Chapter 10
Mortuary Sealing Among the Maya

William N. Duncan

Abstract In the Maya region, covering architecture and human remains in white marl has traditionally been interpreted as an act of defacement that accompanied some termination rituals. Recently, researchers have shown that such covering was a form of ritualized wrapping or sealing and could occur in the absence of other signs of desecration, as a part reverential termination. Here, I build on this work to argue that such sealing is not necessarily part of termination rites at all and could occur independently in mortuary contexts. I also suggest that such sealing is a distinct subset of other types of mortuary wrapping. Decoupling sealing from termination and exploring its relationship to other forms of wrapping helps refine our understanding of mortuary and ritual categories in the Maya area.

10.1 Introduction

The Mesoamerican religious worldview was and is defined by a belief in both linear and cyclical time, the idea that the cosmos is animated by cycles of birth, death, and rebirth (Gossen 1986, pp. 5–8). Dedication and termination rituals in Mesoamerica were two mechanisms of punctuating and exercising control over these cycles (Mock 1998a). Although there is increasing agreement in our ability to recognize and distinguish between Maya dedication and termination rituals (Pagliaro et al. 2003, p. 76), identifying their subcategories as well as other related ritual distinctions in the material record remains a challenge, particularly in mortuary contexts (Becker 1992, p. 186; Chase and Chase 1998, p. 302; Coe 1959; Duncan 2005a; Stanton and Magnoni 2008; Tiesler 2007; Weiss-Krejci 2003). Some authors (Ambrosino et al. 2003; Brown and Garber 2003; Pagliaro et al. 2003) have proposed distinguishing reverential and desecratory termination. Both were frequently characterized by burning and destruction, but reverential termination occurred due to the Mesoamerican need to end one cycle of life for another to begin (Pagliaro et al. 2003). Desecratory termination was defined by an attempt to destroy enemy communities' animating essences and power (Pagliaro et al. 2003, p. 77).

W. N. Duncan (✉)
Department of Sociology and Anthropology, East Tennessee State University, Johnson City, TN 37614, USA
e-mail: duncanwn@etsu.edu

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Elisabeth Wagner (2006) has shown one of the signs of termination, covering buildings (and other media) in white marl, actually could occur in the absence of other signs of defacement. She argued that enclosing buildings and caches in white marl in both desecratory and reverential termination sealed the buildings and effectively made sacred bundles of them. She focuses on architecture but also gives examples from mortuary contexts. In this chapter, I build on her work to make two points. The first is that encasing bodies in white marl and similar material should not be considered a marker of termination per se, but as a separate ritual process, sealing, that could occur in conjunction with desecratory or reverential termination rituals, or alone. Second, I review variability in mortuary wrapping to suggest that sealing in white marl was distinct from other forms of wrapping in mortuary contexts, though they may have been related. Decoupling sealing from termination and exploring its relationship to other forms of wrapping helps refine our understanding of mortuary and ritual categories in the Maya area.

10.2 Cyclical Time, Dedication, and Termination

Gary Gossen (1986, pp. 5–8) noted in 1986 that cyclical time was a sacred component of the Mesoamerican worldview, and recent work (Clark and Colman 2008; Gillespie 2010; Mock 1998a; Stanton and Magnoni 2008; Saturno et al. 2012; Vail and Hernández 2011) has affirmed that in fact the Maya were in fact "obsessed with time" (Rice 2004, p. xvi, 2007). The origin of Mesoamericans' concern with cyclical time likely reflects agricultural cycles (specifically the time for maize to grow), solar and lunar correlates, Venus cycles, and human gestation (Rice 2007, pp. 35–38). One consequence of cyclical time was that death was not a final end but was followed by rebirth in some form (Becker 1992, p. 190; Carlsen and Prechtel 1991; Carrasco and Hull 2002; Eberl 2005, p. 48; Fitzsimmons 2006, 2011; Gillespie 2002, p. 67; Taube 2004; Vogt 1998).

The Maya used rituals to exercise some control over cycles of birth and death, and in doing so framed and ordered their physical, sociopolitical, and cosmological landscape (Matthews and Garber 2004). In Mesoamerica, houses, ceramic vessels, figurines, and other media contained souls or animating essences (Mock 1998a). These various media were ensouled upon construction and could be ritually terminated (Becker 1992; Mock 1998b), effectively punctuating cycles of birth and death. Brian Stross (1998) described an ethnographic example in which Tzeltal Maya speakers in Tenejapa, Mexico killed a chicken and buried it below the center beam of a house. The death of the chicken facilitated the rebirth of its soul, thereby animating the building and completing its construction. Human bodies and burials were potent media for the Maya and they were used in both termination and dedication rituals (within communities and kingdoms, as well as by enemies) to manipulate actively memory and forgetting (Navarro Farr et al. 2008; Stanton and Magnoni 2008, p. 5). Burials connected the living and the dead and were used to

negotiate claims of legitimacy regarding descent, power, and territory[1] (Gillespie 2002; Hansen et al. 2008, p. 41, 52; Houston and McAnany 2003; Stanton and Magnoni 2008, p. 5).

Investigators generally agree that dedicatory and termination deposits may be distinguished from one another (Pagliaro et al. 2003). Ethnographically, dedicatory contexts are characterized by processes of purification, defining the space and time surrounding the ritual, and the naming, assignment of guardianship, animation, clothing, and feeding of the dedicated object (Stross 1998). The burial of complete (or at least not intentionally destroyed) objects under or in a structure is a common sign of ensoulment in the material record. Termination deposits are generally characterized by significant burning, destruction of items such as ceramics and architecture, enveloping white marl, significant deposition of elite artifacts, and disturbance of burials (Garber 1983; Pagliaro et al. 2003, pp. 76–80; Stanton and Magnoni 2008). Recently, investigators (Becker 1992, p. 186; Chase and Chase 1998, p. 302; Child and Golden 2008; Rice 2004, p. xvii; Stanton and Magnoni 2008) have argued that termination and dedication are insufficiently nuanced labels that likely contained subcategories. Termination has received more attention than dedication in recent research (Ambrosino et al. 2003; Brown and Garber 2003, 2008; Pagliaro et al. 2003, p. 76; Stanton and Magnoni 2008; but see Chase and Chase 1998) and it is clear that it can minimally be divided into desecratory and reverential types. Reverential termination, like the sacrificed chicken in the Tenejapa example, reflected a need for one life cycle to end before another could begin (Pagliaro et al. 2003, p. 77). Desecratory termination marked a similar concern but occurred in the context of destroying the animating "supernatural power of an object, person, place or portal to the other world" that was associated with enemy kingdoms, communities, or factions (Pagliaro et al. 2003, p. 77). These termination rituals occurred in the context of host of political and historical processes, including settlement abandonment, conquest, continuity, reuse, or reoccupation (Stanton and Magnoni 2008, pp. 13–17) and reflected different levels of scale and planning (Canuto and Andrews 2008, p. 260; Matthews and Garber 2004). Thus, identifying subtypes of termination materially remains a challenge, one of which is amplified because none of the aforementioned criteria are present in all termination rituals.

10.3 Sealing, Wrapping, and Sacred Bundles

Layers of white marl are frequently cited as evidence of termination (Ambrosino et al. 2003, p. 113; Freidel and Schele 1989, p. 239; possibly Iannone 2005, p. 34; McGee 1998, p. 41; Pagliaro et al. 2003, pp. 76–77; Sullivan et al. 2008, ppp. 96–97; see Wagner 2006 for an excellent review). The best known architectural examples

[1] There is no universally agreed-upon definition as to how to discern the recently deceased from more remote ancestors, but the relationship between the living and the deceased (recently, remotely, and perhaps fictively) was a fertile locus for social and political negotiation.

of this were found at the sites of Cerros in Belize (Str. 5C–1st and 2nd; Freidel and Schele 1989, p. 237; Freidel et al. 1998, p. 135; Wagner 2006, pp. 57–58) and Yaxuna in the Yucatan peninsula (Str. 5E–52 of Group 5E–50; Freidel et al. 1998, p. 140; Wagner 2006, pp. 57–58). Both sites had evidence of white marl enveloping architecture after they were destroyed or defaced. However, recently Wagner (2006) noted that the Maya buried some buildings within white marl intact, with no other signs of defacement. Other authors have made similar comments (e.g., Rice 2009, p. 411), but Wagner (2006) argues that enclosure in white marl without other signs of desecration was a form of the ritualized sealing found throughout Mesoamerica, and that sealing buildings in white marl effectively made sacred bundles out of the buildings.

Wrapping, binding, and sealing were and are important ritual processes throughout Mesoamerica (Christenson 2006; Houston et al. 2006, pp. 83–85; Klein 1982; Megged 2010, pp. 136–139). These processes have deep roots in the region (Reilly 2006) and various media, including human remains (Headrick 1999; Houston et al. 2006, p. 83; Pohl 1994), ceramic vessels (Reilly 2006, p. 2), stelae and carved monuments (Rice 2004, p. 81; Reilly 2006, pp. 4–9), buildings (see above), jade and chocolate (Stuart 2006), and a variety of other organic items were bound (Olivier 2006; Stenzel 1968). Iconographic symbolism for bundling includes objects being tied with knotted bands (Reilly 2006), twisted cords (Miller 1982), and symbols reflecting weaving (Figs. 10.1 and 10.2; Christenson 2006; Looper 2006; Reents–Budet 2006). Werner Stenzel (1968) was among the first to discuss the importance of sacred bundles in Mesoamerica, and researchers (Benson 1976; Klein 1982; Guernsey and Reilly 2006; Pohl 1994) have built on his work since to characterize bundles and binding in general. Objects were wrapped in part to protect and shroud them from profane viewing, but binding also created and commemorated sacred objects (Guernsey and Reilly 2006).

Wrapping and binding spoke to the tenuousness of cosmic order in Mesoamerica. Time and space had to be framed and ordered, and binding was a ritualized way of doing so (Matthews and Garber 2004). Tzutujil Maya speakers view the woven fabric in looms as a symbol reflecting the cosmos (Looper 2006, p. 80). Cecelia Klein (1982) argues that the heavens were perceived as a well-organized weaving, while the underworld was viewed as a tangled mess of disorganized threads. Arthur Miller (1982, p. 94) follows this line of thought with his interpretation that the twisted threads in the murals at the site of Tulum were umbilical cords connecting heaven and earth. Because the cords had been severed in the past, they needed to be retied to reorder the universe. The association of the mat icon (a woven symbol) with rulership reflected the responsibility of kings to bear the burden of framing and completing temporal cycles. Units of time were explicitly bound. When stelae were erected at the beginning of *k'atuns*, they were unwrapped (Stuart 1996, p. 154). Klein (1982, p. 25) shows that when Maya *k'atuns* were completed (filled), they were tied up (Fig. 10.3; see also Houston et al. 2006, pp. 83–85; Stuart 1996, p. 154). *K'atun* endings were marked by *k'altuun* (stone binding) rituals, which marked the resealing of the stelae's potent essences (Houston et al. 2006, p. 81). A carved peccary skull from Copán exhibits a wrapped stela (Reents-Budet 2006,

Fig. 10.1 Sacred bundle of jade, from Yaxchilan Stela 1. (Redrawn by Meara Bridges from Guernsey and Reilly 2006: Fig. 2)

p. 118; Fig. 10.3) and carved altars and sculptures at the site were bundles that likely held sacred objects related to temporally based rituals (Newsome 2003).

Bundles had energy as a "secret and invisible content" (Stenzel 1968, p. 351) and were thought of as being containers of gods' animating essences (Megged 2010, p. 136). They were oracular, consulted before making decisions (Byland and Pohl 1994, pp. 206–208; Klein 1982, p. 10; Olivier 2006), and were carried before armies in battle among the Mixtec (Pohl 1994). Kings and corporate groups created and maintained bundles in an effort to establish and bolster claims of authority (Reents-Budet 2006, p. 115). Thus, bundles frequently featured prominently in founding myths and accession rites (Boone 2000a, b, p. 58, 145, 152; Megged 2010, p. 96). The best known example of this was the founding of Tenochtitlan by the Mexica.

Fig. 10.2 Detail of ruler's belt from Quiriguá Zoomorph P. (North face; redrawn by Meara Bridges from Looper 2006: Fig. 7)

Huitzilopochtli guided the nomadic Mexica on their migrations ending at Tenochtitlan and they carried his sacred bundle with them (Fig. 10.4; Megged 2010). The founding of the city likely followed the same process seen elsewhere in central Mexico, such as making offerings to deities, building a temple, drilling fire into a new temple to dedicate and name it, and placing the sacred bundles and fire drilling equipment in the temple (Boone 2000a, pp. 551–565; Tedlock 1996, p. 50 describes the role of bundles in the *Popol Vuh* as well). The bundle was still kept in the Templo Mayor of Tenochtitlan in 1539, and it remained sufficiently important at the time of conquest that the Spaniards considered finding it to be an important goal of their inquisition (Stenzel 1968, p. 349). Stenzel (1968) reports that everyone was afraid to open the Huitzilopochtli bundle and the four men tasked with the opening of the bundle had inherited the positions from their fathers.

Sacred bundles were important symbols for demonstrating legitimacy of authority. Thus, kings opened bundles to demonstrate links to prior rulers on important dates (Megged 2010, p. 96) and at coronation ceremonies (Olivier 2006). Dorie Reents-Budet (2006, p. 115) demonstrates that bundles featured prominently in accession rites at the Maya sites of Yaxchilan and Dos Pilas in Mexico and Guatemala, respectively. Elizabeth Benson (1976) similarly has noted that iconography at the Maya sites of Palenque, Yaxchilan, and Bonampak show individuals in lineages handing wrapped and unwrapped signs of rulership to one another (Fig. 10.1; also

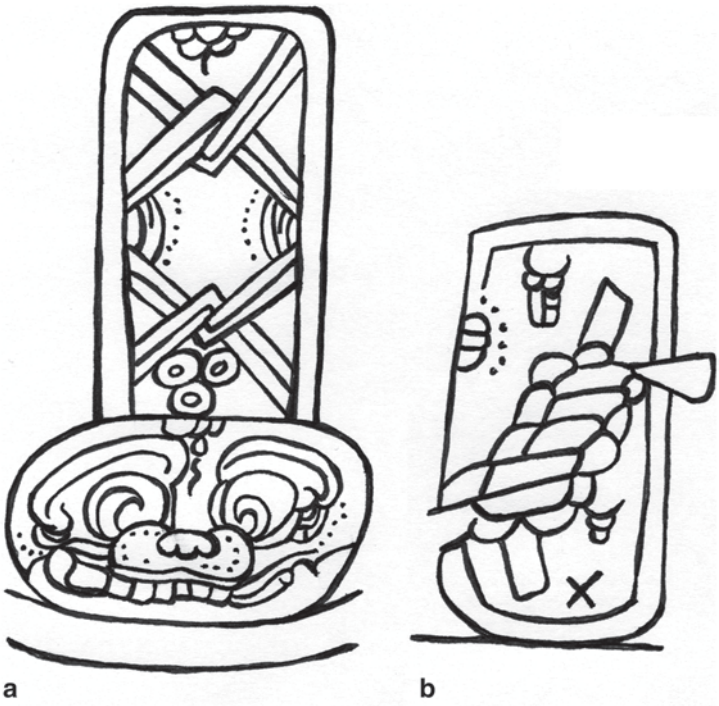

Fig. 10.3 **a** Wrapped stela from incised peccary skull from Copán. **b** Wrapped stela from the Madrid Codex. (Redrawn by Meara Bridges from Reents–Budet 2006: Fig. 6)

see McAnany 1995, pp. 61–62). John Pohl (1994, p. 82) has shown that taking and burning enemy bundles was also an explicit strategy for undermining enemies' claims to authority among the Mixtec (see also Byland and Pohl 1994; and Guernsey and Reilly 2006 for review).

Sacred bundles were associated with whiteness. The word for white in various Maya languages is *sak*, but it can also mean "bright" or "resplendent" (Hofling and Tesucun 1997, pp. 551–554; see Wagner 2006 for review). In particular, whiteness seems to have been associated with rebirth and the way of the soul after death (Eberl 2005, p. 124). Death is sometimes referred to as finishing the "white flower breath" (Fitzsimmons 2009, p. 11). After death, the soul continued on a *sakbe,* or white road, and epigraphically the cessation of a breath was frequently associated with the death verb *och b'ih*, which means "enters the road" (Taube 2004). Kerry Hull (2006, pp. 45–50) argued that there was also an explicit pre-Columbian connection between animating essences, *sakbeob* (white roads), and umbilical cords after death. This is consistent with Elisabeth Wagner's (2006, pp. 63–64) observation that the phrase *sak hunal* may refer to the white leaves of the inner husk covering young corn cobs, vernix caseosa (the white film covering newborns), or the white cloth used to make sacred bundles. Ancestor bundles were normally white in the Aztec

Fig. 10.4 Huitzilopochtli's sacred bundle from the Codex Boturini. (Redrawn by Meara Bridges from Olivier 2006: Fig. 2)

codices and paper ornaments found with Aztec mortuary bundles are typically white (Megged 2010, p. 102, 112). The Aztec used white cords to bind wooden images and sacred branches that were used by kin in mourning rites after death (Megged 2010, pp. 109, 124). The association of whiteness with rebirth was extended to associations with passage of time and the cosmos. The 260-day sacred calendar may have been called *saak ja'ab'*, meaning "white" or "magnificent" year (Rice 2004, p. 59). Ralph Roys (1967, p. 91) noted that layers in bundled objects in the Chilam Balam of Chumayel were compared to "a white mantle and to an enormous tortilla with thirteen layers of beans inside." Finally, white was associated with accession and dynastic power. In Classic Maya accession rituals, the Jester God headband was translated as "white bark paper" or "white eternal" and symbolized the king accept-

ing the mantle of office (Stuart 1996). The council house, or *popol nah* in Yucatec Maya, was also known as the white plumeria house (*sak nikte'il nah*; Thompson 1970, pp. 202–203) and the council house at Copán (Str. 10L–22A) had white flowers, mats, and snakes on it (Looper 2006, p. 93).

10.4 Uncoupling Sealing from Termination

Wagner's demonstration that sealing architecture, burials, and caches in white marl could occur in the absence of any other signs of defacement was an important step in reconciling the relationship between the two processes. Here, I review the various combinations and permutations of the two processes and build on her work to argue that we can further uncouple them with regard to mortuary contexts because termination and sealing in white marl can occur in the absence of the other.

10.4.1 Desecratory Termination with Sealing

The two most commonly cited architectural examples of termination with sealing in white marl are found at the sites of Yaxuna, Mexico (Freidel et al. 1998, p. 140; Wagner et al. 2006, p. 58) and Cerros, Belize (Freidel 1986; Freidel and Schele 1989, p. 237). The examples from Cerros and Yaxuna are considered desecratory acts of termination performed in the context of military defeat (Schele and Freidel 1990, p. 127) and the end of an elite dynasty (Freidel et al. 1998), respectively. Desecratory termination with sealing in mortuary contexts was found at the site of Zacpetén, in northern Guatemala.

Operation (op.) 1000 is a large depression on the northwest corner of the Zacpetén's principal ceremonial group (group A). The depression contained a large mass grave, containing at least 37 individuals that included males, females, and juveniles (Duncan and Schwarz 2014, in press). The stratigraphy of the grave showed that layers of white limestone (Layers 8, 5, and 3) enclosed the remains (Layer 6; Fig. 10.5; Duncan and Schwarz 2014, in press). The layers above this were architectural collapse or erosion. Layer 7 reflected in situ burning. The mass grave layer was created during the fifteenth century (Duncan and Schwarz 2014, in press), however, three features on the periphery of op. 1000 indicate that the depression had been used repeatedly for ritual activity since the Middle Preclassic (1000–300 B.C.). There was no principal personage or grave goods found in the mass grave layer.

Osteological analysis of the remains showed that the grave was a secondary deposit. Although there were at least 37 individuals present, as indicated by the temporal and femur bones, smaller skeletal elements were underrepresented. The minimum numbers of individuals for the tarsals (19), metatarsals (18), distal pedal phalanges (9), carpals (9), metacarpals (9), and distal manual phalanges (7) were lower than larger elements. This is consistent with the low levels of articulation in

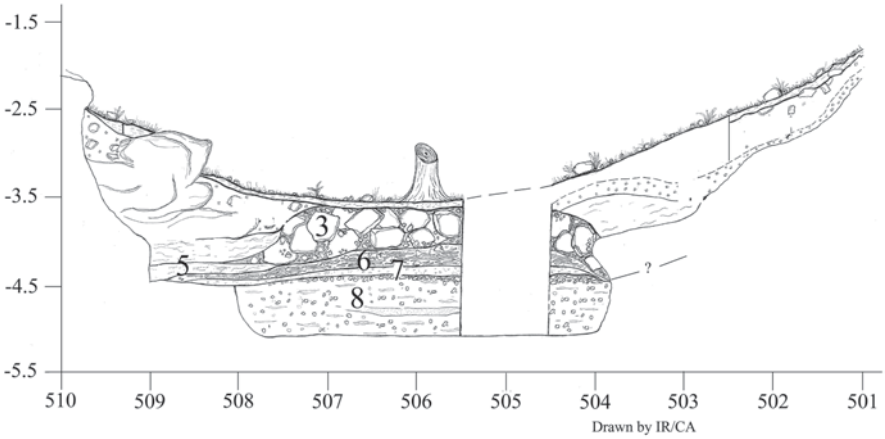

Fig. 10.5 East-facing profile at line 106 from op. 1000, Zacpetén. (Modified from Duncan 2005b)

the assemblage, although there were some articulated remains. Additionally, right forearm bones and maxillary molars were significantly underrepresented in the assemblage. Spatial analyses demonstrated that the right forearm bones had a different distribution than other long bones, implying that they were intentionally omitted from the grave. Many of the long bones exhibited cut marks on the middle of their shafts as well as on the ends, indicating that the remains were likely defleshed (as opposed to simply dismembered; Duncan and Schwarz 2014, in press).

The mass grave dated to the time that a new social group, the Kowoj, emerged as a political force in the Petén lakes region in the Late Postclassic (Duncan and Schwarz, in press). The Kowoj were locked in an ongoing struggle for political dominance in the region with another social group, the Itzá. The Kowoj created mass graves at another site in the Petén lakes region (Topoxté) and at the site in the Yucatan peninsula from which they migrated (Mayapán; Duncan and Schwarz, in press). Thus, the grave appears to have been created when the Kowoj took over the site of Zacpetén (Duncan and Schwarz, in press).

There are four likely scenarios to account for the creation of the grave: creation of a family ossuary; sacrifice; burial of war dead; and the reburial of enemy remains after they had been exhumed and violated. The grave in op. 1000 is not a family ossuary. Ossuaries are defined as final repositories for the remains that typically have been previously processed and reflect funerary treatment (see Duncan and Schwarz, in press for a discussion of the difference of ossuaries, multiple burials, and mass graves). The cut marks, lack of grave goods, absence of a principal person, and missing right forearm bones indicated that the grave was nonfunerary in nature and was designed to violate the deceased. In Maya, mural victors and individuals of high status were depicted as right handed; vanquished enemies and sacrificial victims were left handed (Duncan and Schwarz, in press). Additionally, unlike the Zapotal ossuary from Veracruz, Mexico (Tiesler et al. 2013), the remains in op. 1000 were interred in a single episode.

The mass grave may reflect sacrifice or war dead; however, there are very low levels of articulation in the grave. There were infants in the grave, falsifying the idea that soldiers were buried there. However, it is possible that the deceased were killed in a raid. The identification of sacrifice in the Maya area is an ongoing challenge, but is particularly difficult to do in secondary contexts. The low levels of articulation here (vis a vis demonstrated sacrificial contexts; e.g., Duncan 2011) indicate that if the grave were the product of sacrifice or the burial of war dead, then the remains were processed considerably before interment and they were not simply buried after the individuals were killed.

A final scenario is the reburial of enemy ancestors. When the Kowoj took over the site of Zacpetén, they would have needed to dislodge the previous occupants' claims to legitimate ownership of the site. Exhuming enemy ancestors and reburying them in op. 1000 would have created a symbol of the Kowoj victory from enemy remains. This possibility is most consistent with the low levels of articulation in the grave; however, neither sacrifice nor burial of war dead are exclusive with this scenario.

Although we cannot know for certain which of these three scenarios led to the creation of the grave (all three could have contributed), the white layers of limestone reflect the fact that the grave layer was ritually sealed. Additionally, the feature was abandoned after the mass grave was created, even though group A was used through the time of contact with Spaniards. This implies that there was a taboo associated with the feature because the remains maintained their potency (cf. Sullivan et al. 2008, p. 99). Wrapping the remains by enveloping them in white limestone (layers 8, 3 and 5) would have served a dual purpose—it would have commemorated their enemies' defeat as well as sealed off the potentially harmful remains as the Kowoj established their control of Zacpetén.

10.4.2 Sealing in Reverential Termination

Wagner (2006) notes that the Maya buried some buildings within white marl intact, with no signs of defacement. The best-known architectural example of this is the Rosalila structure (Str. 10L–16–3rd) at Copán, in Honduras (Wagner 2006). Other examples have been reported at Nixtun–Ch'ich' (Str. B5 in Mound ZZ1; Rice 2009, p. 411) and Ek' Balam (the structure housing the tomb of U Kit Kan Lek; Wagner 2006, p. 60). The Maya wrapped and covered bodies in various media including red or white cloth, cinnabar, sedge, and animal skins. I discuss variability in wrapping below and its relationship to sealing, but here I focus on examples that reflect sealing in a white plaster. At Lamanai in Belize, a Preclassic tomb in Str. N9–56 (Pendergast 1981) was plastered in a similar fashion to the Rosalila structure. The corpse was painted with red pigment, covered in clay, and then surrounded by grave goods. A wooden frame was then erected round the body and textiles that were treated with a white lime plaster were placed on the frame. Textiles with a red dye were then placed on top of it. The entire tomb was built on top of a floor of a previous construction prior to beginning a new construction (Pendergast 1981, p. 39).

Tomb 4 in Structure 2 at Calakmul is another example of this practice. This tomb housed Yuknoom Yich'aak K'ahk'(Jaguar Paw Smoke), a seventh-century AD ruler (Carrasco et al. 1999, p. 53). The body lay in an extended supine position with his hands folded on his chest and stomach. The corpse had been placed on a wooden litter and was wrapped in a textile that had been treated with a white substance that Carrasco and colleagues suggested was latex (Carrasco et al. 1999, p. 53). The ruler was then sealed in resin (Carrasco et al. 1999, p. 53). Substructure 2-B was built on top of Tomb 4. Tomb 1 of Structure XV at Calakmul may reflect a similar process (Carrasco et al. 1999, p. 53).

10.4.3 Termination Without Sealing

The aforementioned examples make clear that wrapping can occur with desecratory and reverential termination in various media. However, wrapping is clearly not a constituent element of termination because either could occur in the absence of the other. One well-known example involving both architecture and human remains is the skull pit at the site of Colha in Belize. The skulls of 30 individuals (20 adults of both sexes and 10 juveniles) were placed in a pit west of a stairway of op. 2011, an elite residence during the Late to Terminal Classic period (AD 800–850; Massey 1989; Mock 1998b). The heads were flayed and the structure was burned after the deposition of the remains. The skull deposit was likely created as the site was overthrown either from internal coup or from outside forces, and was followed by a hiatus at the site (Massey 1989; Mock 1998b). Such desecratory termination would have "dismantled the losing community's ties to its ancestral power and deactivated the soul force, or *ch'ulel*, that animated its sacred space" (Brown and Garber 2003, p. 93).

Other examples of termination occurring without wrapping in Mesoamerica include skull racks (e.g., Wilkinson 1997) and human trophies that were worn (Moser 1973; Spence et al. 2004). Most examples are interpreted as sacrificial victims' body parts (Miller 2007). Houston et al. (2006, pp. 203–207) noted that this likely reflects the appropriation and incorporation of fallen enemies' animating essences. However, some examples of human femora being taken, such as the frieze at Lambityeco, Oaxaca, are interpreted as using ancestors' remains to establish legitimacy of power (Feinman et al. 2010).

10.4.4 Sealing in the Absence of Termination in Mortuary Contexts

Sealing in the absence of termination occurred during tomb reentry. Such reentry, of course, occurred after initial burial rites. One can reasonably argue that any and all rituals associated with dead bodies were part of one continuous mortuary process that did not reflect clear distinctions between the preliminal, liminal, and

postliminal periods (Eberl 2005, p. 111; Fitzsimmons 1998, 2006, p. 38; Wagner 2006, p. 67). However, even if defining these boundaries remains a point of ongoing research, Weiss-Krejci (2011) has highlighted the distinction between funerary and postfunerary rituals. From this perspective, tomb reentry was separate from initial mortuary treatments following the death of the individual ritually speaking. Tombs could be reentered to take grave goods, desecrate burials, to bury more people (recently deceased or relics of past relatives), and to commune with the deceased rulers (Chase and Chase 1996; Fitzsimmons 2006; McAnany 1995; Weiss-Krejci 2003, 2004). Reentry of kings's tombs seems to have consisted of removal of the capstones, modifying the tomb contents (either the remains themselves or grave goods, or by burning incense), and the subsequent resealing of the tomb or possible reburial of the remains elsewhere (Fitzsimmons 2006). Fitzsimmons (2006) has noted that the sealing process of tombs frequently involved fire but in some cases the placement of white marl was part of the process as well. Tomb 23 in Str. 6F–3 at the site of Yaxuna is an example of a burial sealed without other signs of termination. The tomb was created for an Early Classic ruler and the floor was covered in white marl (Wagner 2006, p. 62). The tomb was reentered during the dedication of a later construction episode (Str. 6F–3/4) and was sealed with more white marl and a jade offering (Wagner 2006, p. 62). The dedication of the new building and resealing of the tomb would have helped maintain the power of the tomb, and bolster the legitimacy of the line between the two rulers. Burials 1 and 10 from the site of Piedras Negras in Guatemala may have reflected similar processes. Both burials were reentered in antiquity and then intentionally covered with white lime (Coe 1959, pp. 121–127). Burial 1 seems to have been disturbed in situ during the reentry, but Coe (1959) suggested that the remains from Burial 10 were removed for reinterment elsewhere.

10.4.5 Defining the Relationship Between Sealing and Termination in Mortuary Contexts

Termination, in the Mesoamerican worldview, necessarily leads to a rebirth in some form. Sealing in mortuary contexts frequently accompanied termination because it reflected an effort to frame and order this rebirth in time and space. The relationship between the two, and whether or not they cooccurred, reflected political context and history. In the case of desecratory termination accompanied by sealing, such as at Zacpetén, there was an attempt to seal in potentially malevolent essences so the inhabitants of the site would not be harmed (Duncan and Schwarz in review a; Wagner 2006). Additionally, the public bundling of enemy remains created an enduring symbol of their defeat as a new social group, the Kowoj, overtook the site. Desecratory termination without any sign of wrapping, such as that seen at Colha, though was not characterized by any immediate subsequent occupation. The fact that those who took over or destroyed a site were not going to live at the site suggests that they did not have to shield themselves from the remains' potent malevolence. Sealing in the context of reverential termination was a way of curating or embalming essences so they could be incorporated into new life cycles (Wagner 2006, p. 61). This occurred in the context of reverential mortuary practices such as

at Calakmul when political continuity was being accentuated to legitimize claims to power. Finally, sealing that occurred in circumstances removed from the individual's death was associated with accessing tombs and caches like sacred bundles. These were likely used to demonstrate continuity to past rulers (either directly or to temporally remote rulers; Fitzsimmons 2006). All of these contexts are consistent with finding sacred bundles frequently associated with founding and accession rites (see above). It is worth noting that these rituals can frequently occur in a palimpsest within the same context due to remarkably complex circumstances surrounding occupation such as abandonment, continuity, reoccupation, take over, and insurrection (Navarro Farr et al. 2008). As a result, detailed contextual analyses will continue to be the key for distinguishing them.

10.5 Distinguishing Wrapping and Sealing

Heretofore in this chapter, I have described sealing as the covering of bodies in white material expressly for the purpose of containing souls or animating essences. However, the Maya wrapped bodies and parts in a host of ways, thus it is worth discussing whether or not we might distinguish sealing, at least as a subset, from other forms of wrapping. Bishop Diego de Landa described wrapping corpses in shrouds as a normal part of burial in Colonial Yucatan (Tozzer 1941). Cloth shrouds do not always (or even necessarily frequently) preserve in the lowland Maya area, but in extended burials the presence of folded arms over the chest is interpreted as evidence of wrapping in the absence of cloth (Reese-Taylor et al. 2006, p. 43). Direct evidence of shrouds exists, however, and burial 195 from Tikal is a well-known example, in which the extended body was wrapped in multiple layers and tied with a cord. Remnants of wrapping indicated that they were red (Coe 1990, pp. 565–567). The red coloring is important because a number of burials from the Maya region exhibit similar treatment. Weiss-Krejci (2006a) reported pigment on 60 individuals from a survey of 3,700 individuals from 63 sites. The application of red pigment could occur along with other covering practices, as seen at Rio Azul Tomb 19, in which the body was covered with cinnabar and allspice leaves, and wrapped in burlap cloth (Adams 1999, p. 219). Similar red painting accompanying possible wrapping was reported at Kaminaljuyu Tomb 2, Structure E-III-3 (Shook and Kidder 1952, p. 64) and at Calakmul in Tomb 1, Structure III (Folan 1995, p. 321) and the aforementioned Tomb 4 in Structure II.

Other materials have also been used to cover or wrap bodies in the Maya region such as bark and animal skins. At Copán, a burial in the Chorcha pyramid within Temple 26 had been wrapped in a sedge matt (Fash 1991). Similarly, Fowler (1984, p. 609) reported 24 individuals from Chalchuapa wrapped in bark cloth mats. At Altun Ha, the body in Structure B-4/7 was placed on a wooden litter, and covered in felid skins (of multiple species) and red cloth that appears to have been dyed (Pendergast 1969, pp. 21–27). Similarly, the aforementioned Tomb 4 found in Calakmul Structure II was wrapped in textiles and jaguar skins (Carrasco et al. 1999).

Finally, I should note that some have distinguished wrapping from bundling, defining the latter on the basis of flexed posture (Reese-Taylor et al. 2006). Various burials at Zaculeu (Woodbury and Trik 1953, p. 80) and in northern Belize (Reese-Taylor et al. 2006) may have been bundled or just flexed, seated burials. However, some burials contain explicit evidence of bundling, such as burial A75 at the site of Uaxactun that contained a child in a flexed position and remnants of rope (Reese–Taylor et al. 2006, pp. 48–49).

These examples demonstrate that the Maya wrapped bodies in multiple ways. I suggest that it is useful to identify sealing as a distinct subset of mortuary wrapping. Sealing explicitly reflected a desire to enclose animating essences hermetically and there is no clear indication that this was true for other forms of mortuary wrapping, which likely reflected elevated status, general cosmological concerns, and regional trends. Covering remains in jaguar skins and placement in tombs, for example, reflected elite status (Saunders 1994). Red was explicitly associated with east in the Maya area (Matthews and Garber 2004) and thus likely reflected widespread cosmological beliefs about rebirth (Ruz 1968) as well as elevated status in many cases. Weiss-Krejci (2006a) found the use of red pigment in a host of contexts (on articulated and disarticulated remains and applied during the initial preparation of the corpse or in tomb reentry). This variety may suggest that the use of red pigment reflected local tradition though in some cases. The Kowoj social group at the site of Mayapán and Zacpetén were associated with the colors red and black on ceramics, for example (Cecil 2001). This is likely true for the relationship of body position and wrapping as well. Bodies were clearly flexed in ancestor bundles elsewhere in Mesoamerica (Pohl 1994), and in some cases, it is associated with elevated status (McAnany 1995). However, reviews of Maya mortuary practices have found site and regional variation with regard to trends in body position without obvious pan-Maya trends (Ruz 1968; Weiss-Krejci 2006b; Welsh 1988).

Even though sealing may be differentiated from wrapping in mortuary contexts, it probably was not an absolute distinction. There may be forms of sealing other than wrapping in white marl. Fitzsimmons (2006) noted that many tombs were sealed after reentry with burning rituals and do not show any record of being sealed in white layers. Similarly, the practice of mortuary sealing may reflect factors other than a concern for containing animating essences. Status and local and regional trends, particularly within certain Classic Period kingdoms, may well have influenced sealing practices. For example, it may have been explicitly important for Calakmul but seems not to have been a practice at Palenque (Tiesler 2006, p. 34). Finally, there were several practices that enclosed bodies and seemed to have reflected concern for containing animating essences as a part of framing and ordering space, but are not exactly the same (materially) as formal sealing. This may be true for some of the aforementioned forms of wrapping. Since much of Maya lowland geology is characterized by white limestone, virtually any interred body could be reasonably argued to be ritually enclosed in a white material. Similarly, dedicatory burials, in which human remains were placed between architecture layers to ensoul and animate new construction, sealed in animating essences when they were reborn (Becker 1992, p. 188; Duncan 2011). Placing bodies (in whole or part) in urns or lip

to lip vessel caches (e.g., Uaxactun; Smith 1950, pp. 89–90) likely reflected an attempt to contain souls and essences. Caves were clearly used to seal off harmful essences because they were entrances to the underworld (Eberl 2005, p. 72). Hofling (1991, pp. 188–192) documents a contemporary Itzá tale from El Petén, Guatemala in which a sorcerer uses thread to seal a monster in a cave. Hanks (1990) noted that shamans take evil spirits from Yucatec Maya houses and place them in a chultun (a cistern). Examples of isolated bones sealed in caves have been interpreted as either deceased warriors or sacrificial victims (Cueva de Sangre, Dos Pilas; Scott and Brady 2005, p. 274). However, at Copán, Maudslay (1889–1902, p. 32) reported over 50 ceramic vessels containing human remains packed in lime in a chamber. Wagner (2006) suggested that the chamber served as a symbolic cave and may have been an ossuary. Thus, caves were associated with sealing harmful essences but the variability in cave burials makes characterizing them as a whole challenging. Although these caveats suggest that the distinction between sealing and wrapping is not absolute, they in no way undermine the idea that formal sealing is a specific type of wrapping that reflected a particular concern with framing and ordering cycles of birth, death, and rebirth.

10.6 Conclusion

Recent work on termination in the Maya area has discerned subcategories of this type of ritual. This work has shown that one of the material signatures of termination, encasing media in white marl, was actually a form of ritualized sealing that was tantamount to making sacred bundles. Here, I have built on this work to suggest that termination and ritualized sealing were actually separate processes and that their relationships in mortuary contexts likely reflected larger political events. I have also explored variability in mortuary wrapping to suggest that sealing in white marl was a distinct subset of wrapping. Future research will continue to shed light on the relationship of ritual wrapping with these and other practices, but decoupling sealing from termination, and distinguishing it from wrapping, should continue to further refine our understanding of all three processes.

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References

Adams, R. E. W. (1999). *Río Azul: An ancient Maya city*. Norman: University of Oklahoma Press.

Ambrosino, J. N., Arden, T., & Stanton, T. W. (2003). The history of warfare at Yaxuná. In M. K. Brown & T. W. Stanton (Eds.), *Ancient Mesoamerican warfare* (pp. 109–124). Walnut Creek: Altamira Press.

Becker, M. J. (1992). Burials as caches; caches as burials: A new interpretation of meanings of ritual deposits among the Classic period Lowland Maya. In E. Danien & R. Sharer (Eds.), *New theories on the ancient Maya* (pp. 185–196). Philadelphia: University of Pennsylvania.

Benson, E. P. (1976). Ritual cloth and Palenque kings. In M. G. Robertson (Ed.), *The art, iconography, and dynastic history of Palenque, Part III* (pp. 45–58). Proceedings of the Segunda Mesa Redonda de Palenque. Pebble Beach: Pre-Columbian Art Research Institute, Robert Louis Stevenson School.

Boone, E. H. (2000a). Bringing polity to place: Aztec and Mixtec foundation rituals. In C. Vega (Ed.), *Códices y documentos sobre México: Tercer simposio internacional* (pp. 547–573). Mexico: Instituto Nacional de Antropología e Historia.

Boone, E. H. (2000b). *Stories in red and black: Pictorial histories of the Aztecs and Mixtecs*. Austin: University of Texas Press.

Brown, M. K., & Garber, J. F. (2003). Evidence of conflict during the Middle Formative in the Maya Lowlands: A view from Blackman Eddy, Belize. In M. K. Brown & T. W. Stanton (Eds.), *Ancient Mesoamerican warfare* (pp. 91–108). Walnut Creek: Altamira Press.

Brown, M. K., & Garber, J. F. (2008). Establishing and reusing sacred place: A diachronic perspective from Blackman Eddy, Belize. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 147–170). Boulder: University Press of Colorado.

Byland, B. E., & Pohl, J. M. D. (1994). *In the realm of 8 Deer: The archaeology of the Mixtec codices*. Norman: University of Oklahoma Press.

Canuto, M. A., & Andrews, A. P. (2008). Memories, meanings, and historical awareness: Post-abandonment behaviors among the Lowland Maya. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 257–274). Boulder: University Press of Colorado.

Carlsen, R. S., & Prechtel, M. (1991). The flowering of the dead: An interpretation of Highland Maya culture. *Man, 26*(1), 23–42.

Carrasco, M. D., & Hull, K. (2002). The cosmogonic symbolism of the corbeled vault in Maya architecture. *Mexicon, XXIV*(2), 26–32.

Carrasco Vargas, V., Boucher, B., Alvarez González, P., Tiesler Blos, V., García Vierna, V., García Moreno, R., & Vázquez Negrete, J. (1999). A dynastic tomb from Campeche, Mexico: New evidence on Jaguar Paw, a ruler of Calakmul. *Latin American Antiquity, 10*(1), 47–58.

Cecil, L. (2001). *Technological styles of Late Postclassic slipped pottery from the Central Petén Lakes region, El Petén, Guatemala*. Ph.D. dissertation, Carbondale, Southern Illinois University.

Chase, D. Z., & Chase, A. F. (1996). Maya multiples: Individuals, entries, and tombs in structure A34 of Caracol, Belize. *Latin American Antiquity, 7*(1), 61–79.

Chase, D. Z., & Chase, A. F. (1998). The architectural context of caches, burials, and other ritual activities for the Classic period Maya (as Reflected at Caracol, Belize). In S. D. Houston (Ed.), *Function and meaning in Classic Maya architecture* (pp. 299–332). Washington, D.C.: Dumbarton Oaks Research Library and Collection.

Child, M. B., & Golden, G. W. (2008). The transformation of abandoned architecture at Piedras Negras. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 65–90). Boulder: University Press of Colorado.

Christenson, A. J. (2006). Sacred bundle cults in Highland Guatemala. In J. Guernsey & F. K. Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 226–246). Ancient America Special Publication Number 1. Barnardsville: Boundary End Archaeology Research Center.

Clark, J. E., & Colman, A. (2008). Time reckoning and memorials in Mesoamerica. *Cambridge Archaeological Journal, 18*(1), 93–99.

Coe, W. R. (1959). *Piedras Negras archaeology: Artifacts, caches, and burials*. Philadelphia: University of Pennsylvania.

Coe, W. R. (1990). *Excavations in the great plaza, north terrace and north acropolis of Tikal*. Philadelphia: University Museum, University of Pennsylvania.

Duncan, W. N. (2005a). Understanding veneration and violation in the archaeological record. In G. F. M. Rakita, J. E. Buikstra, L. A. Beck, & S. R. Williams (Eds.), *Interacting with the dead: Perspectives on mortuary archaeology for the new millenium* (pp. 207–227). Gainesville: University Press of Florida

Duncan, W. N. (2005b) *The bioarchaeology of ritual violence in Postclassic El Petén, Guatemala (AD 950–1524)*. Ph.D. dissertation, Carbondale, Southern Illinois University.

Duncan, W. N. (2011). Bioarchaeological analysis of sacrificial victims from a Postclassic Maya temple from Ixlú, El Petén, Guatemala. *Latin American Antiquity, 22*(4), 549–572.

Duncan, W. N., & Schwarz, K. R. (in press). A Postclassic Maya mass grave from Zacpetén, Guatemala. *Journal of Field Archaeology*.

Duncan, W. N., & Schwarz, K. R. (2014). Partible, permeable, and relational bodies in a Maya mass grave. In A. Osterholtz, K. Baustian, & D. Martin (Eds.), *Commingled and disarticulated human remains: Working towards improved theory, method and data* (pp. 149–172). New York: Springer.

Eberl, M. (2005). *Muerte, entierro y ascensción: ritos funerarios entre los antiguos mayas*. Mérida: Ediciones de la Universidad Autónoma de Yucatán.

Fash, W. (1991). *Scribes, warriors and kings: The city of Copán and the ancient Maya*. New York: Thames & Hudson.

Feinman, G. M., Nicholas, L. M., & Baker, L. C. (2010). The missing femur at the Milta Fortress and its implications. *Antiquity, 84*(326), 1089–1101.

Fitzsimmons, J. L. (1998). Classic Maya mortuary anniversaries at Piedras Negras, Guatemala. *Ancient Mesoamerica, 9*(2), 271–278.

Fitzsimmons, J. L. (2006). Classic Maya tomb re-entry. In P. R. Colas, G. LeFort, & B. L. Persson (Eds.), *Jaws of the underworld: Life, death, and rebirth among the ancient Maya* (pp. 35–42). Acta Mesoamericana, Vol. 16. Markt Schwaben: Verlag Anton Saurwein.

Fitzsimmons, J. L. (2009). *Death and the classic Maya kings*. Austin: University of Texas Press.

Fitzsimmons, J. L. (2011). Perspectives on death and transformation in ancient Maya society: Human remains as a means to an end. In J. L. Fitzsimmons & I. Shimada (Eds.), *Living with the dead: Mortuary ritual in Mesoamerica* (pp. 53–77). Tucson: University of Arizona.

Folan, W. J., Marcus, J., Pincemin, S., del Rosario Domínguez Carrasco, M., Fletcher, L., & Morales Lopez, A. (1995). Calakmul: New data from an ancient Maya capital in Campeche, Mexico. *Latin American Antiquity, 6*(4), 310–334.

Fowler, W. R. (1984). Late Preclassic mortuary patterns and evidence for human sacrifice at Chalchuapa, El Salvador. *American Antiquity, 49*(3), 603–618.

Freidel, D. A. (1986). The monumental architecture. In D. A. Freidel & R. A. Robertson (Eds.), *Archaeology at Cerros, Belize, Central America, Volume I: An interim report* (pp. 1–22). Dallas: Southern Methodist University Press.

Freidel, D. A., & Schele, L. (1989). Dead kings and living temples: Dedication and termination rituals among the ancient Maya. In W. Hanks & D. S. Rice (Eds.), *Word and image in Maya culture: Explorations in language, writing, and representation* (pp. 233–243). Salt Lake City: University of Utah Press.

Freidel, D. A., Suhler, C. K., & Cobos Palma, R. (1998). Termination ritual deposits at Yaxuna: Detecting the historical in the archaeological contexts. In S. B. Mock (Ed.), *The sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 135–146). Albuquerque: University of New Mexico Press.

Garber, J. F. (1983). Patterns of jade consumption and disposal at Cerros, Northern Belize. *American Antiquity, 48*(4), 800–807.

Gillespie, S. D. (2002). Body and soul among the Maya: Keeping the spirits in place. In H. Silverman & D. B. Small (Eds.), *The space and place of death* (pp. 67–78). Archaeological Papers, Vol. 11. Arlington: American Anthropological Association.

Gillespie, S. D. (2010). Maya memory work. *Ancient Mesoamerica, 21*(2), 401–414.

Gossen, G. H. (1986). Mesoamerican ideas as a foundation for regional synthesis. In G. H. Gossen (Ed.), *Symbol and meaning beyond the closed community: Essays in Mesoamerican ideas* (pp. 1–8). Albany: Institute for Mesoamerican Studies, State University of New York.

Guernsey, J., & Kent Reilly III, F. (2006). Introduction. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. v-xvi). Barnardsville: Boundary End Archaeology Research Center.

Hanks, W. F. (1990). *Referential practice: Language and lived space among the Maya*. Chicago: The University of Chicago Press.

Hansen, R. D., Howell, W. K., & Guenter, S. P. (2008). Forgotten structures, haunted houses, and occupied hearts: Ancient perspectives and contemporary interpretations of abandoned sites and buildings in the Mirador Basin, Guatemala. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 25–64). Boulder: University Press of Colorado.

Headrick, A. (1999). The street of the dead … It really was: Mortuary bundles at Teotihuacan. *Ancient Mesoamerica, 10*(1), 69–85.

Hofling, A. C. (1991) *Itzá Maya texts with a grammatical overview*. Salt Lake City: University of Utah Press.

Hofling, A. C., & Fernando Tesucún, F. (1997). *The Itzaj Maya—Spanish—English Dictionary*. Salt Lake City: University of Utah Press.

Houston, S. D., & McAnany, P. A. (2003). Bodies and blood: Critiquing social construction in Maya archaeology. *Journal of Anthropological Archaeology, 22*(1), 26–41.

Houston, S., Stuart, D., & Taube, K. (2006). *The memory of bones: Body, being, and experience among the Classic Maya*. Austin: University of Texas Press.

Hull, K. (2006). Journey from the ancient Maya tomb: Ropes, roads, and the point of departure. G. LeFort & B. L. Persson (Eds.), *Jaws of the underworld: Life, death, and rebirth among the ancient Maya* (pp. 43–52). Acta Mesoamericana, Vol. 16. Markt Schwaben: Verlag Anton Saurwein.

Iannone, G. (2005). The rise and fall of an ancient Maya petty royal court. *Latin American Antiquity, 16*(1), 26–44.

Klein, C. (1982). Woven heaven, tangled Earth: A weaver's paradigm of the Mesoamerican cosmos. Ethnoastronomy and archaeoastronomy in the American tropics. *Annals of the New York Academy of Sciences, 385,* 1–35.

Looper, M. G. (2006). Fabric structures in classic Maya art and ritual. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 80–104). Barnardsville: Boundary End Archaeology Research Center.

Massey, V. K. (1989). *The human skeletal remains from a terminal classic skull pit at Colha, Belize. Papers of the Colha Project* (Vol. 3). College Station: The University of Texas and Texas A & M University.

Matthews, J. P., & Garber, J. F. (2004). Models of cosmic order: Physical expression of sacred space among the ancient Maya. *Ancient Mesoamerica, 15*(1), 49–59.

Maudslay, A. P. (1889–1902). *Biologia Centrali Americana: zoology, botany and archaeology* (Vol. 1). London: R. H. Porter.

McAnany, P. A. (1995). *Living with the ancestors: Kinship and kingship in ancient Maya society*. Austin: University of Texas Press.

McGee, R. J. (1998). The Lacandon incense burner renewal ceremony: Termination and dedication ritual among the contemporary Maya. In S. B. Mock (Ed.), *The sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 41–46). Albuquerque: University of New Mexico Press.

Megged, A. (2010). *Social memory in ancient and Colonial Mesoamerica*. New York: Cambridge.

Miller, A. G. (1982). *On the edge of the sea: Mural painting at Tancah–Tulum, Quintana Roo, Mexico*. Washington, D. C.: Dumbarton Oaks.

Miller, V. (2007). Skeletons, skulls, and bones in the art of Chichen Itzá. In V. Tiesler & A. Cucina (Eds.), *New perspectives on human sacrifices and ritual body treatments in ancient Maya society* (pp. 165–189). New York: Springer.

Mock, S. B. (1998a) Prelude. In S. B. Mock (Ed.), *The sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 3–20). Albuquerque: University of New Mexico Press.

Mock, S. B. (1998b). The defaced and the forgotten: Decapitation and flaying/mutilation as a termination event at Colha, Belize. In S. B. Mock (Ed.), *The sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 113–124). Albuquerque: University of New Mexico Press.

Moser, C. L. (1973). *Human decapitation in ancient Mesoamerica. Studies in Pre–Columbian art and archaeology*, no.11. Washington D. C.: Dumbarton Oaks.

Navarro Farr, C., Freidel, D. A., & Arroyave Prera, A. L. (2008). Manipulating memory in the wake of dynastic decline at El Perú-Waka': Termination deposits at abandoned structure M13–1. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 113–146). Boulder: University Press of Colorado.

Newsome, E. A. (2003). *The "bundle" altars of Copán: A new perspective on their meaning and archaeological contexts. Ancient America 4*. Washington, DC: Center for Ancient American Studies.

Olivier, G. (2006). The sacred bundles and the coronation of the Aztec king in Mexico- Tenochtitlan. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 199–225). Barnardsville: Boundary End Archaeology Research Center.

Pagliaro, J. B., Garber, J. F., & Stanton, T. W. (2003). Evaluating the archaeological signatures of Maya ritual and conflict. In M. K. Brown & T. W. Stanton (Eds.), *Ancient Mesoamerican warfare* (pp. 75–90). Walnut Creek: Altamira Press.

Pendergast, D. M. (1969). *Altun Ha, British Honduras (Belize). The sun god's tomb*. Occasional paper 19. Ontario: Royal Ontario Museum Art and Archaeology.

Pendergast, D. M. (1981). Lamanai, Belize: Summary of excavation results, 1974–1980. *Journal of Field Archaeology, 8*(1), 29–53.

Pohl, J. M. D. (1994). *The politics of symbolism in the Mixtec codices*. Nashville: Vanderbilt University Publications in Anthropology.

Reents–Budet, D. (2006). Power material in ancient Mesoamerica: The roles of cloth among the Classic Maya. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 105–126). Barnardsville: Boundary End Archaeology Research Center.

Reese-Taylor, K., Zender, M., & Geller, P. L. (2006). Fit to be tied: funerary practices among the Prehispanic Maya. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 40–58). Barnardsville: Boundary End Archaeology Research Center.

Reilly III, F. K. (2006). Middle formative origins of the Mesoamerican ritual act of bundling. In J. Guernsey & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 1–21). Barnardsville: Boundary End Archaeology Research Center.

Rice, P. M. (2004). *Maya political science: Time, astronomy, and the cosmos*. Austin: University of Texas Press.

Rice, P. M. (2007). *Maya calendar origins: Monuments, mythistory, and the materialization of time*. Austin: University of Texas Press.

Rice, P. M. (2009). Mound ZZ1, Nixtun-Ch'ich', Petén, Guatemala: Rescue operations at a long-lived structure in the Maya Lowlands. *Journal of Field Archaeology, 34*(4), 403–422.

Roys, R. L. (1967). *The Book of Chilam Balam of Chumayel* (2nd ed.). Norman: University Oklahoma Press.

Ruz Lhuillier, A. (1968). *Costumbres funerarias de los antiguos Mayas*. Mexico: Universidad Nacional Autónoma de México.

Saturno, W. A., Stuart, D., Aveni, A. F., & Rossi, F. (2012). Ancient Maya astronomical tables from Xultan, Guatemala. *Science, 336*(6082), 714–717.

Saunders, N. J. (1994). Predators of culture: Jaguar symbolism and Mesoamerican elites. *World Archaeology, 26*(1), 104–117.

Schele, L., & Freidel, D. A. (1990). *A forest of kings: The untold story of the ancient Maya*. New York: William Morrow.

Scott, A. M., & Brady, J. E. (2005). Human remains in Lowland Maya caves: Problems of interpretation. In K. M. Prufer & J. E. Brady (Eds.), *Stone houses and earth lords: Maya religion in the cave context* (pp. 263–284). Boulder: University Press of Colorado.

Shook, E. M., & Kidder, A. V. (1952). *Mound E-III-3, Kaminlajuyu, Guatemala*. Publication 596. Washington, DC: Carnegie Institution of Washington.

Smith, A. L. (1950). *Uaxactun, Guatemala: Excavations of 1931–1937*. Publication 588. Washington, DC: Carnegie Institution of Washington.

Spence, M., White, C., Longstaffe, F. J., & Law, K. R. (2004). Victims of the victims: Human trophies worn by sacrificed soldiers from the feathered serpent pyramid, Teotihuacan. *Ancient Mesoamerica, 15*(1), 1–15.

Stanton, T. W., & Magnoni, A. (2008). Place of remembrance: The use and perception of abandoned structures in the Maya Lowlands. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 1–24). Boulder: University Press of Colorado.

Stenzel, W. (1968). *The sacred bundles in Mesoamerican religion*. Thirty-eighth International Congress of Americanists, Stuttgart–München, 1968, 2, 347–352.

Stross, B. (1998) Seven ingredients in Mesoamerican ensoulment: Dedication and termination in Tenejapa. In S. B. Mock (Ed.), *The sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 31–40). Albuquerque: University of New Mexico Press.

Stuart, D. (1996). Kings of stone: A consideration of stelae in ancient Maya ritual and representation. *Res: Anthropology and Aesthetics, 29–30,* 148–171.

Stuart, D. (2006). Jade and chocolate: Bundles of wealth in classic Maya economics and ritual. In J. Guernsey, & F. Kent Reilly III (Eds.), *Sacred bundles: Ritual acts of wrapping and binding in Mesoamerica* (pp. 127–144). Barnardsville: Boundary End Archaeology Research Center.

Sullivan, L. A., Hageman, J. B., Houk, B. A., Hughbanks, P., & Valdez, F. Jr. (2008). Structure abandonment and landscape transformation: Examples from the Three Rivers region. In T. W. Stanton & A. Magnoni (Eds.), *Ruins of the past* (pp. 91–112). Boulder: University Press of Colorado.

Taube, K. A. (2004). Flower mountain: Concepts of life, beauty, and paradise among the Classic Maya. *Res: Anthropology and Aesthetics, 45,* 69–98.

Tedlock, D. (1996). *Popol Vuh: The definitive edition of the Maya book of the dawn of life and the glories of gods and kings*. New York: Simon and Schuster.

Thompson, J. E. S. (1970). *Maya history and religion*. Norman: University of Oklahoma Press.

Tiesler, V. (2006). Life and death of the ruler: Recent bioarchaeological findings. In V. Tiesler & A. Cucina (Eds.), *Janaab' Pakal of Palenque: Reconstructing the life and death of a Maya ruler* (pp. 21–48). Tucson: The University of Arizona Press.

Tiesler, V. (2007). Funerary or nonfunerary? New references in identifying ancient Maya sacrificial and postsacrificial behaviors from human assemblages. In V. Tiesler & A. Cucina (Eds.), *New perspectives on human sacrifice and ritual body treatments in ancient Maya society* (pp. 14–44). New York: Springer.

Tiesler, V., & Romano-Pacheco, A., Gómez-Valdés, J., & Daneels, A. (2013). Posthumous body manipulation in the Classic Period Mixtequilla: Reevaluating the human remains of ossuary I from El Zapotal, Veracruz. *Latin American Antiquity, 24*(1), 47–71.

Tozzer, A. (1941). *Landa's relación de las cosas de Yucatan*. *A translation edited with notes*. Cambridge: The Peabody Museum of American Archaeology and Ethnology, Harvard University.

Vail, G., & Hernández, C. (2011). The construction of memory: The use of Classic period divinatory texts in the Late Postclassic Maya codices. *Ancient Mesoamerica, 22*(2), 449–462.

Vogt, E. Z. (1998). Zinacanteco dedication and termination rituals. In S. B. Mock (Ed.), *The Sowing and the dawning: Termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica* (pp. 21–30). Albuquerque: University of New Mexico Press.

Wagner, E. (2006). White Earth bundles—the symbolic sealing and burial of buildings among the ancient Maya. In P. R. Colas, G. LeFort, & B. L. Persson (Eds.), *Jaws of the underworld: Life, death, and rebirth among the ancient Maya* (pp. 55–70). Acta Mesoamericana, Vol. 16. Markt Schwaben: Verlag Anton Saurwein.

Weiss-Krejci, E. (2003). Victims of human sacrifice in multiple tombs of the ancient Maya: A critical review. In A. Ciudad Ruiz, M. H. Ruz Sosa, & M. J. Iglesias Ponce de León (Eds.), *Antropologia de la eternidad: La muerte en la cultura Maya* (pp. 355–381). Madrid: Centro de Estudios Mayas, Sociedad Espanola de Estudios Mayas.

Weiss-Krejci, E. (2004). Mortuary representations of the Noble House: A cross-cultural comparison between collective tombs of the ancient Maya and Dynastic Europe. *Journal of Social Archaeology, 4*(3), 368–404.

Weiss-Krejci, E. (2006a). The Maya corpse: Body processing from Preclassic to Postclassic Times in the Maya Highlands and Lowlands. In P. R. Colas, G. LeFort, & B. L. Persson (Eds.), *Jaws of the underworld: Life, death, and rebirth among the ancient Maya* (pp. 71–80). Acta Mesoamericana, Vol. 16. Markt Schwaben: Verlag Anton Saurwein.

Weiss-Krejci, E. (2006b). Identifying ethnic affiliation in the Maya mortuary record. In F. Sachse (Ed.), *Maya ethnicity: The construction of ethnic identity from the Preclassic to modern times* (pp. 47–60). Acta Mesoamericana, Vol. 19. Markt Schwaben: Verlag Anton Saurwein.

Weiss-Krejci, E. (2011). The formation of mortuary deposits: Implications for understanding mortuary behavior of past populations. In S. C. Agarwal & B. A. Glencross (Eds.), *Social bioarchaeology* (pp. 68–106). Malden: Wiley-Blackwell Ltd.

Welsh, W. B. M. (1988). *An analysis of Classic Lowland Maya burials.* International Series 409. Oxford: British Archaeological Reports.

Wilkinson, R. G. (1997). Appendix B. Human skeletal remains from La Coyotera. In C. S. Spencer & E. M. Redmond (Eds.), *Archaeology of the Cañada de Cuicatlán, Oaxaca* (pp. 614–619). New York: American Museum of Natural History.

Woodbury, R. B., & Trik, A. S. (1953). *The ruins of Zaculeu, Guatemala*. Richmond: The United Fruit Company.