

ARTICLE

# People of Clay and Stone: Indexing Other-than-Human Animacy and Collective Identity in Coastal Oaxaca, Mexico

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## Abstract

This article analyzes the assemblages of humans and other-than-humans that animated the sacred landscape of Cerro de la Virgen, a hilltop site occupied during the Formative period (1800 BC–AD 250) in the lower Río Verde Valley of coastal Oaxaca, Mexico. Commensalism in the region increased markedly in scope and complexity throughout the Formative period, culminating in the region’s first polity at AD 100. Feasting practices became relatively standardized, but the placement of objects and bodies in public architecture—a set of collective practices associated with the vital forces that animated the cosmos—varied considerably from site to site during the late Terminal Formative period (150 BC–AD 250). Lower Verde scholars have argued that these idiosyncrasies reflect the myriad collective identities of the region’s hinterland communities, a pattern rooted in local affiliations that may have conflicted with an expanding regional identity centered at the urban center of Río Viejo. I augment this discussion by highlighting the role that the materiality of the landscape, present before humans even occupied the region, played in the construction of collective identity. I develop an interpretive approach that pays special attention to Indigenous concepts of ontology, particularly those related to animacy and its transference, and uses the semiosis of American philosopher Charles Peirce to elucidate meaning from deposits of cached objects. The animate qualities assembled through fired clay and chiseled stone at Cerro de la Virgen afforded a ritual pattern that was unique in coastal Oaxaca at the end of the Formative period.

## Resumen

Este artículo analiza los ensamblajes de humanos y no humanos que animaron el paisaje sagrado del Cerro de la Virgen, un sitio en la cima de una colina ocupado durante el período Formativo (1800 aC-250 dC) en la parte baja del Valle del Río Verde en la costa de Oaxaca, México. El comensalismo en la región aumentó significativamente en alcance y complejidad a lo largo del período Formativo, culminando en la primera política de la región en el año 100 dC. Las prácticas festivas se estandarizaron, pero la ubicación de objetos y cuerpos en la arquitectura pública —un conjunto de prácticas colectivas asociadas con las fuerzas vitales que animaban los cosmos— varió considerablemente de un sitio a otro durante el período Formativo Terminal tardío (150 aC-250 dC). Arqueólogos del Río Verde han argumentado que estas idiosincrasias reflejan el sinfín de identidades colectivas de las comunidades del interior de la región, un patrón antiguo en afiliaciones locales que pueden haber entrado en conflicto con una identidad regional en expansión centrada en el centro urbano de Río Viejo. Extiende esta discusión destacando el papel que jugó la materialidad del paisaje, el cual estuvo presente incluso antes de que los humanos ocuparan la región; este aspecto jugó en la construcción de la identidad colectiva. Desarrolla un enfoque interpretativo que presta especial atención a los conceptos indígenas de ontología, en particular los relacionados con la animacidad y su transferencia, y utiliza la semiosis del filósofo estadounidense Charles Peirce para aclarar el significado de los depósitos de objetos almacenados en escondites. Las cualidades animadas reunidas a través de arcilla cocida y piedra cincelada en el Cerro de la Virgen permitieron un patrón ritual que fue exclusivo en la costa de Oaxaca al final del Formativo.

**Keywords:** ritual caching; semiotics; religion; Oaxaca; Mesoamerica; Formative period

**Palabras clave:** caché ritual; semiótica; religión; Oaxaca; Mesoamérica; Periodo Formativo

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Life in ancient Mesoamerica was inexorably bound to many ontological principles, none more important than the accessibility of the vital cosmic forces that animated the world (Freidel et al. 1993; Furst 1995; Harrison-Buck 2015; Joyce 2020a; López Austin 1988, 1989; Stross 1998). For ancient Mesoamericans, boundaries between the natural world, human culture, and the divine were often blurred (Monaghan 1995, 2000). Religious experience was entangled with everyday life such that the animating practices through which people transferred, transformed, and concentrated the vital forces of the cosmos defined sacrality (Joyce 2020b; Stross 1998). Religious rituals involving other-than-human beings were consequential to the creation, integration, and maintenance of collective identities, but they could also create fissures along which people negotiated or contested political authority (Barber 2013; Blackmore 2011; Hutson 2010; A. Joyce 2018; Robin 2002). Among the most politically potent and archaeologically visible contexts of negotiation involved the ritualized placement of offerings within monumental architecture (Joyce 2020a, 2020b; Joyce and Barber 2015).

Communal spaces gathered not only people but also objects, places, substances, qualities, and ideas that were imbued with the same vibrancy as human life. In this article, I analyze the unique assemblages of humans and other types of beings that animated the built landscape of Cerro de la Virgen, a hilltop site occupied near the end of the Formative period (1800 BC–AD 250) in the lower Río Verde Valley of coastal Oaxaca, Mexico. Commensalism in the region increased in scope and complexity throughout the Formative period, culminating in the region's first polity at around AD 100 (Hepp 2019; Joyce et al. 2016). An urban center developed at the site of Río Viejo, and several secondary communities emerged in the valley. The polity was tenuous, collapsing little more than a century after its rise.

Archaeological evidence suggests that political authority was not centralized at Río Viejo but was diffuse and distributed among hinterland communities with distinct identities (Barber et al. 2014; Joyce and Barber 2015:821; Joyce et al. 2016).

Local histories and unique materialities of nearby landscapes were deeply embedded in the construction of monuments, the caching of objects, the interment of human bodies, and the commensal acts of feasting and drinking (Barber 2013; Barber et al. 2014; Brzezinski 2019; Brzezinski et al. 2017; Joyce 2020a; Joyce and Barber 2015; Joyce et al. 2016). Although some practices in the lower Verde reflect standardization, the discursive act of object caching varied considerably in scale and character across the valley. I argue that this variability points to the construction of collective identities that can be, in part, attributed to the inherent materiality of the landscape that was present even before humans occupied the region.

### Ontology, Identity, and Ritual Caching

The study of identities in the past permits a diverse and contextual reading of a foundational characteristic of humanity: the lived and embodied experience of performing “sameness” or “difference” (Appiah 2005; Butler 1990; Fowler 2010). Dominant trends in archaeological theory have dictated how scholars have conceptualized identity. Culture historians of the early twentieth century presumed that social identities were channeled through material culture and only changed in the wake of crisis or population replacement (Childe 1926). Later, efforts to categorize societies led processual archaeologists to regard culture as an adaptation, in which identities functioned to fulfill basic human needs (Binford 1971). Evolutionary views of identity were dynamic but tended to oversimplify the complex relations that account for different identities, particularly how people experienced, recapitulated, and contested them. Critiques levied by the post-processualists of the later twentieth century brought identity to the fore by positioning people as agents who could reflect on and change the material conditions of their existence (Conkey and Spector 1984; R. Joyce 2000). Similar practices among groups do not necessarily correlate with a shared identity, however. Just as we cannot glean a single interpretation from the archaeological record, people of separate identity groups may have interpreted identifying characteristics differently. In this way, identity is relational and contextual (Hepp et al. 2022).

Despite stark differences in scope and subject, archaeological research in the last century ultimately agreed on one tenet: identity was socially constructed (Fowler 2010). The notion that identities manifest solely through people's actions is problematic because it foists a Cartesian view of subjectivity on

the past that would not be familiar to non-Westerners (Harris 2016). This “humanist” framework makes things and the materiality of the human body secondary to ideas (Harris and Robb 2012). What ends up mattering is not the material character of the world but rather the representations of ideas with which people engage symbolically. People certainly represent concepts through objects, but privileging the ideational plane ignores the vibrancy of matter: its propensity to act independently of human intention (Bennett 2010). Attempts to deconstruct material-ideational dualism have been bolstered by the “ontological turn” in anthropology (Bird-David 1999; Viveiros de Castro 2004). A renewed interest in non-Western ontologies has challenged the opposition of people and things by demonstrating that the boundaries between them are permeable (Alberti 2016; Harris 2016; Olsen 2010). Such a perspective does not merely afford agency to humans or things independently. Instead, what matters is the fluid relationality that allows them to cohere, mutate, dissolve, and recombine.

Archaeological approaches that probe the issue of personhood have come closest to avoiding the humanist binds that complicate research on identity (Harris 2016:23–25). These studies share the idea that personhood emerges from the relations in which a person is enmeshed (Fowler 2004, 2010; Harrison-Buck and Hendon 2018; Watts 2013). The attribution of person-like qualities to other-than-humans is widely attested in the ethnographic and ethnohistoric record of Mesoamerica. For the Chatino of Oaxaca—the ethnolinguistic group most closely associated with the earliest complex societies of the lower Río Verde Valley—humans are infused with *Tyi’i*, an immaterial “soul substance” located inside the heart, to which it offers its strength (Bartolome and Barabas 1996:225). When a person faints, it is a sign that the *Tyi’i* has moved away from the body.

Anthropological research in Mesoamerica has shown that caching ceremonies involving birth and death rites afforded personhood to architecture by animating or terminating the vitality of buildings (Brown and Emery 2008; Greenberg 1981; Stross 1998). For example, Greenberg’s (1981) ethnographic research in the contemporary Chatino community of Santiago Yaitepec demonstrates that houses and doors are metaphors for bonds among humans, deities, and nature. Greenberg details house-raising ceremonies where offerings of food, fine china, and sacrificed animals are placed into subfloor pits. These deposits often surround an initial offering in the center of the house meant to feed its “heart” (Greenberg 1981:85–98). Joyce and Barber (2015) identified several precolumbian architectural contexts that also reflect the ritualized “feeding” of structures to maintain their animacy.

The fragmentary ethnohistoric and archaeological record of the colonial period precludes a direct chronological link between contemporary and precolumbian peoples of the Oaxacan coast, but archaeological research has illustrated a consistent, although generalized, set of practices and materials that imbued buildings with life. At Río Viejo, the region’s political seat of power during the Chacahua phase and Late Classic period Yuta Tiyoo phase (AD 500–800), excavations carried out in 2013 uncovered a cache of copper artifacts, ceramic vessels, and obsidian blades dating to the Early Postclassic period in the ruins of an earlier building (Vidal-Guzman 2017). Burned earthen walls surrounded the cache, suggesting it was carefully prepared, possibly as part of a ceremony dedicated to the building. Similar types of caching practices can be traced to the Late Classic period at the Río Viejo acropolis. During the Yuta Tiyoo phase, the acropolis was used primarily for commemorative ceremonies involving the interment of human burials and other offerings (Joyce and Barber 2011; Joyce et al. 2014). Near the center of the acropolis, excavations exposed a complex offering that included two plain stelae and three large ceramic vessels containing burials (Joyce and Barber 2011). The contents of the offerings differ from their Formative period counterparts discussed here, but their association with public architecture shows continuity in caching practices among lower Verde communities through time. In the next section, I outline a semiotic approach to interpreting offerings in architectural contexts.

### A Semiotic Approach to Ontology

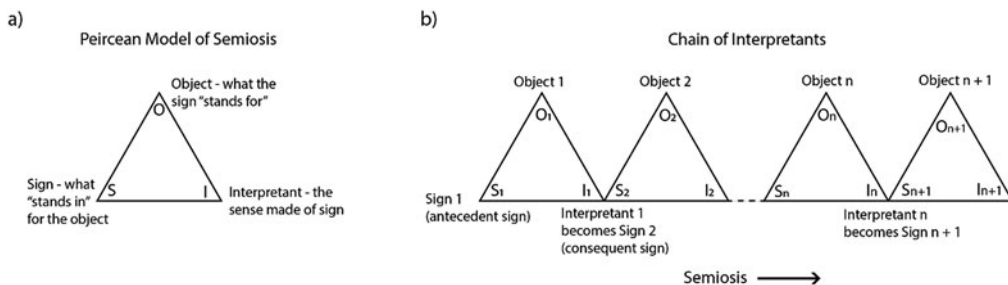
Approaching identity from an ontological perspective acknowledges that people and things are the outcomes of affective relations. “Affect” refers to the way organic and inorganic bodies of all kinds may encounter one another, alter the capacities of others, and subsequently transform themselves (Deleuze

1988; Deleuze and Guattari 1987). It can also relate to how the senses elicit emotion (Hamilakis 2014). In ancient Mesoamerica, some other-than-human entities facilitated access to the divine realm—an affect that assembled animate beings in unique ways. For example, the fundamental religious principle known as the “sacred covenant” holds that, in return for permission to practice agriculture, which causes deities of the earth, rain, and sky considerable pain, humans must sacrifice their bodies and vitality in death to be consumed by those gods (Hamann 2002; Joyce 2000; Monaghan 1990:562, 1995). Failing to provide sacrifices could result in cosmic calamity (López Austin 1988). The most potent sacrifices involved human blood, but the covenant could also be fulfilled with copal incense, maize dough, jade, feathers, deity masks, and ceramics (Brzezinski et al. 2017; Freidel et al. 1993; Joyce and Barber 2015; Joyce et al. 2016; López Luján 2005; Monaghan 1990). Zedeño (2009:412) defines such items as “index objects,” which were unique in their ability to alter, transfer, or reposition vitality in relation to other bodies.

Humans and other animate inhabitants of the ancient Mesoamerican world were infused with the same vitality, but it was only through processes of signification that one could experience the other. Recent archaeological engagement with the semiosis of American philosopher Charles Peirce (1958–1965) presents a path toward addressing the ontologies of non-Western people (Cipolla 2013; Crossland 2018; Harris 2021; Harris and Cipolla 2017; Preucel 2010; Swenson 2018). Peirce’s philosophy was grounded in three modalities of being that crosscut the mind–matter divide: categories defined by potential, force, and habit. Potential, elsewhere referred to in Peirce’s nomenclature as “firstness,” refers to the quality of something that exists independently of anything else. In archaeological terms, potential can be seen in a raw material such as obsidian that exists, with its own qualities, independent of other objects. “Secondness” is reflected in the category of force wherein the potential of the world is actualized, thereby affecting and constraining experiences (Crossland and Bauer 2017). It is the quality of reaction, response, or resistance to something else. For example, considering the way that people use fire to cook food or water to irrigate crops situates actions as responses to the environment. Peirce defined “thirdness” as the tendency of the world to form habits as part of self-organizing processes that allow us to think about new and emergent patterns in the natural world (Crossland and Bauer 2017).

In Peirce’s model, signs stand in an indivisible triadic relationship—first to themselves, second to an “object,” and third to an “interpretant” (Figure 1a). Archaeologists have drawn extensively on Peirce’s three sign types: icons, indexes, and symbols. Icons relate things that share a physical likeness, such as a portrait carved in stone and the ruler it depicts. Indexes demonstrate a cause-and-effect relation that signals the “contextual existence of an entity,” illustrated by the classic example of a weathervane pointing in the direction of the wind (Preucel 2010:68). Finally, symbols create an arbitrary link between a sign and what it indicates, as in most written language. Identities, both personal and communal, are constituted by all three sign types.

The application of Peirce’s semiosis transcends the Cartesian mind–matter dichotomy by investigating the chains of material signs that constitute identities. The most consequential element in this process is the third component of Peirce’s triad, the interpretant. It is dynamic in that it is a product or



**Figure 1.** Diagram of interpretive framework informed by Peircean semiotics: (a) The triadic model of the sign; (b) enchainment of interpretants.

mediation of the initial sign–object relationship that designates responses, feelings, or affective reactions (Swenson 2018:356–357). Peirce’s philosophy of the sign allows us to reconcile representational and phenomenological approaches to understanding “semiotic ideologies”—the institutions that specify what kinds of signs matter, how they relate to other signs, and how to interpret them (Keane 2018). As the product or mediation of the initial sign–object relationship in Peirce’s triad, interpretants are dynamic because they designate responses, feelings, or affective reactions to sign–object relations (Swenson 2018:357). In fact, any sign can be an interpretant if it transforms an antecedent sign into a consequent sign or signifies its object through some other antecedent sign (Savan 1987:43).

Time is also a key component of interpretants as they are strung together. Old objects such as heirlooms often erupt in the present and point to new material signs that produce further interpretants (Figure 1b). Temporality for ancient Mesoamericans was not only a linear sequence of events but was also a complex, multidimensional, and continuous process that was enfolded within material objects and their interactions. Thinking of time as “enfolded” allows us to understand how material objects carry traces of the past and become transformed by the present. In the next section, I examine the animate entities that were linked together spatially and temporally by chains of interpretants embedded in the landscape of coastal Oaxaca.

### Animacy in the Natural and Built Landscape

Research on the later Formative period in the lower Río Verde Valley has shed light on the milieu of collective identities in the hinterland surrounding the early political center of Río Viejo (Barber 2013; Barber et al. 2014; Brzezinski, Monson, et al. 2022; Joyce and Barber 2015; Joyce et al. 2016; Workinger 2002). Among these rural communities is Cerro de la Virgen, located on a large hill 10 km east of the Río Verde and 14 km north of the Pacific Ocean (Figure 2). The site was occupied as early as the Late

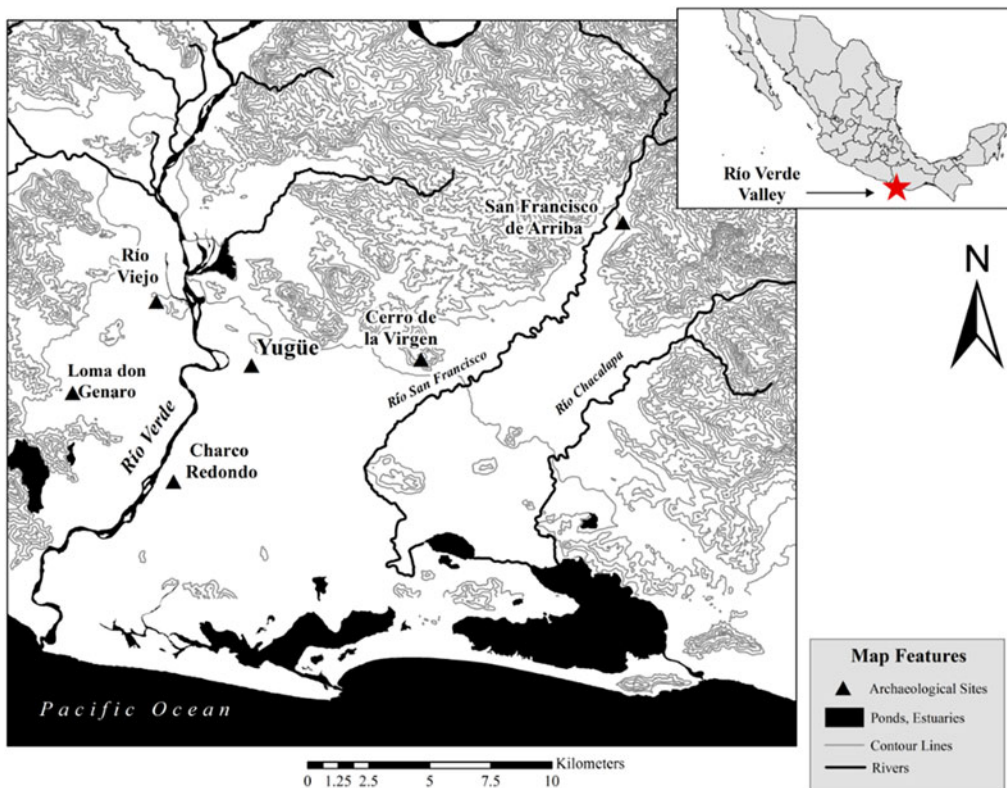


Figure 2. Map of the Lower Río Verde Valley, Oaxaca, Mexico (drawn by Jessica Hedgepeth-Balkin).



Formative (400–150 BC), reaching its peak size of 72 ha during the Terminal Formative (Joyce et al. 2009). Recent fieldwork at Cerro de la Virgen has focused on the monumental architecture of the site's ceremonial center, which consists of a series of terraces that cover more than 1 ha and support a plaza, several architectural complexes, and a ballcourt (Figure 3; Barber 2013; Brzezinski 2019). At the eastern end, a monumental stairway leads to Structure 1, a small, restricted, public building that likely served as a temple. Situated near the top of the hill is Residence 1, an elite household that was occupied during the late Terminal Formative Chacahua phase (Barber 2005). People living at Residence 1 had preferential access to Structure 1 and may have constituted a founding kin group. Other residents of the site lived on the dozens of terraces that surround the ceremonial center.

### Structure 1

The best evidence for the transfer of vitality to architecture at Cerro de la Virgen comes from Terrace 10, where the construction and use of Structure 1 began during the early Terminal Formative Miniyua phase (150 BC–AD 100). Immediately preceding the building's earliest construction phase, residents placed a bundle of stone objects and nine miniature ceramic vessels directly on bedrock (Brzezinski 2019:186–191; Brzezinski et al. 2017). The stone objects were purposefully broken and wrapped with a textile or other perishable materials before placement. Included among the broken objects were the mask of a rain deity, a fragment of a second mask, two miniature tabular thrones, and a figurine (Figures 4 and 5). Ritual activities on the terrace continued into the Chacahua phase, culminating with the burning of a perishable wattle-and-daub structure that sealed a deposit of ceramic vessels

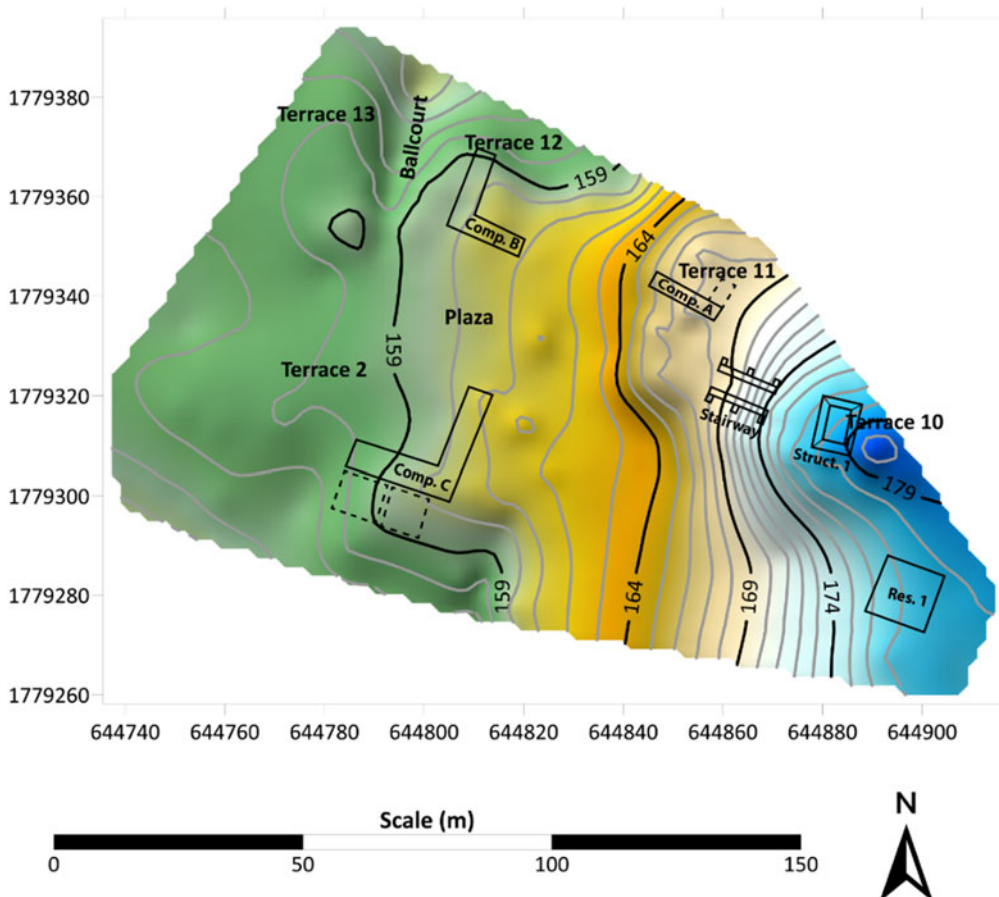
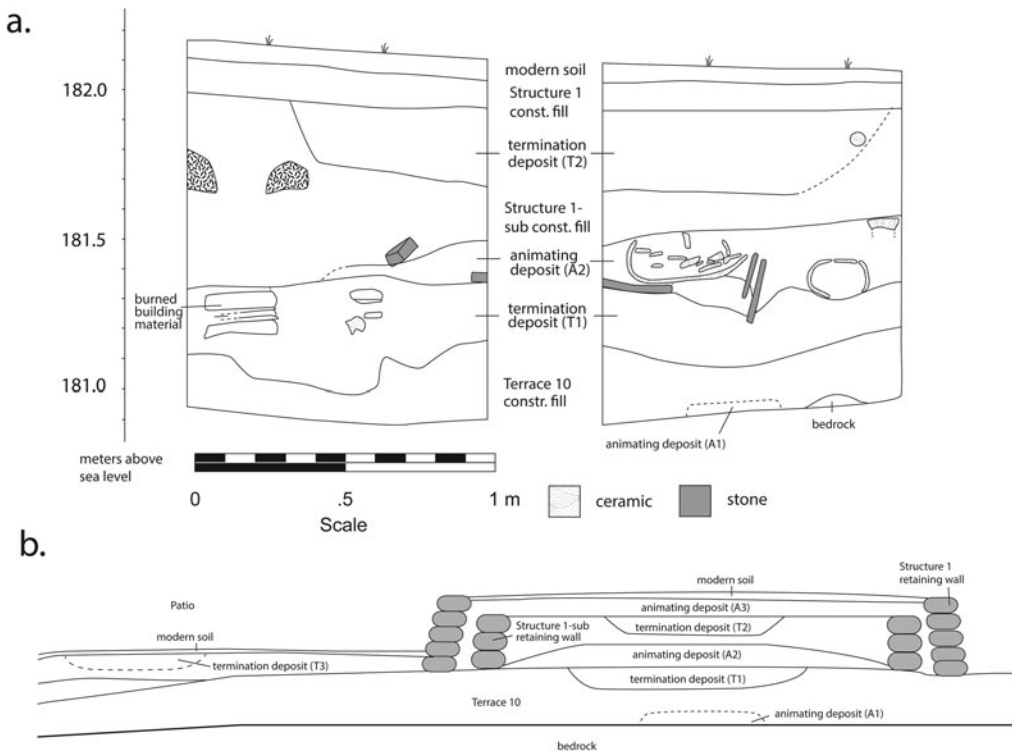


Figure 3. Topographic map of the ceremonial center at Cerro de la Virgen (not shown: Complex E). (Color online)



**Figure 4.** Stratigraphy of Structure 1: (a) section of Structure 1 excavation profile drawn to scale; (b) idealized cross-section of Terrace 10 and Structure 1 (not drawn to scale).

overlying the bundled offering. One small upturned vessel in the buried offering was topped with a human long bone. Later, residents then built Structure 1-sub, a low masonry platform with its center point oriented directly above the bundle. Ceramic serving vessels were placed at the base of the building's earthen fill during construction. The end of Structure 1-sub's use was marked by a deposit of ceramic vessels placed in a pit near the occupational surface that was covered with burned debris. In the final phase of occupation of Terrace 10, Structure 1 was constructed atop the earlier masonry foundation. Ceramic vessels were deposited within the building's fill in a similar pattern to Structure 1-sub. A final deposit of ceramic vessels just below the occupational surface in the patio adjacent to Structure 1 coincided with the abandonment of the site at the end of the Formative period.

The stone objects of the bundled offering index various characteristics of animacy. First, the ergonomic features of the rain deity mask, particularly its strapping holes, chin rest, and sensorial openings for the mouth, eyes, and nostrils, indicate that it was worn by a ritual specialist (Hepp et al. 2020). The miniature thrones indexed the political authority of rulers or powerful nobles who sat on them and iconically referenced life-size thrones as the stage on which offerings were transferred to the divine realm (Miller and Martin 2004:105). Similarly, the figurine is simultaneously an icon that physically resembles a deceased ancestor and an index that points to the presence of the ancestor's life force in the building, like a fingerprint indexing presence at a crime scene (Crossland and Bauer 2017). The inclusion of pottery encircling the bundle may point to its personhood as an entity that required sustenance, as ceramic vessels had the capacity to transfer vital materials such as earth, food, and drink (Joyce 2020a; Overholtzer 2021). My colleagues and I suggested that the bundled offering was a petition to the rain deity for agricultural fertility, mediated by a revered ancestor and consecrated through the gathering of the objects (Brzezinski et al. 2017:524–525). Breaking the objects released their vitality and established the associated architecture as an animate intermediary through which petitions to the divine realm were witnessed.



**Figure 5.** Reconstructed stone objects recovered from the earliest animating deposit in Structure 1 (photograph taken by the author). (Color online)

The phenomenon of fragmentation in ancient Mesoamerica was part of a complex social matrix concerned with the divisibility of personhood (Guernsey 2020). For example, body parts that were dissociated from bodies were powerful and often deposited in monuments as acts of place making (Fitzsimmons 2009; Geller 2012). Transferring or releasing life forces through fragmentation also extended to the world of objects and the environment (Harrison-Buck et al. 2007; Stanton et al. 2008; Stross 1998; Zedeño 2008). Pieces of each mask were missing from the bundled offering, suggesting that the objects' vitality could be distributed among its constituent parts. Even when objects are physically complete, their potential to be part of other assemblages emphasizes the "inherent partibility of existence, from the scale of the individual body to the scale of the settlement" (R. Joyce 2018:42).

The archaeology of Structure 1 overlying the bundled offering reveals the life cycles of buildings that were actualized through ritual practices, the unique properties of things, and multiple temporalities. First, builders of Structure 1 combined ceramic vessels and sediment to form the construction fill of the low platform. Both elements index the animate landscape. Pottery also affords the capacity to hold and transfer matter in a receptacle made from vital elements like earth, water, and fire. Sediment forms the medium through which life-sustaining maize and other flora grow and mature. At present, it is unclear what types of substances, if any, were included in the vessels. A preliminary analysis of residues extracted from a small sample of vessels suggested that they were not filled with plant-based ingredients such as maize kernels or fermented liquids (detailed paleobotanical and chemical residue analyses of the vessels found in Structure 1 and other contexts discussed in this article are forthcoming).

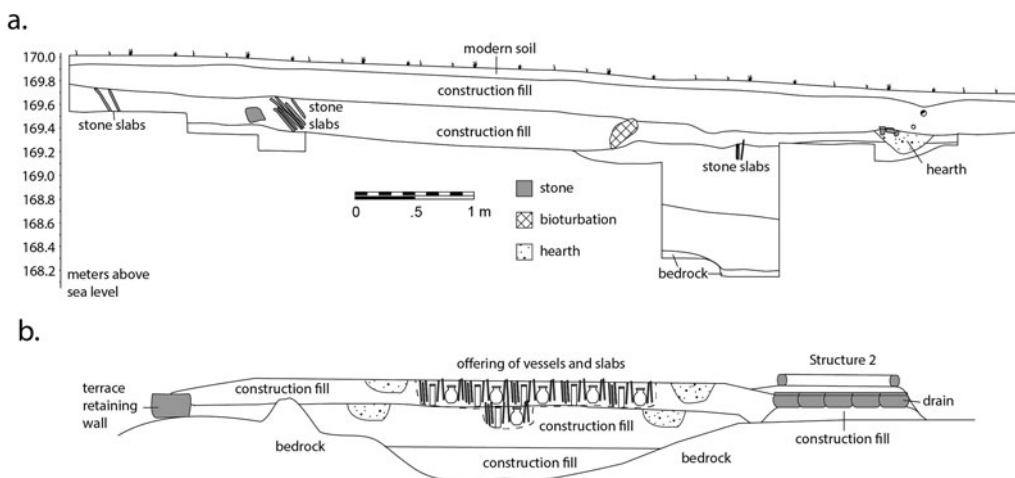
Within the sandy loam of the platform fill, builders included pieces of burned daub recovered from the charred remains of perishable superstructures. These small bits of debris highlight the multiple,



overlapping temporalities of construction, occupation, and destruction that characterize earthen architecture in coastal Oaxaca. Just as buildings were “ensouled” through the incorporation of index objects, they could also be ritually terminated (Joyce and Barber 2015; Stross 1998). Structure 1-sub was terminated through an offering of vessels placed in a shallow pit and sealed by the construction fill of the overlying version of the building. Subsequently, Structure 1 was animated by an offering of vessels during construction and terminated later as the site was abandoned at the beginning of the Early Classic period (AD 250–600). Termination deposits were differentiated from animation deposits based on stratigraphic evidence and the presence of materials that would indicate ritual destruction, such as ash and burned daub (Brzezinski 2019:562). Attributes of offering vessels recovered from animation and termination deposits were compared statistically through Wilcoxon tests of nonparametric variables, followed by Steel-Dwass tests to account for pairwise error between types of offerings. Statistical analyses did not demonstrate significant differences ( $p > 0.05$ ) in rim diameter or height, nor was there a significant difference in vessel form or paste type among pottery recovered from each type of offering. These observations may indicate that Chatinos held similar worldviews related to the types of objects that were ontologically crucial to the life cycles of buildings, perhaps orienting these practices within a cyclical concept of time that closely relates birth and death (Mock 1998).

### Complex A

Complex A is situated to the west of Structure 1 at the base of a monumental stairway. It consists of two rectangular buildings (Structures 2 and 3) flanked to the north and south by patios. The complex lacks domestic features such as craft production debris, storage vessels, or cooking implements, suggesting a public role for its architecture. Ceramics recovered from the earliest stratigraphic levels of the complex exhibit a mix of Miniyua- and Chacahua-phase characteristics, placing the earliest date of construction at around AD 100 (Brzezinski 2019:102, 112). Following the earliest construction episodes in the north patio, a deposit of 260 ceramic vessels and more than 600 thin stone slabs was placed over a period spanning perhaps the entire Chacahua phase (Figure 6). The offering covered 62 m<sup>2</sup>, an area rivaled only by some of the lower Verde’s largest communal cemeteries of the later Formative (Barber et al. 2013). The ceramic assemblage of the offering consists of cylindrical vessels and globular jars, both of which are not typically associated with cooking or storage (Joyce 1991). Some had eccentric forms, including square-walled vessels, “quincunx” vessels with four lobes, and cylindrical vessels with anthropomorphic appliques. The thin stone slabs were composed of granitic rock mined from local outcrops. Occasionally the slabs were arranged in triangular or square compartments that housed one or more vessels, but more often they were placed vertically in parallel groups



**Figure 6.** Stratigraphy of Complex A: (a) section of excavation profile drawn to scale; (b) idealized cross-section of Complex A (not drawn to scale).

(Figure 7a–c). Many vessels and slabs were placed directly atop previous deposits, and the overlying sediment was loosely packed and mottled with organic material, suggesting the cache was periodically reopened (Clark and Colman 2013:23). A stone drain running beneath Structure 2 prevented erosion by carrying water off Terrace 11 to the southwest.

The extraordinary scale of the offering in Complex A suggests that groups of people may have gathered in the plaza of the ceremonial center to engage in communal rituals, including object caching, feasting, playing the ballgame, and mortuary ceremonialism. Early in the construction of the plaza, people placed an effigy vessel of a human foot directly on bedrock. The vessel was found in pieces, but it is unclear whether it was smashed intentionally (Figure 7d). Given its placement at the base of a layer of construction fill, as well as its resemblance to the anthropomorphic contents of the bundled offering beneath Structure 1, the smashed vessel may index the transfer of vitality to the surrounding architecture. The scarcity of anthropomorphic characteristics embodied in the foot effigy vessel and the contents of the Structure 1 cache may suggest that index objects with human features were imbued with a particularly potent degree of vitality (Grove and Gillespie 1984; May et al. 2018; Stanton et al. 2008:235).

In subsequent phases of construction, residents placed several series of objects that may have sustained the animacy of the plaza, including five large ceramic vessels and at least three dense deposits of thin stone slabs. Although the cached deposits may have constituted a collective resource located in a central, accessible place, their stratigraphic position beneath an occupational surface suggests that they were offerings intended to sustain the animacy of the architecture (Joyce and Barber 2015). Placement of the slabs and vessels may have witnessed at the time of commensal feasts that were prepared in an expansive earth oven located in the nearby patio of Complex C. Residents may have also cooked in a dozen small hearths, none larger in diameter than 2 m, that were interspersed among the vessels and slabs of the Complex A offering.



**Figure 7.** Photographs of offering vessels in ceremonial center: (a–c) cylindrical vessels, globular jars, and stone slabs placed in north patio of Complex A; (d) human foot effigy vessel placed below occupational surface in plaza (photographs taken by the author). (Color online)

### Complex B

Complex B is situated along the northern edge of the ceremonial plaza, immediately west of Complex A. As with Complex A, a lack of domestic features suggests that the complex was used for public ceremonies, perhaps associated with the adjacent ballcourt (Brzezinski 2019:247). The complex was built and used exclusively during the Chacahua phase, during which people may have imbued the architecture with vitality through the placement of human remains, as well as caches of objects. Of the four burials recorded at Cerro de la Virgen to date, three were discovered within the earliest fill layers of Terrace 12. The earliest was Burial 2–Individual 2, a primary interment of an adult female placed in a flexed position facing east (Brzezinski 2019:247). Stratigraphic evidence indicates that B2–I2 was placed within the construction fill as the terrace was built. During subsequent building phases, the disarticulated remains of two adults, Burial 1–Individual 1 and Burial 3–Individual 3, were interred in separate layers of fill as secondary deposits. The close association of Complex B with the ballcourt suggests that the placement of human remains during construction may have been coupled with ballgame rituals.

The gathering of human burials, ballgame players and observers, and cached objects may have established Complex B and the ballcourt as animate beings that witnessed petitions to the underworld (Blomster and Salazar Chavez 2020; Schele and Miller 1986; Whittington 2001). Although the characteristics of the ballgame at Cerro de la Virgen are unknown, rituals associated with the game likely brought together broad groups of people, some of whom may have traveled from neighboring communities. Participants may have watched ballgames from Structure 5, a low platform built at the western edge of Terrace 12 that overlooked the ballcourt. A patio to the east of Structure 5 was the locus of an offering of at least 42 ceramic vessels, more than 100 thin stone slabs, and several ground stone tools. Stratigraphic evidence is unclear as to whether the offering was placed during one event or several, but the characteristics it shares with the offering in Complex A suggest that the former was placed sequentially over time to sustain the associated architecture.

Structure 4, located on the eastern side of Complex B, was the locus of a masonry workshop where locally quarried stones were shaped into formal blocks and slabs to be used in structural foundations and ritual caches. Excavations exposed a dense deposit of large stones with angular breaks and flat faces in the center of Terrace 12 consistent with stone masonry debris (Winter 2006).

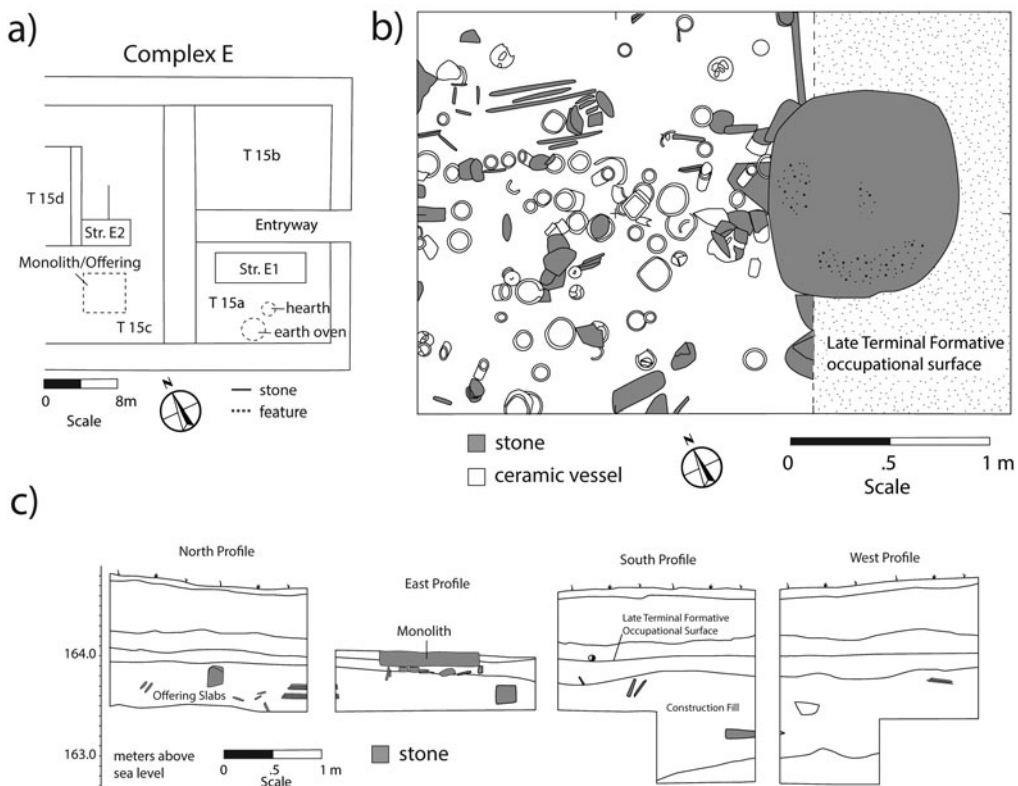


Figure 8. Ground stone tools recovered from structure floors in Complex B (photograph taken by the author). (Color online)

Excavations also recovered an assemblage of ground stone tools that collectively constituted a stone mason's "tool kit" (Figure 8; Brzezinski 2019:442). Included among the tools were hammerstones, chisels, smoothers, and an edge sharpener, all exhibiting significant use wear. The thin stone slabs seen in many of the site's offerings were probably shaped at Complex B. At present, the connection between stonework and the mortuary ceremonialism associated with the ballgame is unclear.

### Complex E

The animation of buildings through the gathering of index objects also took place in areas away from the ceremonial center, including in households (Barber 2005; Joyce 1991). The earliest residents of Complex E, a three-tiered terrace complex located 150 m north of the ceremonial center, lived in small, perishable superstructures built on two low platforms (Figure 9). Structure E1-sub, built during the Chacahua phase, included a modest offering of two cylindrical vessels placed in the fill beneath the floor. Seven ceramic vessels and dozens of stone slabs were placed below the occupational surface in an attached patio. It is unclear whether the offering was placed sequentially, but the distribution of objects follows the pattern seen in Complexes A and B. Over the course of the Chacahua phase, the intensity and scope of communalism at Complex E increased significantly, likely engaging larger numbers of people, in addition to those living in the vicinity of the complex. In many ways, Complex E was a microcosm of Cerro de la Virgen's ceremonial center. Food was prepared in a shallow hearth and an earth oven measuring 2.0 m and 1.2 m in diameter, respectively. Like the earth oven in the courtyard of Complex C, the refuse of the cooking features included burned sherds and fire-cracked rock used as heating elements. Although it is possible that the hearth and earth oven were used for day-to-day cooking, they are larger than typical domestic cooking features in the region



**Figure 9.** Offerings of Complex E: (a) plan diagram of Complex E; (b) plan diagram of offering vessels and monolith; (c) stratigraphic profile of large offering, monolith, and associated strata.



(Joyce 1991). Adjacent to the cooking features, people placed a deposit of broken ceramics in a shallow pit that included a *comal*, serving bowls, and storage jars.

The prevalence and density of cached objects at Complex E increased markedly over the course of the Chacahua phase. Builders expanded and repositioned Structure E1 to match the orientation of buildings in the ceremonial center and added a second terrace to the complex. The first fill layer retained by the second terrace wall was the locus of the densest cache of objects found at the site to date: an offering of 81 ceramic vessels and dozens of stone slabs in an area of just 4 m<sup>2</sup> (Figure 10).

Excavations did not expose the entire feature, but it undoubtedly extended in every direction over a larger area. Several vessels and slabs were placed directly over earlier deposits, suggesting that these offerings were placed sequentially over an extended period by periodically reopening the cache. Lying flat on the surface above the offering was a rectangular monolith that may have served as a ceremonial altar. Three shallow depressions in the monolith may have facilitated grinding seeds or holding liquids. The monolith is the only one of its kind that dates to the Terminal Formative period, so interpretations of its role are speculative. However, the spatial context of the Late Classic offering mentioned earlier suggests that plain monoliths could be deposited as offerings at the surface of fill layers (Joyce et al. 2014). In the next section, I propose several explanations for the role of the Cerro de la Virgen offerings as index objects that infused, enhanced, sustained, or terminated the animacy of buildings.

## Discussion

Architecture in precolumbian Mesoamerica sat at the confluence of human and other-than-human affect. In coastal Oaxaca, public buildings were palimpsests of signification that condensed and amplified sign modalities. Peirce (1958–1965) proposed that every sign has the potential for an unlimited number of interpretants, but deconstructing chains of signification requires a starting point, even if it is somewhat arbitrary. Here, we begin with an idea as the object of semiosis: animacy. Although we are not privy to most of the intimate ceremonies that imbued objects with animacy, the ontologically “flat” perspective taken in this article helps us consider the vibrancy of things as independent of



Figure 10. Ceramic vessels and stone slabs placed in large offering in Complex E (photograph taken by the author). (Color online)



human signification (Bennett 2010). For example, the inclusion of stone slabs in the offerings of Cerro de la Virgen was more than a stylistic choice. In some contexts, slab-lined compartments served the practical function of protecting ceramic vessels, but distinct collections of slabs oriented vertically in rows provided no structural advantage against erosion or bioturbation. In many areas of the ceremonial center, deposits of slabs lacked other cached objects.

The placement of slabs as offerings may have had an ontological reasoning related to the animate properties of the surrounding piedmont landscape, particularly the hill on which the site is located. Natural hills, mountains, and volcanoes were places of sustenance for precolumbian Mesoamericans, often imbued with the same vital force that animated humans, ancestors, deities, and other beings (Harrison-Buck 2012). Ethnographic and ethnohistoric accounts of Indigenous communities in southern Mexico indicate that mountains were home to deities who unleashed the power of the skies (De la Cruz 2007; Lipp 1991; Monaghan 1995). Mountains and volcanoes were also thought to contain subterranean waters that played an essential role in agricultural fertility (Albores and Broda 1997). Physical properties inherent to stone such as color, texture, formation, and origin place had the potential to make visceral the cosmivision perceived and enacted in ceremonial landscapes (Ashmore 2008). The hilly piedmont surrounding Cerro de la Virgen is dotted with granitic outcrops that naturally exfoliate in thin sheets. Their inclusion in offerings may have indexed the animate properties inherent to mountains of creation in this natural geologic process, highlighting stone in the transference of that vitality. Stone slabs may have also indexed which corporate group was responsible for placing parts of larger offerings (Brzezinski, Monson et al. 2022).

Although stone slabs have been found in nearly every ritual context excavated at Cerro de la Virgen, there is some variation in their positioning and association with other objects such as ceramic vessels, ground stone tools, and human bodies. Thinking of buildings as settings for the enchainment of interpretants allows us to trace relations and temporalities as they were enfolded in architectural deposits. The succession of offerings associated with Structure 1 gives us insight into the human and other-than-human entities that imbued architecture with life. Beginning again with the idea of animacy, the concept was indexed by breaking the bundled objects and placing them on bedrock, ensouling the building through the transfer of vitality. As the interpretant of the initial sign-object relation, this transference stands as a more complex sign indexing the next object—the potential for buildings to be animate beings. The second sign-object relation leads to another interpretant: birth or the beginning of the structure's life cycle. As with other animate beings, the life cycle of buildings eventually comes to an end, a process highlighted by termination rituals involving destructive acts such as demolition and burning. In the case of Structure 1, this chain of interpretants was repeated twice in subsequent building phases before the eventual abandonment of the site.

The archaeology of Complex A reveals a similar chain of interpretants, with a few distinctions. Some of the earliest ritual deposits in the north patio suggest that the architecture was also animated through a deposit of ceramic vessels and stone slabs; however, excavations did not uncover evidence of superimposed building foundations that might signify multiple life cycles. Instead, stratigraphic evidence shows that the large offering in the north patio was placed over an extended period, which may reflect the provision of sustenance to the building. Recurring feasts in the ceremonial center may have indexed the observation of calendrically timed rituals, perhaps relating to the agricultural cycle. Vessels and slabs were interspersed with hearths, indicating that seasonal feasting accompanied object caching. That there were 260 vessels is likely a reference to the 260-day ritual calendar, an aspect of the enfolded time. Placement of the objects probably spanned a period longer than 260 days; the span of 52 years—the time it takes for one full revolution of the calendar round—may not be out of the question. Alternatively, the number may reference the synodic period of Venus, which appears for just over 260 days as the evening and morning star, with eight days of absence in the interim.

Beginning again with animacy as the antecedent object, the chain of interpretants highlighted in the ritual deposits of Complex B and the ballcourt indicate that mortuary ceremonialism was also implicated in the transference of vitality to architecture. As an indexical sign, death points to a transformation in an ontological state of being, a change in the flow of animacy. For modern Chatinos, this change would involve the loss of *Tyi'i*—the vital heat of the body (Bartolome and Barabas 1996).

The interment of human bodies iconically represents the underworld, but it is also an index of the “absent presence” of the deceased community member (Swenson 2018). Given that burial practices were crucial in fulfilling obligations to deities, we can think of interred bodies as sacrificial offerings that could also fulfill the sacred covenant (Joyce and Barber 2015; Monaghan 1995). Evidence from Complex B shows that primary and secondary burials were placed in construction fill during separate building phases, perhaps demonstrating the periodic renewal of these relations.

Despite the variation in the chains of interpretants that gives meaning to the ritual deposits of Cerro de la Virgen, the similar actants assembled among them play a key role in the formation of a unique collective identity. Granite slabs and ceramic vessels iconically referenced stone and earth as vibrant materials, evoking the “mountain-ness” of the site as it was encountered by residents and visitors. By contrast, not a single ritual deposit excavated at a floodplain site to date has been documented to contain thin stone slabs like those at Cerro de la Virgen. Although it may be tempting to argue that there was a stylistic dichotomy between religious offerings at floodplain and piedmont sites, there was also considerable variation among sites within the latter category. For example, ritual caches at piedmont sites that contained exotic objects demonstrated little evidence of regional uniformity (Brzezinski, Monson et al. 2022). An opulent assemblage of objects was placed in the fill of Structure 99F3 at San Francisco de Arriba, a piedmont site located a few kilometers northeast of Cerro de la Virgen that was also occupied during the late Terminal Formative. Included in the offering was a deposit of hundreds of crystal and greenstone beads, pendants, miniature ceramic jars, hematite, pyrite, and animal bone (Workinger 2002). Equally impressive is the cache of broken stone masks, miniature thrones, a figurine, and miniature vessels found below Structure 1 at Cerro de la Virgen. Both assemblages contained imported goods, including stone items worn as part of a larger costume during their use life. However, the spatial, stratigraphic, and depositional contexts of the two caches differ markedly. The San Francisco de Arriba cache was placed within a layer of fill, perhaps to maintain the building’s animacy. Conversely, the Cerro de la Virgen cache was purposefully bundled, broken, and deposited directly on bedrock to animate the associated architecture, perhaps indexing the founding of the community. Both caches contained miniature vessels, but even these sub-assemblages were markedly different. The San Francisco de Arriba cache contained finely made miniature gray ware jars, some of which had elaborate plastic decorations on the exterior, whereas those in the Cerro de la Virgen cache were almost exclusively plain brown wares.

Like the Late Formative political centers in the Mixtec highlands, which did not have a single focal public space such as the Main Plaza at Monte Albán (Balkansky et al. 2004; Joyce 2010; Pérez Rodríguez et al. 2011), the community of Cerro de la Virgen used multiple loci for caching rituals involving animation. Variation in the caching practices from complex to complex may have been linked to their visibility. The most restricted public space at the site was Structure 1, which housed the most exotic objects recovered so far at the site. Caching carried out in Complexes A and B would have been more accessible to people congregating in the ceremonial center’s plaza, which may explain why these areas exhibited a pattern exemplified by “nourishing” the buildings with sustenance in which larger groups of people could participate and contribute. Finally, the expansion of Complex E to include offering contexts reminiscent of the ceremonial center may reflect the growing importance of caching rituals over the course of the Terminal Formative period.

Calling attention to the “mountain-ness” of Cerro de la Virgen suggests a general set of standardized religious beliefs for the lower Verde that were encoded in ritual deposits. For example, diversity in the contents and positioning of ritual deposits might stem from a shared worldview that local environments afforded affects on the built landscape that were inextricable from a community’s cultural milieu. Hints of standardization can also be found in the valley-wide ubiquity of iconographic serving wares with similar religious themes found in contexts indexing communal feasting (Brzezinski, Barber, and Joyce 2022). The salient themes represented in figurines became quite diverse during the Terminal Formative, but Hepp and Joyce (2013) note some consistencies across the region, including comparable ways of depicting human gender, animals, hybrid beings, and musical instruments. Drawing attention to difference within ritual deposits likely reflects autonomy over the articulation of identities that carries through to the end of the Formative period and the collapse of the Río Viejo polity.

## Conclusions

Studies of non-Western ontologies have tremendous potential to pull the active and vibrant nature of matter and things into research on the archaeology of identities (Harris 2016). To do so, we must reject the mind–matter dualism that designates humans as the sole agents of social processes and change (Fowler 2013; Hamilakis and Jones 2017; Swenson 2018). This perspective provides a richer understanding of how materiality and collective identity are interconnected, which can inform ontological debates about the nature of subjectivity and personhood. Even the distinction between “ritual as material” and “religion as ideational” that pervades archaeological research today is part of a purifying project of the modern West that inevitably breaks down when we apply it to non-Western societies, both past and present (Fowles 2013; A. Joyce 2018; Todd 2016).

Utilizing Indigenous knowledge works against the modernist tendency to situate non-Western societies within Western interpretive frameworks. However, we must acknowledge the ongoing impacts of colonialism on Indigenous communities and prioritize centering Indigenous voices and perspectives in our research. By recognizing the diverse range of identities across time and space in ancient Mesoamerica, archaeologists may challenge the tendency to universalize ontological claims. In this article, I proposed a more localized and contingent framework predicated on ethnographic, ethnohistoric, and archaeological research, as well as principles of semiosis developed by Charles Peirce. I argued that public buildings and communal spaces in coastal Oaxaca gathered people, objects, and places that were imbued with the same vital forces that animated the cosmos. Local histories and the unique materialities of nearby landscapes were deeply embedded in the construction of monuments, the caching of objects, the interment of human bodies, and the commensal acts of feasting and drinking at the end of the Formative period.

Deconstructing the chains of interpretants that draw meaning from object caching allows us to articulate the roles that humans and other-than-humans play in the construction of identity. At Cerro de la Virgen, ceramic vessels and stone slabs were the primary means by which people transferred vitality to animate, sustain, and terminate public architecture. The spatial and semiotic patterning of object caches at Cerro de la Virgen differs markedly from other sites in the region, suggesting that religious practices related to the animacy of other-than-human things were crucial in the construction of collective identities throughout the region.

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