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New Perspectives on Ritualized Violence in Mesoamerica

Vera Tiesler

Laboratorio de Bioarqueología, Universidad Autónoma de Yucatán, Mérida, Mexico

Abstract: Ancient Mesoamerican societies deemed ritual violence a crucial form of merit-making with the divine. Until recently, humans themselves were considered supreme "food staples." Their bodies served to vitalize the cosmos at the rhythm of consecrated time intervals. Victims were prepared and sacrificed in prescribed ways to liberate their animate essences, believed to be harbored mainly in a person's heart and blood. After death, the sanctified fleshly remnants would sometimes be processed and exhibited as trophies or relics. Although ritualized violence is abundantly recorded in iconography and has been inferred from multiple simultaneous interments and deposits of articulated body segments, only recent decades of scholarship have made important strides towards culturally aligned, nuanced, and interdisciplinary explorations of Mesoamerican sacrificial debt payments to the divine. This chapter introduces the reader to Mesoamerican conceptual frameworks surrounding debt payments to the gods, along with old and new research agendas and protocols for discussing ritualized violence and associated body processing. I further address a number of new lines of objectifiable research on ancient Mesoamerican ritualized violence, underlining the importance of interdisciplinary cross-fertilization in reconstructing ancient ritual conducts. These refer to (1) proper forensic scrutiny of Mesoamerica's skeletal record, (2) the role of archaeothanatology in the reconstruction of mortuary pathways, (3) bioarchaeology as a body-anchored profiling tool of human sacrifices, and (4) the bearing of nuclear paleoDNA research in the study of ritual violence exerted on babies and children.

Resumen: Las antiguas sociedades mesoamericanas consideraban la violencia ritual como una forma crucial de ganarse el beneplácito divino. Hasta hace poco, los propios seres humanos eran considerados «alimentos» supremos de los Dioses. Sus cuerpos servían para vitalizar el cosmos al ritmo de intervalos de tiempo consagrados. Las víctimas eran preparadas y sacrificadas de formas prescritas para liberar sus esencias animadas, que se creía que se albergaban principalmente en el corazón y la sangre de una persona. Tras la muerte, los restos mortales, así sacralizados, podían ser objeto de más procesamiento y de exhibición como trofeos o reliquias. Aunque la violencia ritualizada está ampliamente documentada en la iconografía y se ha deducido a partir de múltiples entierros simultáneos y depósitos de segmentos corporales articulados, solo en las últimas décadas se han producido avances importantes hacia exploraciones interdisciplinares y culturalmente alineadas con el pensamiento mesoamericano, de tales formas de hacer mérito con lo sagrado y sus personificaciones.

Este capítulo introductorio presenta al lector una serie de marcos conceptuales mesoamericanos que rodean los sacrificios religiosos. Expongo líneas y protocolos de investigación en el debate sobre la violencia ritualizada y los tratamientos asociado de los cuerpos. Seguidamente, presento a los lectores la agenda para el presente volumen y los tratamientos temáticos de los capítulos, unidos por un esfuerzo interdisciplinario de confrontar fuentes antiguas y nuevas lecturas epigráficas con la cultura material y mediática. Se prioriza información objetivable y anclada en el cuerpo humano (antropología forense, registros mortuorios, arqueometría y ergonométrica ritual). Nuevos hallazgos, interpretaciones y metodologías (como la arqueometría, la arqueotanatología, los isótopos y la paleogenética) buscan interpretarse acorde con sistemas de creencias viables en el marco cultural mesoamericano.

La última parte de la introducción se consagra a presentar al público amplio cuatro líneas de investigación objetivables sobre la violencia ritualizada en la antigua Mesoamérica. Estas se refieren a (1) los antecedentes y estado de arte en el escrutinio forense de los registros esqueléticos de Mesoamérica (desde una perspectiva mexicana), (2) el papel de la arqueotanatología en la reconstrucción de las vías mortuorias, (3) la bioarqueología como herramienta para el "perfilado" poblacional de los sacrificios humanos (4) el nuevo rol del escrutinio genético nuclear en el estudio de la violencia ritual en bebés y niños.

1.1. Connecting the Dots of Human Merit-Making with the Divine in Mesoamerica

Each year, ancestral community traditions and religious fervor come alive in Chablekal, the Maya village next to which I live. Now Catholic, its patronal *fiesta* unfolds solemnly in honor of the *Virgen de la Concepción*. In the wake of the celebrations, huge wooden scaffolds are raised high next to one side of the church on the central plaza and *palquero* lumbermen wrap and bind the scaffold beams and planks together without a single nail, using fiber cordage instead (Figure 1.1a). Like in other traditional communities dotting the northern plains of Yucatan, every year the village congregation appoints the *palqueros*, who take pride in their construction skills, in safely seating the audience and in dressing their wooden colosseum with vibrant green leaves after one or two intensive weeks of construction. Once the guano palm branches are distributed over the full length and height of the scaffolding, the verdant balustrades close into a central circle, to be used as a bullfighting arena during the festival. To preserve the lush look of the coat of palm leaves, officiants wait to apply this final "dressing" until a few days before the processions initiate (Desiderio Poot from the village of Dzoncahuich, personal communication, 2017; Figure 1.1b).

Towering up to three stories above ground level, the wooden bullring safely supports the village crowd and allows it to be part of the spectacle that unfolds during the patronal *fiesta*. Before it starts, either a living *ceiba* tree or a massive dead tree trunk is planted in the center of the ring. Ropes with fluttering banners and banderoles connect the tree with the crowded balustrades (Figure 1.1b). Amidst applause and band music, Maya cattle raisers and itinerant *mataderos* parade and start the fights, consecrated in time and space by daily processions that carry images of the locally devoted virgins and saints.

The first cattle to be sacrificed is commonly a calf, killed until recently in the center of the *ruedo*, its first blood drawn from the chest. In several communities, this young bull is tied to the ceiba tree the night before the patronal celebrations begin. The name of the donor, or sometimes the patron saint, is usually painted on its body (Medina Hernández and Rivas Cetina 2010). Ranchers offer these sacrificial calves to the president of the community's *gremio* (guild) for the occasion. Several grown bulls are subsequently sacrificed (Figure 1.1.c). At the end of each *corrida* (bullfight), the meat, grease, entrails, and bones of the sacrificed beasts are cooked into a thick stew and offered in barrels. Known among the Yucatecan locals as *chocolomo*, this stew is served to the festive crowd at the entrance of the bullring (Figure 1.2).

Although an Iberian-born syncretic practice, many cattle-raising Yucatecan Maya communities readily adopted and adapted *tauromaquia* (bullfighting) from the Spanish and have since staged bullfights regularly during their yearly village and town festivities (Medina Hernández and Rivas Cetina 2010). Besides the sacrifices *per se*, the verdant scaffolding and central planting of a ceiba tree are still powerfully reminiscent of precolumbian place-making and merit-making with the sacred, of cosmic "feeding" and centrality (Monaghan 2000; Taube 1988, 2017a, 2017b). While the bullring spatially embodies the world, the centrally planted tree transforms into its *axis mundi.*

Meanwhile, in the small Yucatecan community of Xalau, close to Chemax, the *ceiba* tree,[2] freshly planted in the bullring's center, is sprinkled with ceremonial *balche* wine before the celebrations start. This act is meant as a first offering to *Wan Thul*, the protector god of cattle (Jardow-Pedersen 1999; Medina Hernández and Rivas Cetina 2010). Later that night, its branches are dressed in fertilizing "gifts" of pinecones, buckets with *chile* plants, and squash gourds.

Bull sacrifices are also staged in the yearly drama festivals prepared by the Tzotzil congregation of Chamula, Chiapas, for the Maya New Year that falls during the days of the Catholic-born Carnival (Bricker 1973). Over the course of what community members call "the lost days," bulls are bled to death and then their lower jaw is defleshed and detached from the head. This form of body partitioning is part of a practice shared across modern native Mesoamerica, especially in the context of deer hunting (Olivier et al. 2019). Nahua hunters from Ichcatepec, Veracruz, still maintain that "when a man has killed seven deer, he must take the 'bones of the head' [jawbones] to any hill along with an offering, because if he does not make this 'payment to the earth,' some evil will befall him, or a snake will bite him" (Reyes García 1960:37).

Whereas before colonization, both humans and animals had been ritually killed and offered to sacred entities, many prior religious practices of merit-making have been sublimated after centuries of Iberian oppression and forced religious assimilation. Under the yoke of Novohispanic rule, displaced, diseased, and rapidly declining Indigenous congregations now received Christian instruction in the "pacified" areas and faced persecution and harsh punishment should their idolatrous behavior be discovered (De Vos 1980; Rincón Mautner 2024b:449). Discretely executed animal sacrifices began to substitute human ritual killings. During the sixteenth century, a typical such testimony about the Maya community of Sotuta reads:

> And that the *ah kines* and the leaders and Lorenzo Cocom always persuaded those who were there to remain silent and say nothing, and that no one dared to speak out of fear because he was a great lord and chief governor and they held him in high esteem. And

[2] Ceiba trees (*Malvaceae* family) are native to the tropical and subtropical regions of the Americas and can grow up to 70 m tall. They stand out for their spiked trunk and huge, spreading canopy. The tree plays a key role in Mesoamerican cultures and myths for embodying the *axis mundi*.

Figure 1.1. (a) Balustrades of the bullfighting arena at one side of the community church, as it is being dressed with palm leaves in wake of the "arrival" of the Virgin of the Conception: Dzoncauich, Yucatan, 2017; (b) tree trunk marking the center of the ring; (c) night *corrida* in Chablekal, Yucatan, 2020 (photos by V. Tiesler).

> that after this sacrifice [of youngsters whose bodies were thrown into a *cenote* sinkhole], three or four months later, this witness saw how another sacrifice to the idols and demons was made inside the church of the said town, in which they killed dogs and deer and animals and ate them and drank in the manner of their ancestors, in which the aforementioned Lorenzo Cocom and other *ah kines* and leaders warned

Figure 1.2. *Chocolomo* bull stew prepared in steel barrel; Chablekal, Yucatan 2020 (photo by V. Tiesler).

> everyone to remain silent and say nothing so that the clergy would not find out, because they would all be killed (Scholes and Adams 1938 [Vol. I]:71–81; translation by the author).[3]

1.2. Signifying Ritualized Violence and Human Sacrifice in Ancient Mesoamerica

While I could string a never-ending informed narrative of modern ritual practices strongly reminiscent of their precolumbian roots, I only recount them here as departure points to transport us back hundreds and thousands of years to ancient Mesoamerica's ritual landscapes. First defined as such by Paul Kirchoff (1943), this vast area denotes a geocultural space that was, and still is, home to a highly complex set of Native cultures and peoples who have maintained their languages and a host of other cultural and historical ties. Today, this territory encompasses Mexico, Guatemala, Belize, Honduras, El Salvador, Nicaragua, and northern Costa Rica, each country still taking pride in their rich heritages of Indigenous cultures and peoples.[4]

Especially before Iberian colonization, Mesoamerican societies deemed ritualized violence by and to humans a supreme form of debt payment to sacred entities. Roughly defined, ritually coded violence seeks legitimation through its ritualization process, which is a socio-ideological practice reliant on a fixed and repeated sequence of actions and one that usually invokes mythic lore (Meller et al. 2020). Although physical aggression exerted by the practitioners (toward themselves or others) is the defining aspect of this behavior, other non-physical forms of violence elude distinguishment in the archaeological record. Additional

[3] "Y que siempre persuadan los *ah kines* y los principales y el dicho Lorenzo Cocom a los que allí estaban que callasen y que no dijesen nada y que callasen y que su de temor no había ninguno que lo osase decir porque era gran señor y principal gobernador y le tenían mucho. Y que después de este sacrificio habrá tres o cuatro meses que vio este testigo como dentro de la iglesia del dicho pueblo se hizo otro sacrificio a los ídolos y demonios en el cual mataron perros y venados y animales y comieron de ellos y bebieron al modo de su antigüedad, en el cual dicho sacrificio del dicho Lorenzo Cocom y demás *ah kines* y principales apercibieron a todos que callasen y no dijesen nada porque no lo supiesen los religiosos, porque serían muertos todos" [*Procesos contra los indios idolatras de Sotuta, Kanchunup, Mopila, Sahcaba, Yaxcaba, Usil y Tibolon.* August 1562. *Archivo General de las Indias, Escribanía de Cámara 1009B;* in Scholes and Adams 1938:81].

[4] Among them are the Maya, Zapotec and Mixtec, Purépecha, Totonac, Huastec, and Nahua peoples. A set of sub-regions within Mesoamerica is defined by an aggregate of geographic and cultural attributes; these areas include north-central and central Mexico, the West, Mezcala and Oaxaca, the Pacific Lowlands, and the Gulf Coast. Southeast Mexico, along with the territories of Guatemala and Belize, is where the Maya cultural sphere developed. The Maya area is divided geographically into the Highlands and Lowlands. The latter comprises the Peten and the Yucatan peninsula. Honduras, Nicaragua, and northern Costa Rica constitute Mesoamerica's southeastern borderlands.

social conditions factor into this definition, such as the social recognition and rank of the individuals and groups that endure violence within a society. Violence may not be recognized as such, for example, when exercised against those who are considered subordinate or devoid of "human" qualities (slaves, prisoners of war, etc.). Beyond the human realm, ritually imposed aggression and harm to animals and sculpted stones may be perceived as equivalent if these recipients are considered animated equals, as we know to be the case among Mesoamerican societies with their pantheistic and animated cosmovisions (Descola 1993, 1996; Viveiros 2015).

Until recently, human bodies themselves were considered supreme "food staples," thought to contain vitalizing matter with which humans had an obligation to nurture their gods and supernatural forces (Graulich 2007; Graulich and Olivier 2004; López Austin and López Luján 2008; Monaghan 2000; Nájera 1987; Tiesler and Velásquez 2021). Prompted by a sense of obligation, humans saw themselves as part of a covenant, seeking collaboration and favors by invoking, acknowledging, and reciprocating their deities' intervention. Group members could reinforce these acts of reciprocity by identifying with their patron deities, benefitting their community, and enhancing a sense of belonging (Monaghan 2000; Rincón Mautner 2024a; Scherer 2025). The summoning of the divine often adhered to calendar cycles and was directed at certain deities according to their domains and spheres of influence (Wright 2024; Mautner 2024a). These could include young intermediary gods, local patron deities, or long-since deceased ancestral intermediaries.

Even particular aspects of more widely recognized gods and sacred forces could be invoked or invited as "intermittent guests" during sacrificial ceremonies, as Houston (2006) argues for the Classic Maya (see Figure 3.13 of this volume). Similarly, profuse self-bleeding, instrumented by stingray spines or deer awls, followed by burning the spilled blood in vessels, was considered apt for communicating with divine forces. Such a practice is captured in a scene depicted in the Classic period Maya city of Yaxchilan in which Lady Xook summons a vision serpent during her spiritual trance (see Chapter 2 of this volume).

These spuriously experienced co-habitations with sacred forces are conceptually different from *ixiptla* deity impersonators, for example, whom Aztecs recruited from among ritually "bathed" slaves, purified and dressed as the sacred force they were to impersonate. 40 days before meeting their death, these victims became *teoixiptla*, the living image of a deity (Declercq 2024a; see also Chapter 16 of this volume). They were sacrificed and their flesh was subsequently consumed as a deified substance. In Fray Diego Durán's words, "they consecrated the flesh of the sacrificed, and ate it with such reverence and with so many ceremonies and niceties, as if it were something heavenly" (Durán 1995, Vol. 2:116). One such god impersonator was likely the child whose remains were contained in Offering 111 of the Aztec Templo Mayor of Tenochtitlan (López Luján et al. 2010) (Figure 1.3). The body, still articulated, had been dressed as the god Huitzilopochtli and integrated into the offerings to form the consecration cosmograms sometime during the fifteenth century CE. The ribs of this five-year-old still carried cutmarks indicative of a subdiaphragmatic heart extraction.

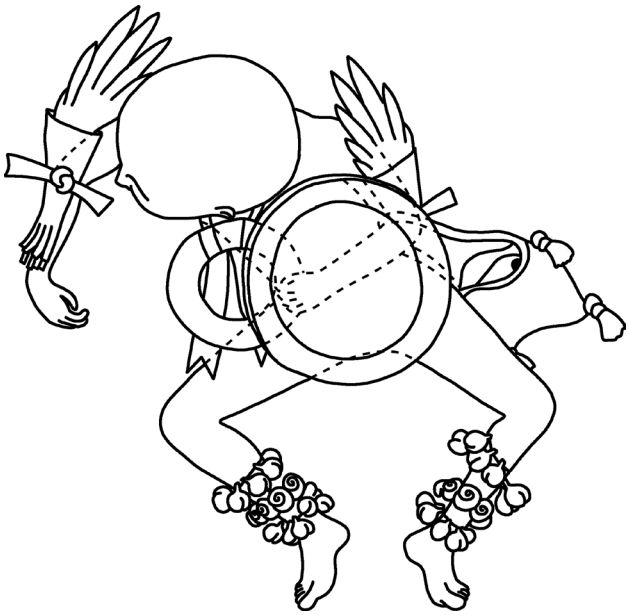


Figure 1.3. Artistic reconstruction of a sacrificed child in the attire of the god Huitzilopochtli. Offering 111, Templo Mayor Project (redrawn from López Luján, Aguirre Molina, and Marín Calvo 2022; by E. Domínguez).

Further conceptual binaries central to the choreography of human sacrifices relate to the complements of hunting versus being hunted or of winning versus losing in battles or ball games (Carreón Blaine 2017; Declercq 2024a, 2024b:372; Graulich 2007). These two internalized native Mesoamerican couplets (savagery versus civilization and prey versus predator) constituted a "dividual" person, expressing binaries of human vs. faunal and predatory vs. prey. In the words of Declercq (2024b:372), one of these two components always manifests itself with greater emphasis in relation to the external world, while the same component gets overshadowed in one's opponent, generating a relational dynamic of opposites.

A cyclical notion of being reborn, descending, and combatting relates to deceased warriors in their solar quality. Even through the late sixteenth century, late warrior ancestors were invoked in war songs and dances. The music summoned them so they would descend from the House of the Sun *Tonatiuh Ichan*—their celestial "Mictlán," or underworld, so to speak—as flowers, birds, or butterflies and join forces with their living peers in the fight against the enemy (Declercq 2024b:376).

To Mesoamerican peoples, sacrifices were and still are enmeshed with notions of divine nourishment, paired with the need to preserve the cosmic order and thereby

Figure 1.4. Scene of self-sacrifice in Durán's Atlas (Durán 1995: II, plate 12; drawing by E. Domínguez).

human wellbeing. Debt payments could be made by donating living matter, deemed an essential ingredient of the hierarchically organized cosmic food chain, which operated between the transpiring sphere of the living and the divine, uninhabited anecumene in consecrated spaces and time intervals (Figure 1.4). In such divine feeding action, human "food staples" were the most highly esteemed, starting with the ubiquitous prehispanic practice of drawing and offering one's own blood or that of others (see Chapter 2 of this volume). Made effective by cutting the skin or deliberately puncturing mucous membranes and other soft tissues, the precious red liquid fed sacred entities by irrigating the earth or by rising to the sky as heavy, fragrant smoke.

The primordial importance of blood as offering already figures in Mesoamerican creation myths in which the supreme couple receives from their offspring not only prayers and copal, but also blood from self-bleeding. The convergence of these actions invited them to create the sky, earth, and stars (Aguirre Molina 2004; Graulich 2005:54–59). Susan Milbrath recreates such collective devouring among the gods featured in the Borgia Codex (Chapter 15 of this volume). Using the chronological framework of *veintena* festivals, she follows the deities' mutual killings, rebirths, and shapeshifting at the pace of Venus' changing phases. Prior to the Evening Star's reappearance, Tlahuizcalpantecuhtli's decapitation embodies this planet's final underworld transformation (Figure 1.5).

In this *Weltanschauung,*[5] organisms were believed to be composed of enduring and more ephemeral matter that would interact with extrinsic human and sacred domains through conduits and direct exchange of matter. Composed of flesh, bones, teeth, tissues, nails, hair, and clothing, the body encapsulated a deeper, sacred, and more lasting reality made of ethereal matter, the origin of which was thought to predate the creation of this world era (López Austin 1989, 2015; Velásquez García 2023). In the words of Alfredo López Austin and Leonardo López Luján, Mesoamerican religious tradition held that in this arrangement of the universe, space and time belonged exclusively to the gods (the superior anecumene) and were

> distinguished from the space-time created by the gods for the creatures (the world). The latter was occupied by human beings, animals, plants, minerals, meteors, and stars, but it was also for the gods and supernatural forces whose invisible presence meshed with the mundane. Divinity infiltrated all creatures, to give them their essential characteristics and to enliven, energize, transform, damage, and destroy them. In other words, creatures were conceived by the Aztecs and their contemporaries as mixed entities, made up of divine substances (subtle, eternal, predating the formation of the world) and worldly substances (hard, heavy, perceptible, destructible, which enveloped the divine elements) (López Austin and López Luján 2008:143–144).

In such Mesoamerican body ontologies, animated components were believed to be in constant exchange with the extrinsic space and interacted with other creatures, plants, matter, the sky, and the gods. These interactions were thought to happen as innate parts of physiological life functions, such as food intake, sensory perception, or breathing. Among a number of Mayan languages, for example, the terms for "breath" are associated with the three stones of the sacred hearth. "Breath" also denotes spirits and ascending aromas that identify some of the exquisite food staples of the gods when offered to them during invocation (Houston and Taube 2000:272–273; Taube 1998, 2000). In their quality as conduits of animated matter, human body cavities (like the nostrils, mouth, ears, anus, vagina, and urinary tract) were likened to liminal portals and thresholds, conceived as earthy caves and sinkholes that granted interaction between humans, their world, and the sacred (López-Austin 2015; Velásquez García 2023).

Within this body-anchored cosmos, the human organism served as a powerful vehicle for debt payments to divine

[5] *Weltanschauung* is roughly defined as a shared worldview or set of ideas of how the universe and its components were formed.

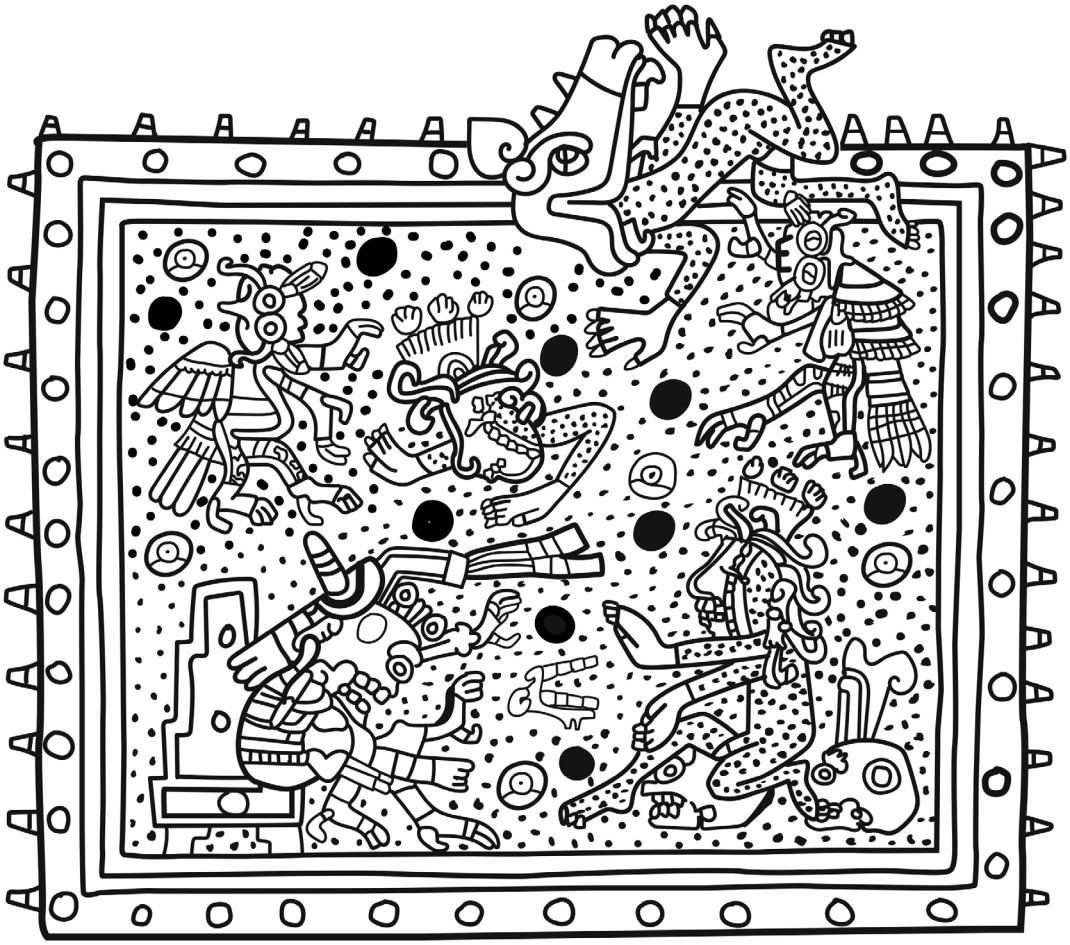


Figure 1.5. Folio 42 of the Borgia Codex showing a scene of otherworldly creatures in the act of devouring bodies and body segments (drawing by S. Declercq).

forces. It was a privileged interstice between the inhabited world of the ecumene and the uninhabited divine spheres of the anecumene and its different interacting temporal and spatial layers. These spheres converged within the organism's light and heavy components, making it a powerful embodied portal for enabling communication and debt payments during ritual practice (López-Austin 2015; Tiesler and Velásquez 2021). Whereas the head acquired significance as a flowery tree or plainly the "top" of a mountain (López-Austin and López-Luján 2009; Taube 2004a, 2004b, 2006), the torso was conceived as a body model of the *Monte Sacro* or Flowery Mountain paradise. Ritually pierced, opened, and essentially broken, it became (part of) the vitalizing Sacred Mountain, which was to generate cosmic growth and prosperity (Tiesler and Olivier 2020). This is the message conveyed by a number of Maya portraits of sacrificial victims, such as Plate 3b of the Dresden Codex in which we see the lifeless remains of a bound body transformed into part of a *witz* (mountain). Out of its open groins, an enormous world tree grows, visibly fertilized by the victim's animated components (Figure 1.6). In this cosmic arrangement, sacrificial altars also partake in centrality making as the *axis mundi*, likened to planted world trees by González, Coltman, Taube, and Stanton in Chapters 4 and 6 of this volume.

Parallels between bodies and sacred mountains bring to mind the quintessentially Mesoamerican notion of human bodies as capsules of vitalizing forces: replications, blueprints, and cosmic models (López-Austin 1989; López-Austin and López Luján 2009; Taube 2004a, 2004b, 2006; Tiesler and Velásquez García 2021; Velásquez García 2023). In their roles as organic cosmograms, human bodies (and those of all living creatures, really) were apt to invoke and summon the sacred (López Austin 2015; Taube 1998, 2004). Ritual killings and body "opening" as transfiguration and offering were apt to effectively create such exchange conduits when sanctioned properly and staged during synergetic time windows (López Austin 2015; Tiesler and Olivier 2020; Figure 1.3). By extension, sacrificial altars were conceived as the planting of trees and manufactured to embody verticality, inferred from the findings of seeds and skulls in the material record (see Chapters 4, 5, and 6 of this volume).

The very arrangement of a number of multiple deposits across prehispanic Mesoamerica seems to convey this principle of "centrality making," beginning as early as the Preclassic period (Figure 1.7; Marengo et al. 2021; Pereira et al. 2006; Sugyiama 2005; Tiesler et al. 2017;see Chapters 9 and 12 of this volume). Within of these

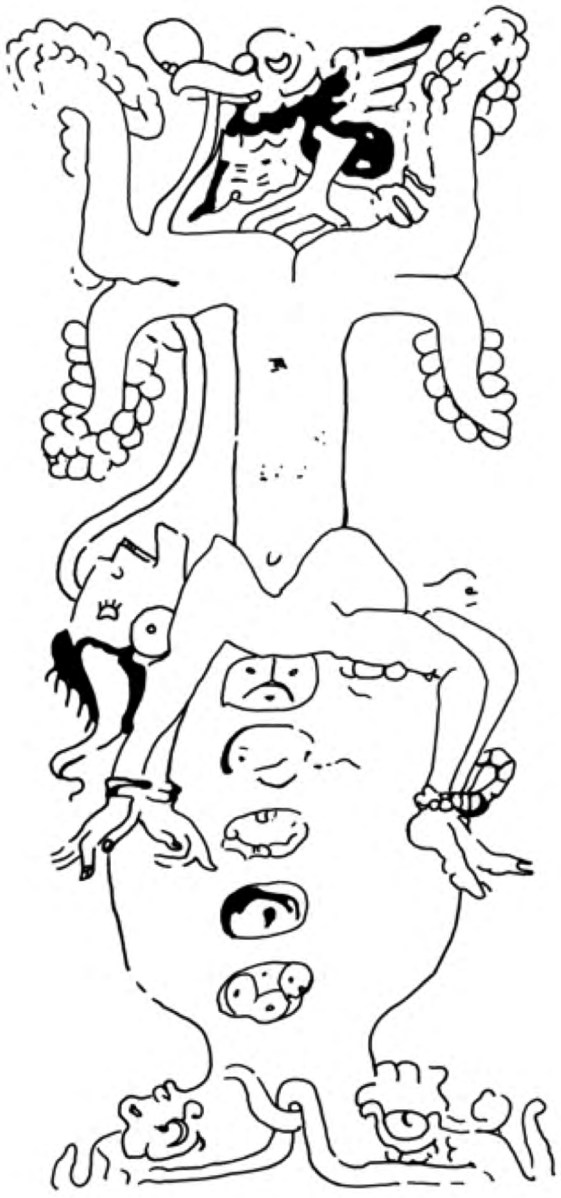


Figure 1.6. Sacrificial victim draped over a sacrificial altar; centrality is created after piercing and opening the torso by turning into part of the sacred mountain from which the central Word Tree emerges (plate 3b of the Dresden Codex; redrawn by E. Domínguez from *Códice de Dresde* 1983:3).

geometrically arranged bodies and body parts, the central axis appears to emerge from the middle, powerfully channeling cosmic myths in which earthly navels connect with the skyline (Taube 1994:668–669). By extension, censers and functional sacrificial altars, laden *tzompantli* racks, and skull towers would also summon the divine in a powerful fertilizing act of sacred place-making (Figure 1.8; see Chapters 4, 5, 6, and 7 of this volume).

1.3. New Perspectives on Ritualized Violence in Mesoamerica: Two Decades of Recent Scholarly Engagement with Violent Merit-Making with the Gods

Today's scholarly grasp of "human sacrifice" remains abstract and simplistic, if not obscure, when studied in isolated disjunction from broader contexts of Mesoamerican worldviews, religious thought, and ritual practice—puzzlingly complex, yet rooted in an underlying "hard core" of how Mesoamerican peoples understood their life and their universe (López Austin 2001). Worse so, without proper cultural alignment, any treatise on the subject may be prone to echo Western internalization together with controversial value judgements, sensationalism, and exoticization (Scherer 2025; Stanton et al. forthcoming; see also Chapters 16 and 18 of this volume). Among recent debates showcasing the censorship that the last decades have cast on subjects surrounding human sacrifice in Mesoamerica is the outcry prompted by an edition on ancient cannibalism and depredation that Mexico's flagship journal, *Arqueología Mexicana*, had commissioned in 2023 to Stan Declercq, a Mexican-based archaeologist specializing in Mesoamerican religions (Declercq 2023a; see also Chapter 16 of this volume). In a public reply to the dissenting comments, he defends the timeliness of the work on the subject, along with the veracity of the contributions, which go beyond polemic, dehumanizing, colonial testimonies and employ information from properly autochthonous prehispanic texts. This source work, together with exact scientific evidence, paints a much more nuanced picture of Mesoamerican "feeding" practices and grants them an understanding in proper Indigenous terms, as he posits.

Declercq goes on to condemn the vilification of studies on Mesoamerican sacrifice and cosmophagy, arguing that these critiques rely on Westernized colonialist discourse that associate anthropophagy with "sin" and "bad behavior." He makes a case instead that, given the broad data available to today's scholars, ritual anthropophagy should be considered worthy of study with the same attention and rigor that we might apply to any other cultural phenomenon, such as music, dance, architecture, language, clothing, or religion (Declercq 2023b). He seconds that, as scholars who wish to bring a scientific approach to the debate, it is not our task to judge, criticize, nor "applaud" such practices, but to present culturally impregnated, *emic* interpretations, based on sound analysis of wide-ranging data sets, as we remain all the while in conversation with descendant communities. Such culturally enmeshed treatments of the subject require efforts to assimilate Indigenous logic and ontologies behind such behavior from "within," while abstaining from Westernized value judgements.

Just like further well-grounded *etic* comparative approximations of ancient religions (Beattie 1980; Bourdillon and Meyer Fortes 1980; Laneri 2021; among others), this very approach, I would second, distances Declercq's and his contributors' treatises from what I label "colonialist postcolonial" discourses. At best historically skewed, at worst altogether detached from concrete data and alien to Mesoamerican worldviews, these damaging narratives still permeate some of the academic debates of one of the most foundational aspects of ancient Mesoamerican traditions (see Scherer 2025; Chapters 17

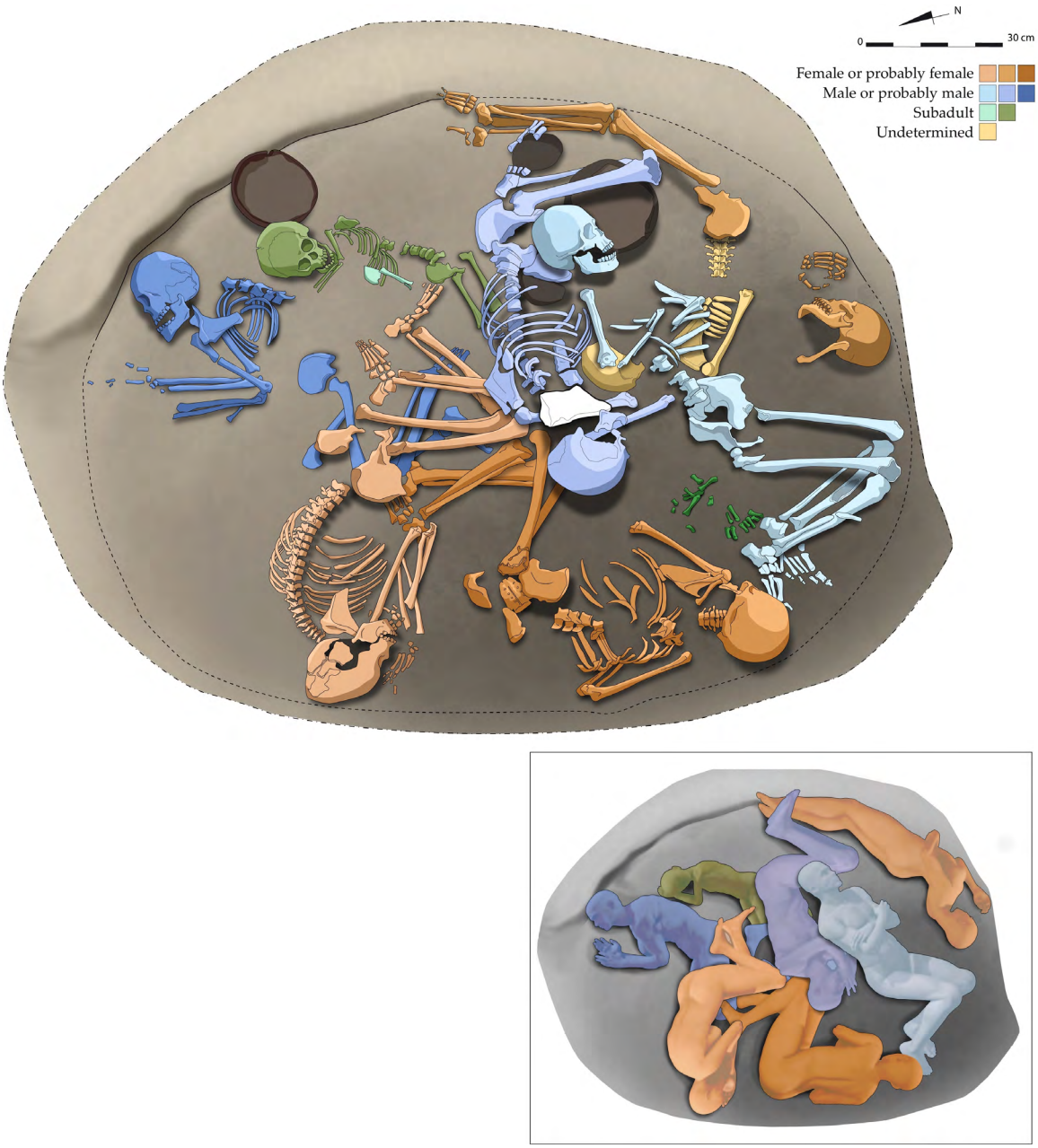


Figure 1.7. Primary, multiple and simultaneous burial in an early village in the Mexico Basin, Tlaplan, dated to the Preclassic period (http://www.inah.gob.mx/boletines/6865-descubren-en-tlalpan-un-entierro-multiple-de-los-primeros-aldeanos-de-la-cuenca-de-mexico). Note the gendered distribution of the bodies and the stone slab, positioned in the center of the assemblage (redrawn by H. Goudiaby).

and 18 of this volume for further discussion). In practice, vilifications of the subject have distorted the perspectives of a historically experienced reality and risked us distancing and losing our understanding of Mesoamerica's past lived realities.

A collective effort to attend the culturally specific motives and ritual enactments embedded in Mesoamerican religion and worldviews unites all contributors (and, I hope, the readership) of this book. Like its preceding volume, this follow-up edition is centered around human sacrifice, a very ancient and global religious practice which involves the killing of one or more victims and is usually intended to please gods or other authoritarian figures on specifically consecrated occasions (Beattie 1980; Rappaport 1992; Tiesler 2007). Along with ubiquitous Mesoamerican forms of debt payment, such as offerings, abstinence, bleeding, and pain inflicted upon oneself or others, this supreme form of ritual violence has always been a staple of scholarly research across Mesoamerica. Approaches to studying the ritual immolation of humans will therefore be treated in the following chapters not in isolation, but rather within the contexts of related bodily concepts and forms of merit-making with the gods.

The idea for this volume harkens back, in part, to the vision and mission of the previous book, titled "New Perspectives on Human Sacrifice and Ritual Body Treatments in Ancient

Figure 1.8. Ritual practitioner in the act of placing the severed head of a victim with an open chest on a tree that carries heads of previously decapitated victims. Note the banners on each head and the defleshed and re-articulated lower jaws. Murals from Ixtapantongo, State of Mexico (Hernández Ibar and Olivier 2023:495; drawing by I. Hernández Ibar).

Maya Society," edited 20 years ago by Springer Press (Tiesler and Cucina 2007 [eds.]). Working as Mayanist bioarchaeologists, additionally trained in archaeology and medicine, both editors' engagement with this subject received an initial boost when confronted with direct evidence of lethal violence in vertebrae and skulls that we had inferred from their contexts and blunt- and sharp-force trauma. The unhealed lesion appeared to be directly related to decapitation and ritual heart extraction among a number of primary human companion deposits and structural offerings in Lowland Maya urban courts. Further evidence of perimortem violence and protracted corpse processing was concentrated among the archaeologically retrieved human remains across this area that lacked clear burial connotation (Tiesler 2007; see also an early such finding by Massey and Steele 1997 and Chapter 18 of this volume).

Our initial findings invited further, more collective examinations of the ancient Maya mortuary record suggestive of ritual violence. These inquiries were facilitated by working and teaching bioarchaeology within the Maya area. We repeatedly came across suggestive anthropogenic marks during our active Project collaborations and over many months of systematic surface scrutiny of Maya human remains recovered long ago. One such mortuary population was the combination of two skeletal series lifted from the Sacred Cenote of Chichen Itza by Edward Thompson and Piña Chan, with a quarter of the skulls showing fresh cutmarks (Tiesler and Miller 2023). The taphonomic patterns of perimortem trauma and corpse processing invited a host of new questions about the archaeological contexts materializing violence, as well as their mortuary pathways and ritual sequences, some of whose end results are preserved in the material record. Additional incursions in this Maya record involved profiling and targeting the social identities of the victims, their provenience, social standing, living conditions, and pathologies.

An SAA symposium, organized in 2003 in Salt Lake City and discussed by Jane E. Buikstra, was set to provide fresh answers to these inquiries by examining Classic and especially Postclassic Maya human assemblages of both uncertain and definitive offertory natures, and prompted an extensive discussion on the subject by the session and volume participants (De Anda 2007; Harrisson Buck, McAnany, and Storey 2007; Hurtado et al. 2007; Medina and Sánchez 2007; Serafin and Peraza Lope 2007; Tiesler 2007; see Chapter 18 of this volume). All taphonomically oriented papers covered the evidence of blunt- and sharp-force trauma, sometimes coupled with indirect or direct heat exposure. Further effects from culturally driven posthumous body processing were noted, such as boiling and roasting. Two papers on Postclassic iconography and texts provided welcome additional feedback on concurrent information derived from Maya codices and iconography staging skeletonized motifs and scenes of human sacrifice (Miller 2007; Vail and Hernández 2007). Jane Buikstra herself (2007:305) concluded that the successfully achieved symposium instigated "significant methodological advances and interpretative arguments" and announced that "the stage is now set for further discussions of both funerary and extrafunerary conduct, among the ancient Maya and elsewhere."

The same year as the New Perspectives volume came out, the interdisciplinary symposium "Human Sacrifice in the Mesoamerican Religious Tradition [*El sacrificio humano en la tradición religiosa mesoamericana*]" was celebrated inside the Museum of the Templo Mayor sanctuary of Aztec Tenochtitlan under the auspices of the *Instituto Nacional de Antropología e Historia* (National Institute of Anthropology and History, INAH). Conceived of and organized by Leonardo López-Luján and Guilhem Olivier (2010) as an interdisciplinary academic survey spanning Mesoamerica and beyond, this ambitious INAH symposium and its follow-up publication in 2010 had an innovative impact on Aztec, Maya, and Mesoamericanist studies of sacrificial behavior. While prior publications by Duverger (1978), Boone and Benson (1984), Matos (1986), González (1985), Nájera (1987), Carrasco (1999), and Graulich (2005), among others, had been arranged either by historians or archaeologists, this time, active discussions by bioarchaeologists and physical

anthropologists enabled more palpable accounts of ancient sacrificial forms, instrumentation, and ritual infrastructure. Layered, body-anchored, and forensically grounded case studies now enriched the information obtained from material culture and media source work with elucidations on physically embodied ritual behaviors (Pijoan 2010; Houston and Scherer 2010; Pereira 2010; Tiesler and Cucina 2010).

The collection of published contributions jointly fostered a paradigm shift by successfully documenting and discussing the spectrum of ritualized violence across Mesoamerica (and beyond), across disciplines, and following its millenary evolution up until today. Exquisite prior groundwork on Mesoamerican history and religious thought was upheld, among others, by the life oeuvre of Michel Graulich (2005), Alfredo López Austin (1997), Matos (1986), and Yolotl González (1985), all of whom actively participated in this volume.

On a more pancontinental scale, *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard Chacon and David Dye (2007), has similarly marked an interdisciplinary turning point for this line of study across the Americas. Besides its pancontinental treatment of ritual forms of human body processing, a number of its contributions integrate "ontological" conceptual groundwork, which has targeted the ethnographies of Indigenous cultures of the Amazon Basin. This analysis broaches the myriad forms in which humans relate to their universe, grounded either in naturalism, animism, totemism, and/or analogism (Descola 1993; Viveiros de Castro 1992). Into this scheme falls both "perspectivism" and the recognition of Indigenous worldviews and the understanding of corporeity that are fundamentally different from Western thought. This conceptual groundwork also recently impregnated ethnographic incursions into body concepts, ritualized consumption, and anthropophagy in Mesoamerica (Pitarch 2007, 2011; Declercq 2024).

Many other academic publications and events of this kind on ritualized violence in Latin America were to follow, as showcased by the string of sessions organized for the Society of American Archaeology's meetings concerning violence in Mesoamerican and Andean cultural territories. The editor's own continued quest on this theme was prompted and enriched during these years by about a dozen interdisciplinary, body-anchored symposia, organized or co-organized between 2015 and 2023. These meetings ranged in coverage from Indigenous body-concepts in ancient Mesoamerica and the Andes, to human taphonomy and archaeothanatology (Figure 1.9), fire exposure, ritualized violence, posthumous body processing, and the display of body parts (Tiesler and Lozada 2018; Tiesler and Scherer 2018; Tiesler, Suzuki, and Pereira 2021). These academic rendezvous brought together local and international scholars with different academic backgrounds, giving way to multi-layered collective explorations geared towards a series of academic and ethical benchmarks:

1. Interdisciplinary engagement by confronting old sources and new epigraphic readings with material and media culture;
2. Strong reliance on objectifiable, body-anchored information (forensic anthropology, mortuary records, archaeometry);
3. Prioritization of proper, culturally aligned *emic* explorations of ancient and modern ritual enactment against the backdrop of Mesoamerican thought and mythic narrative;
4. Avoidance of reductionist or Western value criteria;
5. New findings and novel interpretations;

Figure 1.9. Group photo of the Third International Bioarchaeology Colloquium on Archaeothanatology, Mérida 2018 (Photo by Bioarchaeology Laboratory, UADY).

6. Inclusion of cutting-edge methodologies (such as archaeometrics, archaeothanatology, isotopes, and paleogenetics);
7. Engrained studies of regional relevance beyond purely site-centered focuses;
8. Prioritization of multi-layered examinations that span localities and cultural spheres and highlight broader sociocultural undercurrents, such as the mid-Classic crisis or the Maya collapse; and
9. Cross-fertilized contributions: an invitation to "speak" to each other without overt overlaps.

The points listed above certainly also describe the goals of this edited volume and the contributions contained therein, now in the hands of the reader. After two decades of sustained progress in this research realm beyond the publication of the Springer volume, the time now seems right to return to the table with updated, more nuanced frames of conceptualization, new findings, and more encompassing approaches that methodological breakthroughs have made available.

Considered collectively, the examinations contained in this volume are by no means meant to uniformly nor systematically cover the Mesoamerican landscapes of ritualized violence. This endeavor, in any case, would be hopeless still today, given the asymmetric distribution of information at hand, privileging the Mexica and Maya (and perhaps Teotihuacan) spheres of study. Instead, I defer to other recent groundbreaking interdisciplinary book publications. Conspicuous among them is the oeuvre edited by Hermann Meller and colleagues (2020), elusively titled "Ritual Violence – Violent Rituals" and the 14 chapters contained in "Ritual Human Sacrifice in Mesoamerica: Recent Findings and New Perspectives (Conflict, Environment, and Social Complexity)," edited by Rubén Mendoza and Linda Hansen (2024). Additional recent work by Orr and Koontz (2009) and Andrew Scherer (2015) have broken new ground in our understanding of the mortuary landscapes of ritual violence in Mesoamerica. On the Hispanic side, the most valuable editions by López Austin and López Luján (2009), Olivier (2015), Millones and Olivier (2024), Rivera and colleagues (2024), and Declercq (2024a) are noteworthy, as are further volumes more focused on the taphonomy of ritual violence by Botella, Alaméan, and Jiménez (2000), Talavera, Martín, and García (2005), Pijoan and Lizárraga (2004), Pijoan and colleagues (2010), Chávez Balderas (2017), Pijoan (2019), and Ruíz (2021), among others.

Beyond encyclopedic coverage, the present volume's selected contributions instead invite readers to connect with the human condition among ancient and not-so-ancient Mesoamericans by engaging with the most intimate elements of their spiritual merit-making with the divine. A blend of local and international scholarship further encourages postcolonial dialogues on globally applicable research agendas of ritualized violence in the Indigenous terms and the wording of ancient Mesoamericans themselves. A broader, contextualized vision is announced by the volume's title, in which we replace "human sacrifice" with "ritualized violence" to invite a more inclusive approach to the subject, expanding towards sacrificial procedures in animals and further non-lethal violent techniques of merit-making with the sacred (Figures 1.10), such as self-bleeding. This rephrasing is likewise meant as a heuristic tool for inviting questions regarding anatomy, ergonomics, sensory qualities, and sacrificial infrastructure, namely altars, cutting implements, and vessels of vivifying matter that deserve coverage.

An additional overdue adjustment relates to the original volume's "limited" territorial focus on the Maya area. Albeit vast and diversified in and of itself, the frame of Maya ritual landscapes alone turned out to be insufficient, especially in view of the elevated mobility now demonstrated among the ancient populations that once occupied the Mesoamerican territories, thanks to massive isotopic coverage and incipient DNA data (Kennett et al. 2022). Here, this level of pan-regional interconnectivity is already isotopically well-documented for Teotihuacan, the Lowland Maya, and

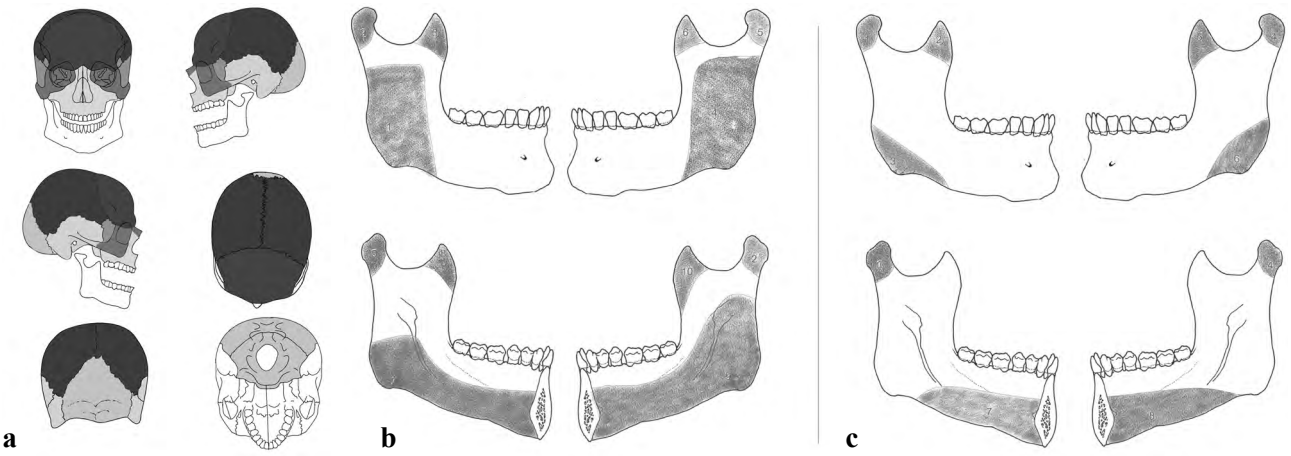


Figure 1.10. Anatomic divisions for scoring sharp- and blunt-force trauma marks on (a) the skull; (b) cutmarks; (c) blows on the mandible (Pijoan 2019; redrawn from H. Aguilar by R. Albarrán).

the Aztecs, among other sociocultural spheres (Ebert et al. 2024). Such population mobility mirrored the exchange of religious ideologies and practices. Before the fall of Teotihuacan, we see an increase in idiosyncratic religious exchange between this megalopolis and the Maya area, including adoptions of sacrificial forms (Chinchilla 2018; Chinchilla et al. 2014; Román et al. 2025; Sugiyama et al. 2022). Centuries later, the Terminal Classic—or further west, the Epiclassic period—shows overarching shifts in the pantheon of gods that appears to accompany the skeletal record with an increase in ritual violence and related body processing. This trend is touched upon in several chapters in this volume by looking beyond the "rim" of the Maya territories (Chapters 4, 5, 11, 12, 13, and 18; see also Stanton et al. 2023). During the two centuries before the Iberian conquest and ongoing colonization, the Aztec empire's sacrificial violence reached an all-time high, with themes and recruitment stretching far into its Mesoamerican hinterlands and tributaries, as discussed in Chapters 6, 7, 14, 16, and 17 of this volume.

Taken jointly, this volume's contributions are substantiated by the physically embodied perspective of past Mesoamerican ritualized violence as part of scholarship explicitly derived as bioarchaeology, archaeology, art history, restoration, forensics, chemistry, and history. This interdisciplinary vision is justified in the Mesoamerican region with its abundant and diverse datasets and its long, diversified trajectory. Equally diverse has been the area's populational movements and the lenses through which these have been studied, most of them multi- or interdisciplinary. The chapters herein reflect on this diversity, most of them offering rich and textured interpretations at the intersections between (bio) archaeology, osteology, ethnohistory, linguistics, and imagery.

To facilitate engrained, in-depth explorations, the following 17 chapters are grouped by their methodological, regional, or conceptual focus. Most focus on the evolution of certain ritual traditions, sometimes bridging relevant epoch changes, such as the ones marked by the fall of Teotihuacan, the Maya collapse, Iberian colonization, or the challenges of keeping with traditional lifeways in today's globalized world (see Chapter 18 for a discussion of the contributions according to the three sections of this volume). This is Virginia Miller's approach of choice: she contextualizes her discussion of Chichen Itza's *chaacmools* with her superbly commented regional survey. Krempel and Merk's approach is similar in that they initiate their explorations with a discussion of a group of free-standing death stela with niches from the Puuc area, then branch out into other areas and epochs to conclude that these monuments were likely used as sacrificial scaffolds and reliquary containers.

In the following section, I wish to complement my *avant-propos* by familiarizing the broader readership with four objectifiable approaches in the research of ritualized violence in Mesoamerica, which are taken up by most contributors and further discussed by Andrew Scherer at the end of this volume. These refer to (1) proper forensic scrutiny of Mesoamerica's skeletal record, (2) the role of archaeothanatology in the reconstruction of mortuary pathways, (3) bioarchaeology as a body-anchored profiling tool of human sacrifices, and (4) the bearing of nuclear paleoDNA research in the study of ritual violence and the implications of the gender of babies and children.

1.4. Scoring Ritual Violence on Bones: A View from Mexico

Since the INAH's foundation in 1939, hundreds of thousands of prehispanic human remains have come to light in Mexico and been the subject of relentless preservation efforts and study. Over the past 50 years, Mexican bioanthropological teaching and research has expanded significantly. Now it seems unthinkable for skeletons to be lifted without any record during archaeological excavations, as their recording has been formalized and professionalized. Since 2018, archaeologically retrieved human remains have been inventoried in a federal patrimonial registry as national treasures (Lerma and Argüelles 2022). The *cédula real* (royal certificate) issued for each skeleton is likened to a birth certificate (personal communication 2025, Adriana Alfaro Vega and Mario Ramón Flores Cardoso).

As is also the case in Guatemala and other modern Middle American countries that make up Mesoamerica, Mexican research of archaeologically retrieved human remains has been inextricably entwined with its rich precolumbian legacy. Here, physical anthropology, and more recently bioarchaeology, has been positioned at the intersection between archaeology, taphonomy, forensic sciences, medical anatomy, osteology, and dental anthropology (Comas 1966; Serrano and Villanueva 1997; Villanueva et al. 1999). As in other countries, recent innovations in isotopic and paleogenetic studies of bone and teeth have boosted skeletal-reliant archaeological paleonutritional and mobility studies in the past two decades. Taphonomic approaches have evolved additional perspectives and led to improved protocols to record, inventory, restore, clean, and curate human remains.

Some of the earliest forensic work systematically applied to ritualized violence in Mesoamerica was led by physical anthropologist Carmen Pijoan Aguadé (1943–2015), starting in the 1980s. Pijoan served a researcher at INAH's Directorate of Physical Anthropology where she developed new approaches to study practices related to human sacrifice and cannibalism that, until the 1990s, were foremostly the domain of historians working with written sources. Pijoan's taphonomic approach based on the systematic observation of visible skeletal modifications constitutes a fundamental advance in supporting studies of ritualized violence with scientific pillars, most of them analogous to forensic research and some confirmed by lithic implement examination (Pijoan 2019).

After examining work on numerous bone collections from central and northern Mexico, often in collaboration with Josefina Mansilla and Alejandro Pastrana, Pijoan evidenced a wide range of perimortem practices from minute traces that, until then, had gone unnoticed (Pijoan and Mansilla 1995; Pijoan and Pastrana 1981, 1989). Such scrutiny, and its interpretation in the prehispanic cultural context, has enabled a more comprehensive interpretation of the complex handling of bodies in Mesoamerican rituals, including ritual consumption. In the 1990s, Pijoan was consulted on the subject by her anthropologist colleagues in the U.S., Christy and Jacqueline Turner (1999), who at the time were writing a book on cannibalism and violence in the ancient North American Southwest.[6] The Turners conclude their extensive review of Pijoan's work in Mesoamerica by recognizing synchronicities in processing human remains between the two regions while highlighting different motivations, including explicit ritual connotations among Mesoamerican procedures.

To score bone segments systematically, Pijoan adopted a series of taphonomic and forensic criteria utilized by prehistorians worldwide to distinguish different forms of preparatory processing and consumption of soft tissues, evidence of which is present in human assemblages from as early as the Preclassic, as documented namely in Tlatelcomila, Mexico City (Pijoan 2019, 2003; Pijoan and Pastrana 1989; Figure 1.10). The combined taxonomy of marks, initiated by Pijoan, distinguishes between direct and indirect impressions of the instruments used for skinning, dismemberment, soft-tissue sectioning, and bone marrow extraction. Such forensic recordings of anthropic marks in human remains are obtained after systematic and thorough examination of each bone segment's visible characteristics, followed by quantification according to anatomical region. Alteration in a still fleshed state is evidenced by the organic and elastic (not brittle) quality of the bone when uncovered. Skinning muscle tissue and tendons leaves fine incisions alongside long bone shafts. When lithic tools with semi-serrated blades (obsidian or flint) are used, the cuts are usually observed as multiple grooves of two to three parallel lines.

Pijoan herself culminated her research of human taphonomy with her doctoral thesis in which she focuses on a massive assemblage (Deposit 14) from Late Postclassic Tlatelolco. In this deposit, she infers exocannibalism in some 150 individuals that she presumes were originally from the Gulf of Mexico because of their blackish tooth paint. The lower extremities had mostly been fragmented at knee level, whereas complete feet had been separated at heel level (Pijoan 2019). At the end of the ritual, as Pijoan reconstructs, hematite was sprinkled on top of the offerings. Leaf and branch arrangements were placed to adorn the temple, and a *bracero* was broken after presumably having been used in the ceremony. Finally, the assemblage was covered with earth until the top of the temple platform was filled in. Of note are the remnants of basketry bundles, which still surrounded the bone concentrations and had presumably served as offering containers once processing and consumption was completed. After placing the legs of half a dozen individuals at the bottom, the priests piled the other segments on top either in isolation or in the form of blocks of vertebrae and hip bones, as Pijoan reconstructs from the photographic record of the excavation led by archaeologist Salvador Guilliem Arroyo (Figure 1.11).

There are many ways in which meat (human or otherwise) can be prepared for consumption. One common method is to place the meat in a pot to boil. This specific method is represented in sixteenth century documents from both central and western Mexico (Figure 1.12) and continues in the popular lore surrounding *pozole* in contemporary Mexico, whereby the meat often assigned to this dish, prepared in a pot, was human flesh. Marks more specifically suggestive of cooking and ingestion of soft tissue through boiling are referred to as "pot polish," caused by prolonged rubbing of the bone edges with the clay surface of the ceramic cooking jar. Other forms of preparation, such as roasting, can be discerned by bone reddening and diagnostic histomorphologic features (Pijoan et al. 2004; Tiesler et al. 2006). Regardless of the technique used for heat-induced tissue processing, additional taphonomic marks may be present which relate to the consumption or post-depositional factors to which the materials were subjected. For example, crushed or perforated cancellous bone reveals marrow extraction, for which narrow sticks could be introduced to break the trabecular tissue along the way. If these indicators, studied by themselves, are not conclusive to confirm the practice in Mesoamerica, considered together, the attributes now inform a series of treatments directly linked to anthropophagy along with other cultural practices, such as dismemberment, fleshing, and the manufacture and exhibition of human bioartifacts.

Human deposits with evidence of having been culturally consumed are usually located in liminal spaces like shelters and caves, middens, and ritual landfills. Their findings are concentrated in large late centers such as Teopanzolco, Cholula, or Tenochtitlan (Turner and Turner 1999; Tiesler and Ruiz 2023). According to the current state of knowledge, the first conclusive evidence in Mesoamerican cannibalized deposits dates back to the Late Preclassic period (Tlatelcomila, Mexico City), continuing during the Classic (Teotihuacan, Cantona, Electra [SLP]) and increasing towards the Postclassic, as suggested by multiple findings of mass deposits like Tlatelolco's (Pijoan 2019) and documented at the ritual site core of Postclassic-period Toniná, Chiapas. This and similar case studies are

[6] See also White (1992) for an extensive methodological treatise on the taphonomy of cannibalism in the literature.

Figure 1.11. Burial 14 from Tlatelolco: remnants of basketry containing partially articulated segments of human remains (Pijoan 2019; redrawn by R. Albarrán).

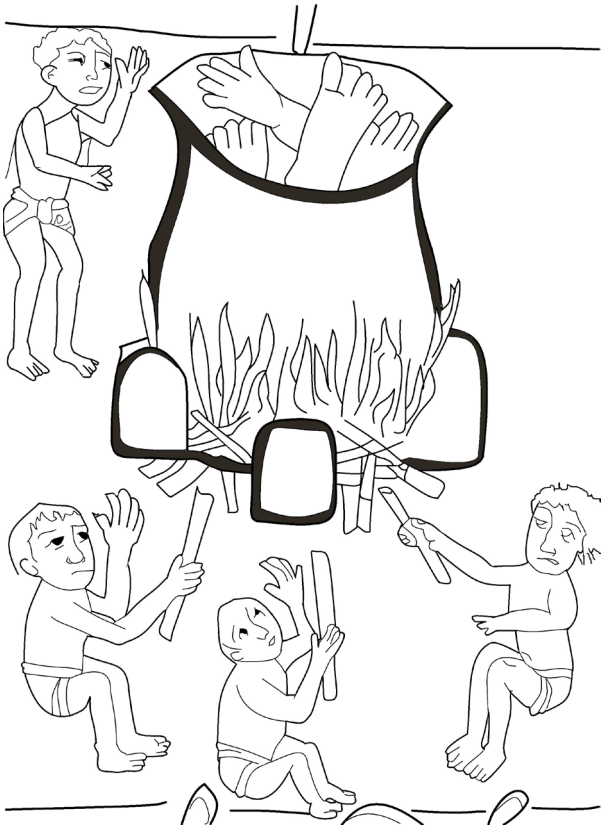


Figure 1.12. Detail of the cooking and consumption of Nacá, showing the pot in which the human remains were prepared. *Relación de Michoacán* (Franco Mendoza 2000:390, Lámina VI; redrawn by R. Albarrán).

discussed by Ruíz and her colleagues in Chapter 12 of this volume.

1.5. Archaeothanatology and the Mortuary Pathways of Ritualized Violence

Archaeothanatology, which examines the precise interaction of natural and cultural components of death during and after detailed field recording, has been practiced and taught in continental Europe for some five decades now (Duday 2009), where the French-born line of archaeological work with human remains has been promoted by Henri Duday, Jean Leclerc, and Claude Masset since the 1970s and 1980s. Probably due to language barriers, only quite recently has the francophone way of conducting skeletal research been made available to the broader international anglophone community. In 2009, the first comprehensive compendium titled *The Archaeology of the Dead. Lectures in Archaeothanatology* (Oxbow, Oxford) came out, which contains transcriptions of lectures on the analyses of different types of burial contexts under the guiding aegis of *anthropologie de terrain*, now termed "archaeothanatology."

"Archaeothanatology" is composed of the terms "archaeo" = ancient, "thanatos" = death, and "logy" = study/history. It advocates for the detailed study of human remains from the moment they are excavated, combining knowledge of human anatomy with taphonomy, archaeology, and anthropology. This approach centers on the changes of

human corpses within their specific burial environments, paying attention to intrinsic decompositional sequences and extrinsic influences. Studying skeletons through the lens of operational chains enables one to link taphonomic progressions with past ritual behaviors. Emphasis is placed on active field participation by bioarchaeologists who have been trained in archaeological excavation methods, prioritizing close attention to excavation, in situ anatomical registration, and surface analysis. Despite its nature as an independent line of research, the vision and methods of archaeothanatology are aligned with the French tradition of prehistoric *paléoethnologie*, strongly influenced by André Leroi-Gourhan's life work. Understanding the processes that operate on the body of the deceased before, during, and after burial makes it possible to infer the "funeral gestures" to which it was once subjected. Beyond inquiries into the deceased, this approach allows us to understand the common practices (specifically the sequences and *chaînes opératoires*) and generic thoughts about death and the afterlife that gave meaning and motive to mortuary practices in their time.

Since the 1990s, Mexican archaeology has assimilated the methods and principles of archaeothanatology. This exchange was boosted by a first International Colloquium titled "The Human Body and Mortuary Treatment," held in 1995 and published as a book by the National Institute of Anthropology and History (INAH) and the Center for Mexican and Central American Studies (CEMCA) (Malvido et al. 1997). This forum marked the beginning of a fruitful dialogue between Mexican and French bioarchaeological research traditions applied to the understanding of specific mortuary behaviors practiced in Mesoamerican societies, including the ritualized choreographies of human sacrifice (Figure 1.13). A string of innovative workshops on French archaeothanatology, offered repeatedly by Henri Duday and Grégory Pereira, among others, has kept this exchange alive, evolving, and innovative.

The last three decades have further benefitted from a fruitful combination of photogrammetry and carefully accrued field data that makes all the difference in the quality of recording. Different from the original *anthropologie de terrain* as conceived in the 1970s and 1980s, today's archaeothanatological inquiries are more directly informed by data and taxonomies from forensic sciences (Knüsel and Schotsmans, eds. 2022). Chapter 3 of this volume showcases the benefits of forensic classifications in relating different cutting instruments with their expected imprints on and in bones. In Chapter 9, Grégory Pereira and colleagues use just such a layered forensic and taphonomic approach to draw conclusions about the precise procedural sequences and weapons used in decapitations, adding yet another layer to their extensive previous work at Teotihuacan's Moon Pyramid. In an analogous effort, in Chapter 10 Nikolaus Seefeld and Ricardo Cazares take great pains to reconstruct the mortuary sequences and weaponry that led to a massive accumulation of 15 highly processed, yet undisturbed, corpses of mainly male adults at the bottom of a *chultun* in Middle-classic Uxul, Campeche.

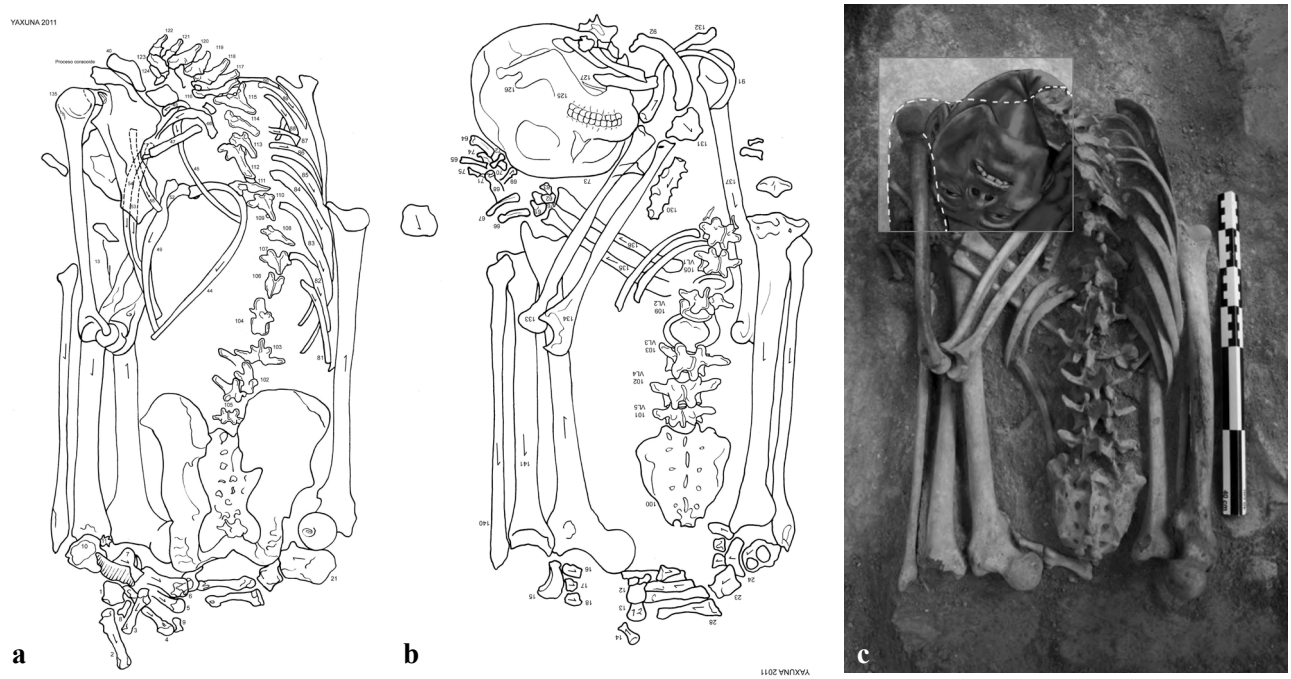


Figure 1.13. Anatomic drawing of a prone and flexed young male individual, placed in a central rock shelter midden in Yaxuná, Yucatan. (a) Layer 1 of Burial 27 shows the disturbances among the left middle ribs, while (b) Layer 2 displays the forced relocation of the head below the left scapula. (c) Artistic reconstruction of the head's positioning (drawings by V. Tiesler; artistic reconstruction by E. Mejide).

1.6. Bioarchaeology as a Profiling Tool

In the countries that span the Mesoamerican research area, the study of human sacrifice and ritual violence has increasingly become the domain of bioarchaeology, a body-anchored line of research defined as the biocultural study of archaeologically retrieved human remains (Tiesler 2020; Tiesler, ed. 2022). Bioarchaeology provides methods for directly studying human bodies of the past, or at least what remains of them in the archaeological record after cultural transformations have concluded (Table 1.1). In such an effort, complete and semi-complete bodies make the ideal basic analytical units, whereas among isolated remnants of collective, commingled assemblages, homologous and sufficiently preserved anatomic segments are commonly chosen to establish frequency counts, which are instrumental in populational and taphonomic profiling. At least in principle, most sacrificial practices are expected to result in particular patterns in the mortuary record that likely differ from Mesoamerican ancestrally motivated mortuary conducts in their location and cultural body treatments. A sequence of basic, expected operational components along the perimortem and postmortem timelines offers analytical elements to correlate past activities with the taphonomic signatures produced (Table 1.1).

Essentially, this stage of bioarchaeologic "profiling" simulates forensic work in that the state of the remains and their contexts are scrutinized systematically to reconstruct events from the past. Much like modern forensics, specific terminologies are applied (e.g., state of decomposition, direction of a blow, morphology of a lesion) to infer what could have occurred to the body (see Chapter 3 of this book). The time frame happens to be much longer, however, and is disconnected from our modern culture. In today's Mesoamericanist bioarchaeology, conventional analyses are frequently combined with special analytical procedures, such as detecting the coating material of skeletal remains (see Chapters 2 and 8 of this volume and Stanton et al., forthcoming).

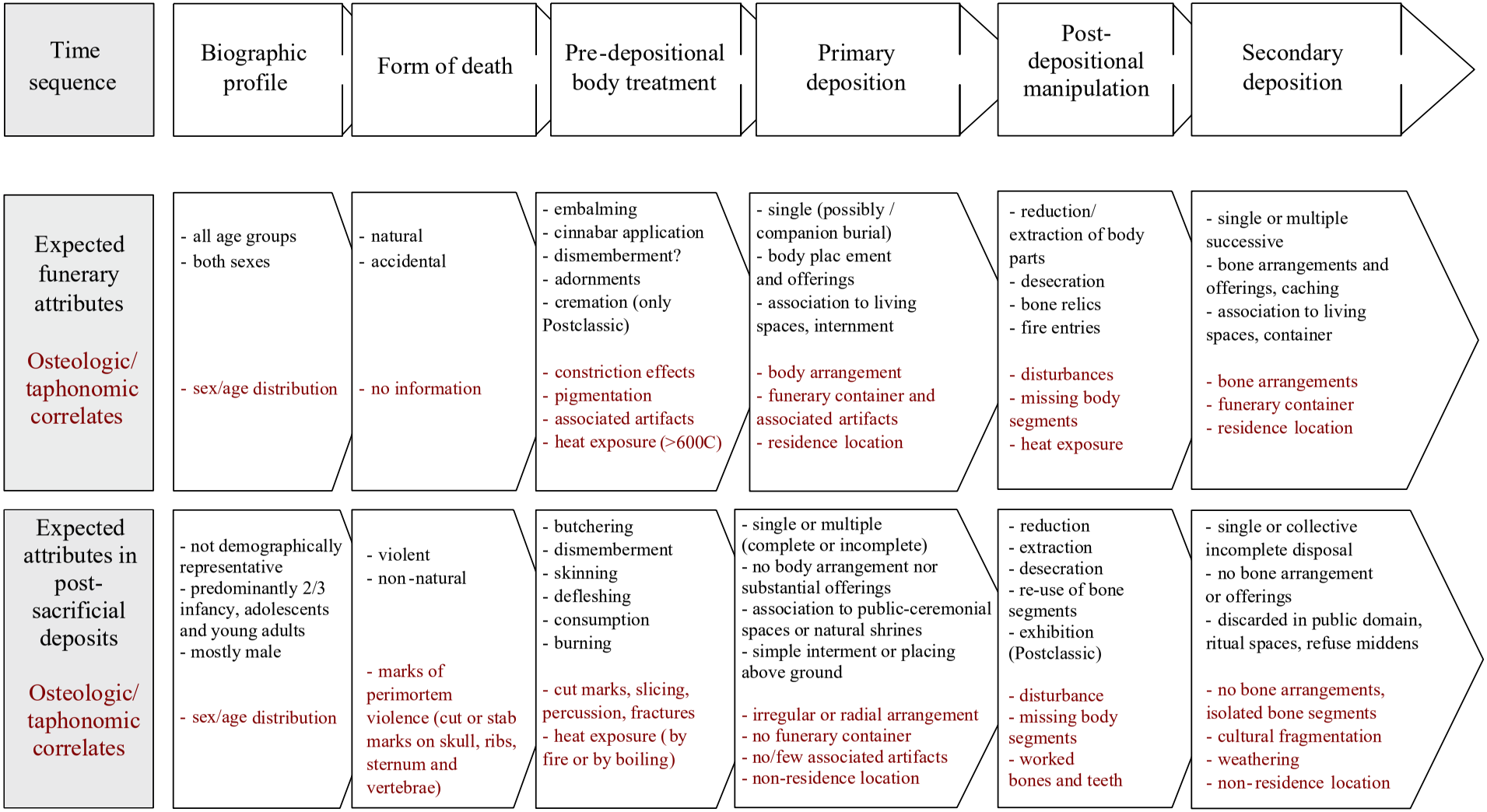
Population-specific standards and protocols have increasingly benefitted the study of ancient Mesoamerican demography, gender, ancient permanent body adjustments, and living conditions, together with mobility profiles as inferred from isotopic provenience analyses. The latter focus on specific isotopic profiles (Sr, O, C, Pb, S, among other elements) that are incorporated into the human body in different ways depending on the geologic characteristics of the person's place of residence (Izzo et al. 2022; Price and Freiwald 2022). While isotopic bone values usually mark only the last years prior to death due to active bone tissue remodeling, human dental enamel does not reconstitute once formed during infancy and childhood and therefore gives away the geological characteristics of an individual's provenience. Upon comparing isotopic profiles measured in the human skeleton to baseline information extracted from the last place of residence (and burial), equivalent values indicate the individual's local permanence, while differing values signify either changes in residence during life or *postmortem* transport. Although former isotopic studies have targeted individuals or small sample populations, a recent trend towards full coverage of regional skeletal populations has allowed inferences not only of broad territorial mobility patterns, founding populations, and ethnic enclaves, but also of the provenience profiles of sacrificial recruitments.

Such physically embodied analysis is demonstrated by the authors of Chapters 10, 12, and 14 of this volume, who use isotopic ratios to distinguish individuals' areas of likely origin (together with diets and lifestyles) among the victims of Uxul, Toniná, and Tenochtitlan. Cross-fertilized with more regionally oriented populational syntheses, these studies of large skeletal series provide a humanized actor-based survey of foreigners versus locals. As for Tenochtitlan, they seem to confirm that men, women, and children were sacrificed differently depending on Mexica ritual occasions. Each festivity demanded a specific type of victim, whose assemblage is surveyed among victims from *Huei Tzompantli* of Tenochtitlan by the team of the *Proyecto de Arqueología Urbana* in Chapter 7 and by the *Proyecto Templo Mayor* in Chapter 14. Both contributions highlight victims' diversity of age, gender, and provenience profiles.

A recent isotopic study of 40 individuals from Chichen Itza's Sacred Cenote equally confirms a high degree of interregional mobility already centuries before the advent of the Aztec empire. Analysis of homologous teeth from the remains submerged in this paramount sinkhole suggest that only a small minority of the individuals was local (Figure 1.14). Instead, most of these victims came from many different parts of Mexico and Central America, confirming the far-reaching social networks that existed between Chichen Itza and both neighboring and distant regions along the Gulf Coast, Central America, or even in Mexico's Central Highlands (Price et al. 2019).

Beyond isotopic profiling, our potential for understanding ancient Mesoamerican cultural cohesion and population distribution is probably more promising than ever. Thanks to a growing wealth of systematic regional coverage in tandem with ever-more sophisticated research tools, the Mesoamerican research sphere is among the most prolific archaeological research domains worldwide. Furthermore, digitalization puts increasingly specialized interregional databases at our fingertips (Ebert et al. 2024; Tiesler 2024; see also Chapters 8,10, 12, and 14 of this volume). The fruitful combination of information gathered in homologized data units, such as body-anchored attributes like dental filings, tooth inlays, and cranial vault modifications, now promises a more holistic and objectifiable window into ancient ritual trajectories, surmounting previously limited, speculative, and mono-disciplinary pursuits of understanding ritualized violence. The Mesoamerican mortuary record constitutes its own

Table 1.1. Expected profiles of sequenced sacrificial versus ancestral mortuary conducts along perimortem and postmortem timelines with corresponding sets of taphonomic and populational indicators applicable to Mesoamerica (table updated from Tiesler 2007: table 2).



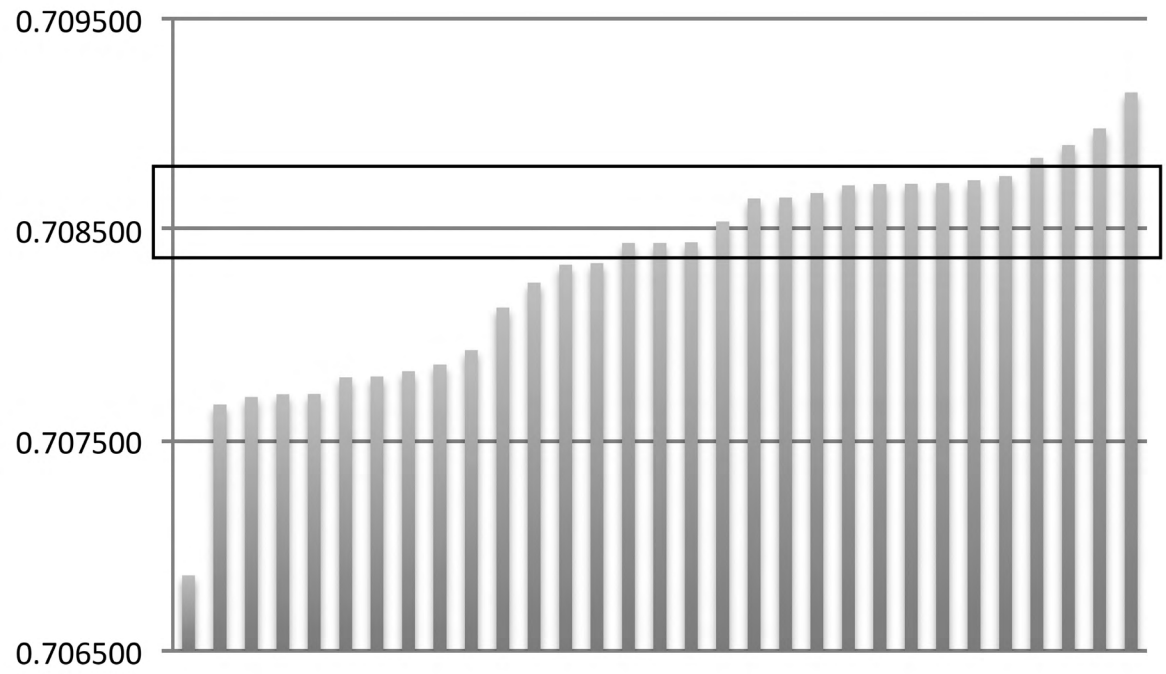


Figure 1.14. A bar graph of rank-ordered 87Sr/86Sr values in human tooth enamel from the 40 individuals from the Sacred Cenote of Chichen Itza. The black box rectangle marks the local range of values expected for Chichen Itza (chart adapted by Tiesler from Price et al. 2019).

objectifiable, homologous, analytical universe with thousands of dated burial contexts from the Mexican Gulf Coast to the Caribbean and Pacific Oceans, the Yucatan Peninsula, the Central Peten, and the Maya Highlands (Figure 1.15).

1.7. Nuclear PaleoDNA Research, Sex, and Gender

I finalize this introduction by drawing attention to a new tool in body-anchored research: nuclear DNA to confirm the sex of adult victims and subadult skeletons and fragments. In Chapter 17 of this volume, Emilie Carreón Blaine rightly problematizes the androcentric lenses of conventional scholarship on human sacrifice and asks herself, "Who were the women among the victims? What was their gender identity?" Through iconographic and ethnohistorical explorations, she points to the underlying Indigenous notions of duality and complementarity and thereby draws our attention to an underexplored line of research in the study of Mesoamerican ritualized violence and human sacrifice.

Even if understudied and under-reflected from a culturally aligned binary perspective, I recognize that there is no shortage of past gender-relevant case studies of human sacrifices. I recall Arturo Romano's groundbreaking study of the young women from Mixtequilla El Zapotal in Veracruz (Romano 1975) who he believed to have died during their first childbirth to become Cihuateteo impersonators in a shrine, dedicated to the goddess Tlazolteotl. A recent revisit to this series showed that most women had been flayed prior to their deposition and that indeed, all iliac bones, femurs, and tibias appear to derive exclusively from females. Specifically when determining sex and age from the 18 right pelvic bones, a distinctive pattern emerges. These women, sexed as female, appear to have perished mainly during their late adolescence and young adulthood, between ages 15 and 25 (Figure 1.16).[7] It is also noteworthy that all but one of the iliac bones showed clear parturition marks (dorsal pitting), an indication that the young women had undergone pregnancy and labor prior to death (Stewart 1970; Suchey et al. 1979).

Unfortunately, most conventional sex determinations (as female or male) are still hampered by limitations imposed by cultural commingling and natural deterioration of archaeologically retrieved remains in this area, accentuated by the erosive climates of Lowland Mesoamerica. Any attempt to macroscopically sex subadult and juvenile age groups, who have not properly developed their secondary dimorphic features, remains highly speculative since girls' and boys' skeletons are so similar. In bioarchaeological practice, the morphological similarities between male and female babes and children hinders layered examinations of sex and gender among all mortuary assemblages that include non-adults.

Until recently, mostly mitochondrial DNA had been successfully extracted and studied in Mesoamerica due to its abundance compared to nuclear genetic matter. This is also the target of Chapter 14 of this volume, which profiles the ethnic origins of sacrificial victims

[7] As determined from the auricular surfaces of 16 iliac bones.

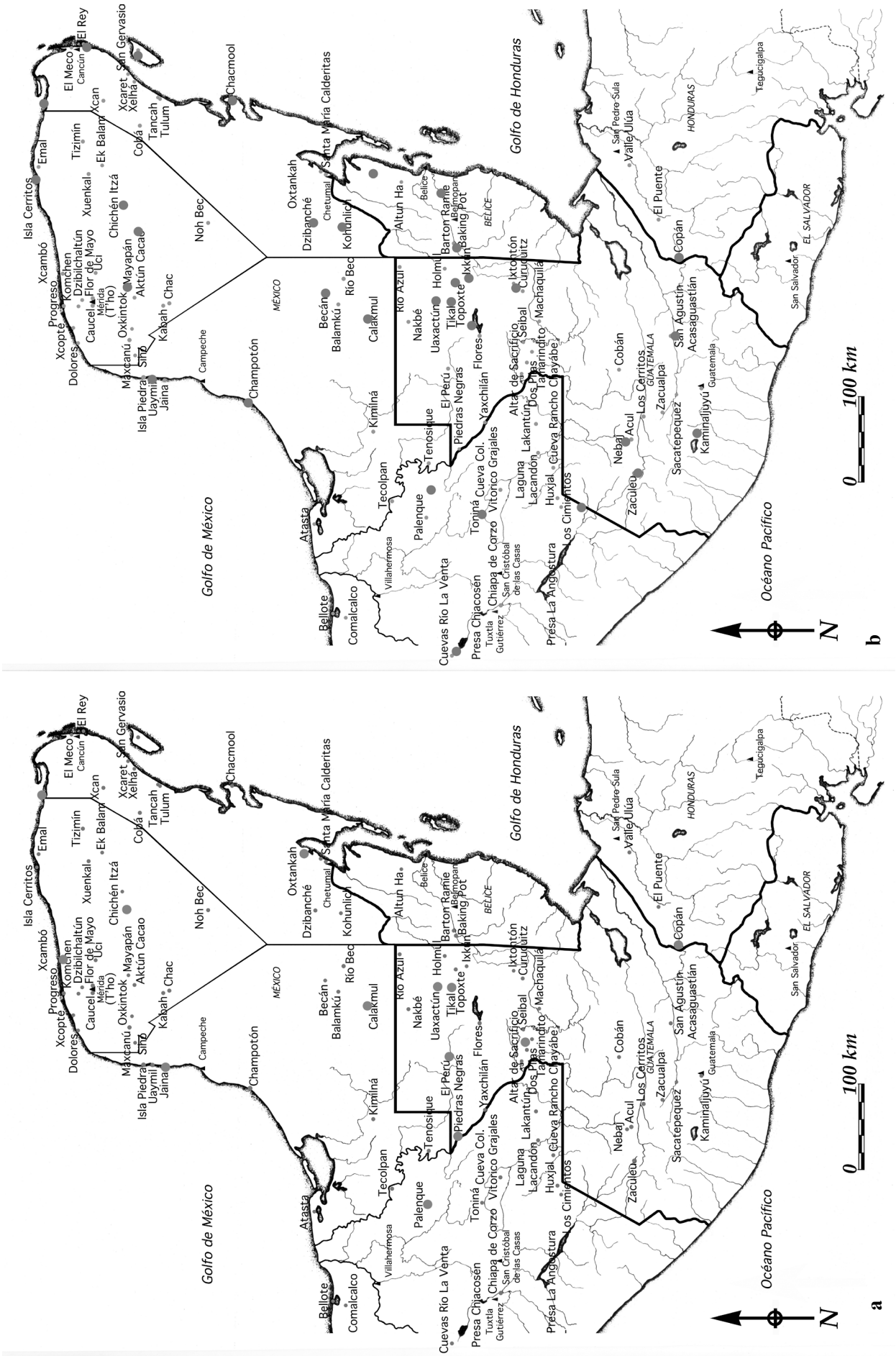


Figure 1.15. Map of Maya archaeological sites with reported anthropogenic skeletal marks dated to (a) before and (b) after the onset of the Terminal Classic period. The increase in locations hints at an intensification of posthumous body processing and perimortem violence during and after the Maya Collapse (charts by V. Tiesler [2019]).

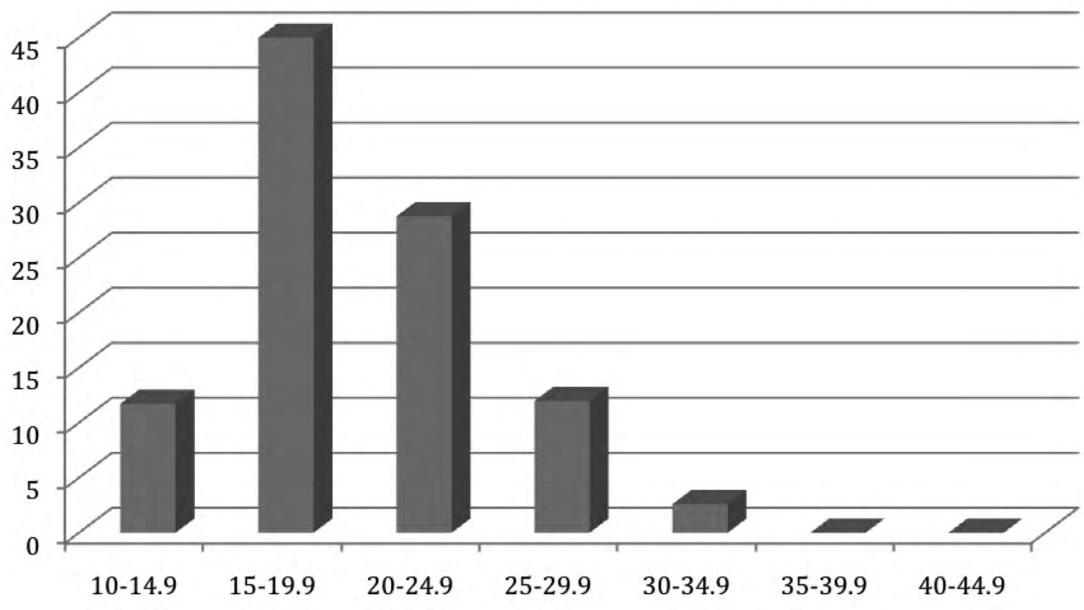


Figure 1.16. Proportional distribution [%] of age ranges among the pelvic bones from Ossuary I at El Zapotal, Veracruz, attributed to women having died during childbirth (chart adapted from Tiesler et al. 2013: Figure 6).

documented in Late Postclassic Tenochtitlan. While the ratios of American haplotypes (only passed on by the mother's oocytes during male fertilization) make for a useful tool in broad populational distinctions when screened collectively, mitochondrial DNA offers no information on an individual's biological sex. By contrast, nuclear genetic sexing is more certain, affirming either the presence or absence of the male Y chromosome in a heterozygotic (sexual) reproduction process, which in the male individual triggers the development of male genitals.

Noteworthy for its methodological breakthrough in nuclear DNA sexing is the study by Juan Román Berrelleza and Alfonso Torre Blanco (1998), who identified the children buried among the well-preserved offerings of the Templo Mayor as genetically male. Fortunately, similar analytical breakthroughs are now being made in the subtropics, as well, thanks to specific protocols designed for harsh tropical environments and to progress in extracting and processing ancient DNA from dense and environmentally protected petrous portions of the temporal bone (Nieves et al. 2018; Pinhasi et al. 2015).

In their study released in 2024 by *Nature*, Barquera and his colleagues reported on the DNA of a previously studied yet enigmatic commingled ossuary from Chichen Itza (Figure 1.17; Barquera et al. 2024). Located just 200 meters east of the Sacred Cenote, a small *chultun* cave assemblage filled with abundant subadult remains called the attention of the international press in part because of the burial population's paleogenetically confirmed family relationships and exclusively male sex, as proven by DNA analyses conducted on 64 left petrous portions. The remains included pairs of closely related individuals and two pairs of monozygotic twins. Although there was no direct forensic evidence to elucidate how their ritual killings were carried out, these intriguing findings and the lack of demographic representation negates any natural causes of death. The dozens of radiocarbon dates, obtained directly from the genetically analyzed bone samples, suggest that this *chultun* depression should have served as a receptacle for the boys' skeletons during at least four centuries, accumulating some hundred preadolescent children whose remains had been laid there along with those of a few additional adults.

What motivation or ritual context could explain this assemblage of male child sacrifices? Different from the varied overall distribution of sexes and age groups reported from the two combined Sacred Cenote series (Tiesler and Miller 2023: tab.1),[8] the boys from the *chultun* ossuary more likely served particular occasions for ritual immolation. While we can only speculate about the specific circumstances of this assemblage, for lack of exact contextual and taphonomic data, this finding indeed brings to mind ancestral Yucatec rain invocation ceremonies, now known as *cha'a'cháak* ceremonies (Figure 1.18; Boot 1988; Redfield and Villa Rojas 1962). This is yet another testament to the millenary traditions that upheld and still uphold Maya religious thought and its ritual enactment.

[8] Recovered by Edward Thompson at the start of the twentieth century and by Román Piña Chan's team during two field seasons conducted by the INAH during the 1960s.

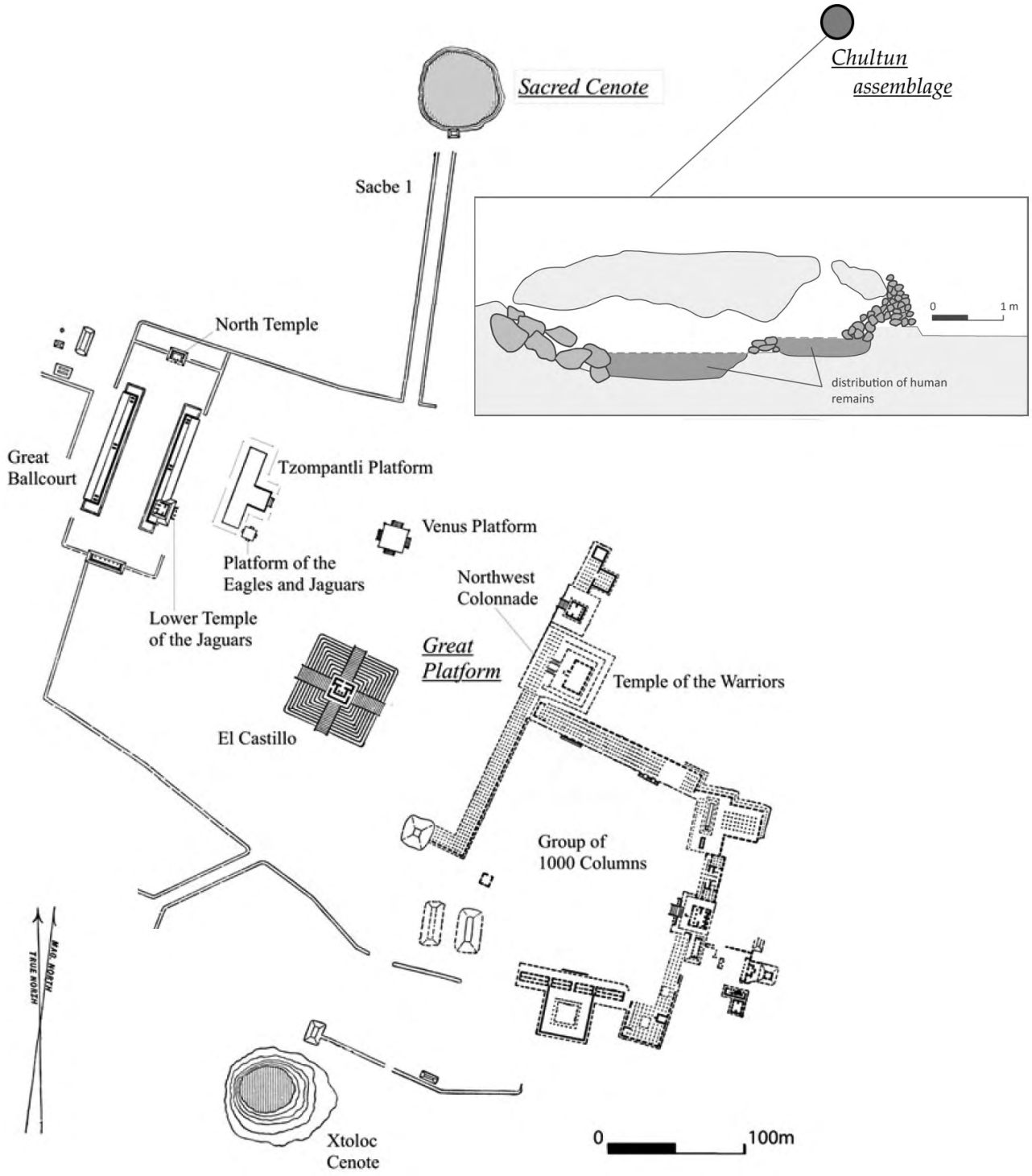


Figure 1.17. Location of *chultun* assemblage within the context of central Chichen Itza. Drawing adapted from Maudslay and Maudslay (1899); (inset) profile of natural cave that is reported to have served originally as a storage facility before it was reused as a mortuary container (sketch adapted by R. Albarrán from Barquera et al. 2024:1).

Still practiced among Maya agricultural communities, *cha'a'cháak* ceremonies are deemed essential to initiate an effective rainy season or end prolonged droughts that threaten the growth and harvest of crops (Boot 1988; Redfield and Villa Rojas 1962; Figure 1.18).[9] These festivities typically last a couple of days and rely on ritual meals and the use of *zuhuy* virgin water collected by a *H-Men* ritual specialist who retrieves it from caves or cenote sinkholes. An altar is constructed in a forest clearing and ceremonial meals are prepared by men and women separately. Women typically refrain from participating in the central altar rite that is carried out in the *monte* forest where the "calling for rain" culminates in an invocation of the god Chaac. As this ceremony proceeds, boys, often

[9] Although without actual child sacrifices.

a

b

Figure 1.18. *Cha'a'cháak* ritual enacted among male Maya community members between 1974 and 1975: (a) men and boys prepare meal offerings with *zuhuy* virgin water in the forest after cleaning the brushes and erecting the central altar to invoke the Rain God; (b) closeup of allocation after amassing *pib* maize cakes (photos courtesy of Nelda Marengo, Boundary End Foundation).

in groups of four, are tied to the four cardinal posts of the verdant altar to reproduce the sounds of the four winds and those that summon a first rainfall. This invocation can last up to hours during which the boys imitate the coarse noises made by frogs, thunder, and the songs of certain seasonal birds. In reviewing the original literature of the *chultun* ossuary from Chichen Itza (Márquez 2010; Márquez and Schmidt 1982), the finding of an ocarina whistle together with the boys' mortal remains is striking, because this would be the instrument of choice to reproduce the insistent croaking of frogs to invoke rain. Such empirical and body-anchored evidence informs both the transformations of ritual violence since ancient times and the continuities of cultural ceremony to this day.

1.8. Acknowledgements

I wish to use the remaining space to express my sincere gratitude to the fellow contributors of the book that follows this introduction. The string of sessions and symposia surrounding the central focus of this volume would not have spiraled into an edited book had it not been for the continued support and active engagement by all participants before, during, and after our global COVID-19 pandemic. Needless to say, I have immensely enjoyed our exquisite rounds of academic exchange over the last decade. Andrew Scherer's discussion echoes the permanent inspiration he has provided in advocating for understandings of ancient Maya mortuary landscapes to be based in objectifiable skeletal data through a deeply informed, culturally aligned human lens.

A heartfelt thank you to each and every one of the contributors for sharing their efforts and expertise during the different stages of preparation and editing. This includes all those who, for one reason or another, are not listed among the authors, namely Rubén Mendoza, Erik Velásquez García, John Verano, Elisabeth Baquedano, and Carlos Rincón Mautner. I am further deeply indebted to Travis Stanton for his massive ongoing engagement with this book project and the vision and mission to take on the one that branched out as a result, titled *Approaching Sacrifice in Contemporary Mesoamerica*. Similarly fruitful cross-fertilization has provided another forthcoming oeuvre, co-authored with Guilhem Olivier and titled *El sacrificio por extracción del corazón en Mesoamérica. Diálogos interdisciplinares* ("Sacrifice by Heart Extraction in Mesoamerica. Interdisciplinary Dialogues"). Both of us are close followers of Mexico's foremost intellectual on Mesoamerican thought and practice, Alfredo López Austin (1936–2021), who has also been a major inspiration for most of the other chapters in this volume.

Last but not least, my grateful recognition to the institutions and grants that have promoted this project over the years, namely the Autonomous University of Yucatan, the Dumbarton Oaks Research Library, and CONAHCYT Project 61526 (2020–2025) on sensorial experiences among the Maya. A thank you also to the editorial team of the BAR International Series for generously lending support during the editing, proofing, and production stages. The feedback we received from two reviewers substantially strengthened the whole volume just as the thorough style edit by Emily Talbot and the art work by Rocío Albarrán, Hemmamuthé Goudiaby, Elbis Domínguez, Érika Mejide, Iván Hernández Ibar and Stan Declercq. My sincere thank you toe Nelda Marengo and the Boundary End Foundation for kindly facilitating images of recent Maya *Cha'a'cháak* ceremonies.

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