 Contextualizing Cremations: Introduction to Fire and the Body. In *Transformation by Fire: The Archaeology of Cremation in Cultural Context*, edited by Ian Kuijt, Colin P. Quinn, and Gabriel Cooney, pp. 3–21. University of Arizona Press, Tucson.
- Read, Kay Almere
- 1998 *Time and Sacrifice in the Aztec Cosmos*. Indiana University Press, Bloomington.
- Reinhold, Manfred
- 1979 Informe sobre excavaciones arqueológicas en el Cerro de la Estrella, Colonia Fuego Nuevo, 1977–1979, Delegación del Distrito Federal de Iztapalapa. Archivo



- de Registro Público de Monumentos y Zonas Arqueológicas, Instituto Nacional de Antropología e Historia, Mexico City.
- Rödén, Ida  
 2012 Butterflying with Margot Waltz. *National Geographic* (April):100–103.
- Rodríguez Villegas, Manuel  
 2014 Diccionario náhuatl–español. *Aulex*: <http://aulex.org/nah-es/>, accessed March 6, 2017.
- Sahagún, Bernardino de  
 1953 *Florentine Codex: General History of the Things of New Spain*. Book 7, *The Sun, Moon, and Stars, and the Binding of the Years*. Translated by Arthur J. O. Anderson and Charles E. Dibble. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.  
 1954 *Florentine Codex: General History of the Things of New Spain*. Book 8, *Kings and Lords*. Translated by Arthur J. O. Anderson and Charles E. Dibble. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.  
 1963 *The Florentine Codex: General History of the Things of New Spain*. Book 11, *Earthly Things*. Translated by Charles E. Dibble and Arthur J. O. Anderson. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.  
 1970 *The Florentine Codex: General History of the Things of New Spain*. Book 1, *The Gods*. Translated by Arthur J. O. Anderson and Charles E. Dibble. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.  
 1978 *The Florentine Codex: General History of the Things of New Spain*. Book 3, *The Origins of the Gods*. Translated by Arthur J. O. Anderson and Charles E. Dibble. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.  
 1981 *The Florentine Codex: General History of the Things of New Spain*. Book 2, *The Ceremonies*. Translated by Arthur J. O. Anderson and Charles E. Dibble. University of Utah, Salt Lake City, and School of American Research, Santa Fe, N. Mex.
- Schele, Linda  
 1980 *Maya Glyphs: The Verbs*. University of Texas Press, Austin.
- Scherer, Andrew K., and John W. Verano (editors)  
 2014 *Embattled Bodies, Embattled Places: War in Pre-Columbian Mesoamerica and the Andes*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Séjourné, Laurette  
 1966 *Arqueología de Teotihuacán: La cerámica*. Fondo de Cultura Económica, Mexico City.  
 1976 *Burning Water: Thought and Religion in Ancient Mexico*. Shambhala, Berkeley, Calif.
- Seler, Eduard  
 1904 Die religiösen Gesänge der alten Mexikaner. In *Gesammelte Abhandlungen zur amerikanischen Sprach- und Altertumskunde*, vol. 2, pp. 964–1107. Behrend and Co., Berlin.
- Sempowski, Martha  
 1994 Mortuary Practices at Teotihuacan. In *Mortuary Practices and Skeletal Remains at Teotihuacan*, by Martha Sempowski and Michael W. Spence, pp. 1–314. University of Utah Press, Salt Lake City.  
 1999 The Potential Role of Human Interment in Household Ritual at Tetitla. In *Prácticas funerarias en la ciudad de los dioses: Los enterramientos humanos de la antigua Teotihuacan*, edited by Linda Manzanilla and Carlos Serrano Sánchez, pp. 473–502. Instituto de Investigaciones Antropológicas, Universidad Nacional Autónoma de México, Mexico City.
- Serrano Sánchez, Carlos  
 1993 Funerary Practices and Human Sacrifice in Teotihuacan Burials. *Teotihuacan: Art from the City of the Gods*, edited by Kathleen Berrin and Esther Pasztory, pp. 109–115. Thames and Hudson, New York, and Fine Arts Museum of San Francisco, San Francisco.
- Siméon, Rémi  
 1992 *Diccionario de la lengua náhuatl o mexicana*. Siglo Veintiuno, Mexico City.

- Solensky, Michelle J.
- 2004a Overview of Monarch Migration. In *The Monarch Butterfly: Biology and Conservation*, edited by Karen S. Oberhauser and Michelle J. Solensky, pp. 79–83. Cornell University Press, Ithaca, N.Y.
- 2004b Overview of Monarch Overwintering Biology. In *The Monarch Butterfly: Biology and Conservation*, edited by Karen S. Oberhauser and Michelle J. Solensky, pp. 117–120. Cornell University Press, Ithaca, N.Y.
- Spence, Michael W.
- 1994 Human Skeletal Remains from Teotihuacan. In *Mortuary Practices and Skeletal Remains at Teotihuacan*, by Martha Lou Sempowski and Michael W. Spence, pp. 315–427. University of Utah Press, Salt Lake City.
- Stone, Andrea
- 1989 Disconnection, Foreign Insignia, and Political Expansion: Teotihuacan and the Warrior Stelae of Piedras Negras. In *Mesoamerica after the Decline of Teotihuacan, AD 700–900*, edited by Richard A. Diehl and Janet Catherine Berlo, pp. 153–172. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Stuart, David
- 2000 “The Arrival of Strangers”: Teotihuacan and Tollan in Classic Maya History. In *Mesoamerica’s Classic Heritage: From Teotihuacan to the Aztecs*, edited by David Carrasco, Lindsay Jones, and Scott Sessions, pp. 465–513. University Press of Colorado, Boulder.
- 2005 Ideology and Classic Maya Kingship. In *A Catalyst for Ideas: Anthropological Archaeology and the Legacy of Douglas W. Schwartz*, edited by Vernon L. Scarborough, pp. 257–285. School of American Research, Santa Fe, N. Mex.
- 2011 *The Order of Days: The Maya World and the Truth about 2012*. Harmony Books, New York.
- Sugiyama, Saburo
- 1998 Archaeology and Iconography of Teotihuacan Censers: Official Military Emblems Originated from the Ciudadela? *Teotihuacan Notes: Internet Journal for Teotihuacan Archaeology and Iconography*. Archaeological Research Institute, Arizona State University, Tempe.
- Taube, Karl A.
- 1992 The Temple of Quetzalcoatl and the Cult of Sacred War at Teotihuacan. *RES: Anthropology and Aesthetics* 21:54–87.
- 1993 *Aztec and Maya Myths*. British Museum Press, London.
- 2000 The Turquoise Hearth: Fire, Self-Sacrifice, and the Central Mexican Cult of War. In *Mesoamerica’s Classic Heritage: From Teotihuacan to the Aztecs*, edited by David Carrasco, Lindsay Jones, and Scott Sessions, pp. 269–340. University Press of Colorado, Boulder.
- 2004 Flower Mountain: Concepts of Life, Beauty, and Paradise among the Classic Maya. *RES: Anthropology and Aesthetics* 45:69–98.
- 2006 Climbing Flower Mountain: Concepts of Resurrection and the Afterlife at Teotihuacan. In *Arqueología e historia del centro de México: Homenaje a Eduardo Matos Moctezuma*, edited by Leonardo López Luján, David Carrasco, and Lourdes Cué, pp. 153–170. Instituto Nacional de Antropología e Historia, Mexico City.
- 2015 The Huastec Sun God: Portrayals of Solar Imagery, Sacrifice, and War in Late Postclassic Huastec Iconography. In *The Huasteca: Culture, History, and Interregional Exchange*, edited by Katherine A. Faust and Kim N. Richter, pp. 98–127. University of Oklahoma Press, Norman.
- Thompson, J. Eric S.
- 1950 *Maya Hieroglyphic Writing: Introduction*. Carnegie Institution of Washington, Washington, D.C.

- Thompson, Tim
- 2015 Fire and the Body: Fire and the People. In *The Archaeology of Cremation: Burned Human Remains in Funerary Studies*, edited by Tim Thompson, pp. 1–7. Oxbow Books, Oxford.
- Thouvenot, Marc
- 1987 Códice Xólotl: Estudio de uno de los componentes de su escritura; Los glifos diccionario de elementos constitutivos de los glifos. PhD dissertation, Ecole Supérieure de Sciences Sociales, Paris.
- 1998 Valeurs phoniques et unités de langue dans les glyphes des *Codex Xolotl et Vergara*. *Amerindia* 23:67–97.
- Ubelaker, Douglas H.
- 1989 *Human Skeletal Remains: Excavation, Analysis, Interpretation*. 2nd ed. Taraxacum, Washington, D.C.
- Umberger, Emily
- 1987 Events Commemorated by Date Plaques at the Templo Mayor: Further Thoughts on the Solar Metaphor. In *The Aztec Templo Mayor*, edited by Elizabeth Hill Boone, pp. 411–449. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Urquhart, Fred A.
- 1976 Found at Last: The Monarch's Winter Home. *National Geographic* 150(2):161–166.
- Young-Sánchez, Margaret
- 1990 Veneration of the Dead: Religious Ritual on a Pre-Columbian Mirror-Back. *Bulletin of the Cleveland Museum of Art* 77(9):326–351.
- Von Winning, Hasso
- 1979 The “Binding of Years” and the “New Fire” in Teotihuacan. *Indiana* 5:15–32.
- 1987 *La iconografía de Teotihuacan: Los dioses y los signos*. 2 vols. Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México, Mexico City.
- Zender, Marc
- 2011 The Structure of Maya Writing as Typical of Mesoamerican Scripts in General. Paper presented at the 16th European Maya Conference, University of Copenhagen, Copenhagen.