8
Constructing the Underworld:
The Built Environment in Ancient Mesoamerican Caves

Holley Moyes

Architectural analysis is a major line of inquiry in Mesoamerican archaeology that has given rise to a number of publications regarding the cosmological meanings, analyses of performance space, and socio/political functions of the built environment (e.g. see Houston 1998; Inomata and Houston 2001a, 2001b; Kowalski 1999). Despite the importance of these studies to understanding ancient cultures there have been no contributions to this dialogue based on cave research, and no systematic study of architectural modifications in the cave environment. Although we have been aware of the presence of such features for at least 100 years (Mercer 1975), architecture is one of the most poorly understood areas of cave inquiry. Stone (1995:16-18), for instance, equates caves with the Maya concept of K’aa’x (wilderness), which appears to ignore the presence of architectural modifications completely. This notion of caves as wilderness has not been widely accepted by archaeologists working in caves who encounter architectural features that “create ritual order and cultural space” (Peterson 2006:125). James Brady and his colleagues (1997:359-60) suggest that modifications are substantial enough to consider that caves are “built environments” but they do not provide extensive substantial data to support the assertion.

Architecture is described in many cave reports but is seldom included as a unit of analysis (for exception see Brady 1989; Rissoolo 2005). What is striking about this omission is the large number of architectural modifications reported in caves. In a 2005 survey of 53 cave sites throughout Belize, the Belize Speleothem Project noted that over half the caves visited contained some form of architecture (Moyes et al. 2006). Of the caves surveyed during the Minanha Ha Project in western Belize, seven of the 12 caves visited contained architecture (Moyes and Awe 2010). The largest site, Actun Isabella was extensively modified with terraces, walls, platforms and blockages. In his survey of the Ek Xuk valley caves in southern Belize, Keith Prufer (2002) noted that eight of 25 caves contained some form of formal architecture and in the Muklebal Tzul valley, there were constructions in 10 of the 24 cave sites. Dominique Rissoolo (2001:365) observed that formal ceremonial architecture was not uncommon in Maya caves in Yucatan. He discovered a pyramidal structure within Actun Toh, and also noted that formal architecture was often associated with intermittent pools or other water sources.

Because caves were and are established ritual venues, investigation of architecture found within cave sites represents one of the most fruitful avenues of study for those who seek to understand ritual performance in the Mesoamerican archaeological record. Architectural features appear to function in a variety of ways. For example some features structure ritual performance by separating the performers from the observers or enhance sight lines. Others channel movement, create focal points (Kenward 2005:256), force changes in body posture, or occlude views. Borrowing a metaphor from de Certeau (1984), as one moves through the cave modifications appear to create a “spatial story” that forms a narrative of time and space. This narrative between architecture and performance has been studied in surface architecture that lends itself to ritual drama. For instance, based on building layouts and architectural details, David Freidel and Charles Suhler (1999) argued that two structures at Yaxuná were built for specific performances involving the actor’s descent into the underworld. David Webster (1998:27) argued that ancient Maya building reconstruction was done partly to improve them as stages for public dramas. He noted that the three modifications made to the Temple of the Inscriptions at Palenque reflected changes in actual performances at the site. In his recent article on the archaeology of performance, Takeshi Inomata (2006:807-811) stressed the role of ritual and festivals in the establishment of kingship and argued that these large-scale performances were inherently political. He believes that they were likely to be held in large plazas but specifically not in caves, stating that “. . . elaborate headresses and backracks and heavy jade ornaments shown on stelae, however, appear extremely cumbersome for entering caves, which often requires climbing down cliffs and crawling through narrow, muddy passages.” Clearly Inomata was not aware of caves with massive entrances that contained monumental architecture suitable for public spectacle.

For example the entrance to Naj Tunich Cave in Guatemala reported by James Brady in his 1989 dissertation, is a vast space that is architecturally modified. At the entrance is a large pile of breakdown (collapsed boulders from the ceiling) fitted with walls and terraces. The top of the breakdown is a leveled platform that is the most intensely utilized area of the cave, which looks out onto the entrance hall (Brady and
The sheer size of the entrance and its accompanying modifications lead Brady to be the first to discuss caves in terms of public and private spaces. Naj Tunich is not anomalous in this regard. Another cave containing a large performance space is Actun Chapat located in the Macal Valley in western Belize. Entrance II of the cave is a cathedral-like space located at the base of a sinkhole (Ferguson 2000). It forms a large flat area surrounded by 15 constructions including walls, at least 11 rising terraces, and stairways. It is difficult to imagine that these constructions were designed for anything other than performances with large numbers of participants.

Perhaps the best example of public performance space in caves is found at the site of Las Cuevas in western Belize. This medium-sized center was originally reported by Adrian Digby in 1958 and is currently being investigated by the Las Cuevas Archaeological Reconnaissance (LCAR) under my direction. Here, a large cave system runs beneath the surface site core. The massive cave Entrance Chamber is almost completely constructed or modified with platforms, stairs, and terraces, creating a performance space equivalent or larger in size than many outdoor plazas (Moyes et al. 2012a; Figure 1). The area of the chamber dwarfs Plaza A of the surface site that sits above it. Plaza A measures only 45 m x 45 m whereas the cave Entrance Chamber measures 106 m x 41 m. The area of Plaza B is comparable to the cave entrance measuring 45 m x 101 m. Compare this with the plaza in front of the massive structure of Caana at Caracol, which measures approximately 50 m x 50 m. Additionally, the cave is accessed via a collapsed sinkhole that forms an amphitheatre-like space in front of the entrance measuring 73 m x 90 m, greatly increasing the area that may have been used as public space. The south side of the sinkhole is lined with linear structures described by Adrian Digby (1958: 274) as “viewing stands,” and terraces descend toward the cave mouth.

Actun Isabella located near the site of Minanha in western Belize is topographically similar. It sits at the base of a hill and the entrance is surrounded by natural ridges that form a plaza-like area in front of the cave (Moyes and Awe 2010:145-146). The cave mouth measures 50 m in width and three large terraces span the east side of the entrance descending to the cave floor. These data suggest that cave entrances as well as the areas in front of caves provide access for large numbers of ritual participants. As performance spaces, they are inherently sacred contexts with ideological associations to cosmological models whose symbolic meanings serve to sanctify the rites and ceremonies occurring within those precincts.

While large public spaces located at cave entrances are typically architecturally modified, cave interiors are also fitted with constructions. Taking a functional viewpoint, one could argue that cave architecture such as walls and partitions served to constrain or restrict space. James Brady...
(1989:402-406) suggested that partitioning of space in caves may have served to create dark zone spaces or to differentiate public from private ritual. This public/private interpretation mirrors studies of palace architecture, which demonstrates that over time, an ever increasing number of walls, doors, and passages created progressively restricted access specifically designed to separate elites from commoners (Awe 1992; Awe, Campbell, and Conlon 1991; Houston 1998:522-523; Pendergast 1992:62-63).

Accessibility also has implications concerning the opening and closing of cave entrances. Excavations at Chechem Ha Cave demonstrated that limestone boulders were used to constrict the cave mouth, and that the entrance was closed off and reopened on several occasions (Moyes 2006; Figure 2a). This was of interest because the opening and closing of the cave was correlated with regional social unrest and environmental stressors. Blocking of cave entrances is in fact quite common. Most caves that have entrances small enough to be easily blocked off, are. For instance, Actun Luubul located within the Minanha site core is entered via a 10 m descent to the base of a sinkhole. The entrance to Chamber 1 was blocked by dry laid boulders and had a small opening measuring 0.55 m in width with a height of 0.5 m. The entrance was closed with loose rock after its last usage until locals recently broke into the cave (Figure 2b). The entrance to Moth Cave, also located in this area, was similarly blocked with a pile of medium to large boulders, and had been opened by looters (Figure 2c). The restricted opening measured 1.7 m in width with a ceiling height of 0.5 m. It is unclear as to whether a formal opening was constructed.

Constructions that are somewhat more formal at cave entrances are also instructive. The site of Numyaj Naj (House of Pain), located in western Belize near the site of Minanha (Moyes and Awe 2010:152-153) is accessed via a very tight natural squeeze. Marking the entrance on the interior side of the squeeze is a roughly constructed wall of dry-laid boulders. Side walls clearly delineate the 0.50 m constructed entryway in the wall, which was blocked after its last usage and later reopened by looters (Figure 3a). At Blue Creek in northern Belize, Alvin’s Cave is entered via an 8 m drop into a sinkhole, similar to Actun Luubul (Figure 3b). A well-constructed wall of dry laid boulders extends over the 10 m wide and 2 m high entrance, but falls 0.75 m short of the ceiling. A small constructed entryway is found on the eastern side of the cave beneath an overhang forming an alcove. The 0.5 m x 0.5 m entry construction forces one to crawl into the cave. One of the best examples of wall construction is at Cormorant Cave located in western Belize equidistant between the sites of Guacamayo and Pacbitun. Like Actun Luubul and Alvin’s Cave, it is entered via a sinkhole that drops 5 m into an entrance chamber. A beautifully constructed wall held together with mud mortar completely fills the 2.6 m x 2 m entrance to the tunnel system. At 1.25 m above the floor a crawl space 1 m in width and 0.75 m in height forms a constructed entrance. Stone steps descend into the cave on the interior of the wall (Figure 3c). After its last use, the entrance was closed off with loose limestone boulders, which

Figure 2. (a) Constricted entrance to Chechem Ha Cave was closed with limestone boulders and reopened by the landowners who placed the gate, (b) Actun Luubul entrance was blocked with loose rock after its last usage until it was reopened by locals, (c) Moth Cave viewed from interior. Entrance was blocked from the inside (Photos by author).
looters pulled out of the entryway and discarded in front of the wall. All of these blocked entrances occlude some but not all light from the cave’s interior regions. However, their primary function appears to be to restrict entrances so that only one person may enter at a time, forcing the person to enter the cave on their hands and knees. What is the cultural logic underpinning this practice?

To address this question I suggest that we think of cave modifications not solely in terms of function, but that we consider their role in structuring cave space as predicated on understandings of mythological constructs and cosmological ideals as has been proposed in analyses of surface architecture. Wendy Ashmore (1991) has long argued that the twin pyramid complexes at Tikal reference the quincuncial model of the universe, creating spatial order, and encoding directional meanings. Architecture and its accompanying sculptural elements may also form the backdrop for royal rites that place kings at the center of the cosmos, a construct exemplified at Temple 22 of Copan (Freidel et al. 1993:149; von Schwerin 2011) with its flowery mountain, emerging maize deities, and bird deities that reference the world at the dawn of creation as related in the *Popol Vuh*.

In this paper I examine how cave architecture is used to structure cave space by considering Maya conceptualizations of mythic space, and argue that these concepts would have constituted a phenomenological reality for the ancient users. I also contend, following Henri Lefebvre (Zieleniec 2007:61), that space is not neutral but is socially produced by ideological, economic, and political forces that seek to regulate and control it. This perspective allows us begin to understand caves as “spaces of representation,” constituted by the interplay of social relations, activities, and movement (Lefebvre 1991:39). Therefore, I argue that in ancient Maya caves human use is predicated on cosmological associations at the heart of the social production of space.

In order to understand how architecture is used within a cultural context, I discuss cosmological models conceptualized by Maya people as reported in ethnohistoric and ethnographic studies. These models help us to create expectations of how cave space may be constructed to mirror these ideals. Using the example of the spatial structure of the cave at Las Cuevas, my analysis then moves beyond the “public” vs. “private” heuristic to demonstrate that cave architecture materializes cosmology (see Demarrais 1996) and creates narratives predicated on mythological concepts. These narratives create a framework that guides participants in their journeys through the Maya underworld.

**Caves as Underworld Entrances**

Both the Maya and the Aztecs envisioned the vertical axis of the cosmos as consisting of the sky, the middle world or earth, and the underworld. Research on ancient Mesoamerican sacred landscapes has highlighted the importance of the sacred earth in Prehispanic religions (Brady and Ashmore 1999; Brady and Prufer 2005; Moyes and Brady 2005; Stuart 1997; Vogt and Stuart 2005). Years ago, Barbara MacLeod and Dennis Puleston (1978) were the first

![Figure 3](image-url)
to argue that caves were entrances to the underworld based on ethnographic accounts reported by J. Eric Thomson and the ethnohistoric *Popol Vuh* story, a concept that deserves to be examined and readdressed. Following MacLeod and Puleston, I argue that as literal geographic entrances into the earth, caves are one of the most salient features of the sacred landscape because they reify the cosmology of this three-tiered universe representing a conduit between the middle world of humans and the underworld.

In the following discussion I grapple with the question, are caves considered part of the earthly or underworld domain or both in Maya cultural logic? In Maya cosmologies, the earth itself, its mountains, trees, and stones are considered sacred and animate. While earth is represented in many landscape features, one of the most powerful symbols is the mountain with a cave. Ethnographically caves are considered to be the domain of supernaturals commonly referred to as “Earth Lords,” that oversee rainmaking and agricultural fertility (Gossen 1974:21; Holland 1962:126-129; Vogt 1976:16; Scott 2009; also see for discussion Brady and Prufer 2005:366-367; Moyes and Brady 2005:332-33). Earth Lords may also be found in sources of water and on high mountains (see Holland 1962:127). Among the Q’eqchi’ of Alta Verapaz the in-dwelling Earth spirits or *Tzulaq’as* (meaning literally “mountain valley”) are propitiated deep within caves, which are thought to be the house of the deity (Wilson 1990:69, 98).

Many of these Earth Lords are responsible for producing rain. For example, at Zinacantan in Chiapas, the Earth Lord is associated with specific openings into the earth such as caves, sinkholes, or waterholes (Vogt 1976:16-17). This being lives underground and is conceptualized as a fat ladino that possesses great wealth. He controls lightning and clouds that emerge from caves to produce rain for crops. These ethnographic examples help explain why Chac, the Maya rain deity, is depicted as sitting in a cave entrance in Late Classic period iconography (Figure 4). Such constructs based on modern Maya thought have lead James Brady and Keith Prufer (2005:5) as well as Ann Scott 2009 to separate the “earth” from the “underworld” and to attribute cave use to the earthly realm. But, as Scott (2009: 190) acknowledges, these observations are based on ethnographic survivals of a rural Maya peasant religious tradition and there is apt to be considerable disjuncture, as I have argued elsewhere (Moyes 2006:45-84), particularly in the elite ritual use of caves of the Classic period.

Despite the emphasis on earth-based deities in modern Maya ritual, underworld associations are still prevalent in modern cosmological models. It is likely that ancient Maya cave use was more strongly associated with the underworld due to links between the ancient creation myth and ritual that are not likely to be played out in exactly the same way modern Maya contexts. Many survivals of the ancient myth exist today, but they are often fragments of the story or alternative forms (See for example Sexton 1999:65-84). Also, according to David Stuart (See Vogt and Stuart 2005:157-159), Classic period glyphic associations for ancient Maya caves contain elements such as the skull, bone, mandible or detached eye within a half darkened field, suggest death and underworld affiliations. Stuart adds that these motifs are also associated with bat wings in Maya iconography, further establishing a cave/death/underworld ideological nexus.

The traditional underworld was considered a fearsome and dreaded place named *Mictlan* by the Aztec, and *Xibalba* or “place of fright” by the K’iche’ Maya (Miller and Taube 1997:177). It was a place through which all souls, save those killed violently (for example victims of warfare), must journey after death. According to the *Popol Vuh*, it was inhabited by the Lords of the Underworld, denizens of death, disease, and violence that preyed on human frailty. In the myth, the Hero Twins traveled deep into the underworld to encounter the evil lords, navigating the rivers and trails that lead to the lowest levels.

Also of note is that the evil lords were not the only underworld inhabitants. In both the *Popol Vuh* story and in modern ethnography (Gossen 1974:21), we find that the underworld is populated with human-like inhabitants, mirroring the middle world or earth. Aside from these denizens, the beneficent Maize deity also abides in the nether regions of the underworld. According to the *Popol Vuh*, Hun Hunahpu, the father of the Hero Twins was transformed into the Maize God, and was left in the underworld to dwell and receive offerings, cyclically emerging into the middle

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**Figure 4.** Illustration from a painted Late Classic vase depicting Chac, the rain god sitting in his cave/house (After Stone 1995: fig. 3-1, adapted from Coe 1978:78, no.11).
world as the maize plant each growing season (Christenson 2003:190-191).

In Pre-Columbian examples, Aztec models of how the underworld was conceptualized are the most explicit. According to Miller and Taube (1993:177), at the time of the conquest, most Central Mexican people conceived of the sky as having 13 levels, and the underworld consisting of nine. The most detailed pictographic description of the underworld is in the Codex Vaticanus A in which the first layer is part of the inhabitable earth. One then descends into the passage of waters, followed by the entrance to mountains, hill of obsidian knives, place of frozen winds, place where the flags tremble, place where people are flayed, place where the hearts of people are devoured, and finally to the ninth layer, referred to as *Mictlan Opochcalocan*, where the dead lie in eternal darkness (Aguilar-Moreno 2007:139; See also Berdan 2005:130). As Miller and Taube note (1993:177), these layers are reminiscent of the torture “houses” that the Hero Twins must endure in the Maya *Popol Vuh* story.

Maya ethnographic data also suggest that both the sky and underworld are made up of layers, though the number of levels varies. J. Eric Thompson (1970:195) reports that the sky is conceptualized as having 13 layers consisting of six ascending from the eastern horizon with the seventh as the zenith of the sky, with another six descending to the western horizon. The underworld is composed of four steps descending down the western horizon to the nadir of the fifth level, and another four steps ascend to the eastern horizon. William Holland (1962:94-96), working among the Tzotzil of Larrainzar, also reports that cosmological models illustrate the sky as having 13 levels and the underworld as having nine. Humans live in the bottom two levels of the sky and earth deities are located within the sky’s lowest level. The ninth level of the underworld constitutes *Olontik* or the “Land of the Dead.” There is a deity associated with each level, and the underworld gods are considered to be malevolent, bringing evil and death to humans. These deities roam the earth at night and reenter the underworld through caves at daybreak where they are thought to make their homes. Earth deities are more easily controlled than Sky or Underworld denizens, but underworld beings must be constantly solicited for protection against the evil forces they control (Ibid. 126-133).

This differs from Gary Gossen’s (1974:21) account of the Tzotzil of Chamula who envision the sky as having three concentric layers and the underworld as a single layer supported by Miguel, the Earth Bearer. In Gossen’s model, caves are considered part of the earth, though they are associated with water, dampness, darkness, and lowness, suggesting that they are in fact transitional zones between the middle world and the underworld. William Hanks (1990:304) reports that his Yukatek informant envisioned the vertical cosmos as a “bubble in which the earth is a horizontal plane located midway between the zenith and the nadir.” In this model, the earth sits atop a body of water that contains underground rivers. Below this is a layer of fire constituting the underworld or *Metnal* “hell.” The sky is envisioned as having seven cloud layers, but people inhabit an area “inside above Earth,” which includes the surface of the earth and the area below the cloud layers. Jaguars and other Earth Guardians live here as well. Although Hanks never explicitly mentions caves, following his informant’s cultural logic, anything beneath the earth’s surface would be below “inside above Earth,” particularly if it contained water or an underground river, placing it in a liminal area. Perhaps also telling is John Sosa’s (1985:424) account of the Yukatek Maya of Yalcobá. He comments that “the subterranean level of the cosmos is not really completely distinct from the earth, but is conceived to be within it.”

Other ethnographic accounts relate caves more specifically to the underworld. In his work in Momostenango in highland

![Figure 5](https://example.com/figure5.png) Map showing location of Las Cuevas site (Courtesy of LCAR).
Guatemala, Garret Cook (2000:164) reports that caves represent the entrance to the underworld and are inhabited by the human dead and liminal beings from other world orders or past creations. Working in the same area, Barbara Tedlock found that the underworld is “an evil location that is entered by human beings at death, through a cave, or the standing waters of a lake or ocean” (1992:173). Allen Christenson (2008:108) also working in highland Guatemala argues that caves are conceptualized as portals to the “other world,” which is the domain of ancestors, saints and deities.

Admittedly, there is a great deal of variation among modern Maya cosmological models, but a few conclusions drawn from this discussion help us to understand how space may have been used and conceptualized by the ancient Maya. First, the vertical cosmos is consistently conceptualized as having levels, so it is likely that there is some separation between the earth and the underworld, though this is not defined well in modern models or in the Popol Vuh. The number of levels appears to have considerable variation in modern thought, but in Pre-Columbian texts and in some ethnographic instances there are 13 levels of the sky and nine levels of the underworld. The lowest parts of the earth level appear to be transitional areas. The lowest level of earth may also be thought of as the first level of the underworld.

As noted in Larrainzar, both earth and underworld deities live in caves. Earth deities appear to be associated with the more superficial areas, whereas underworld denizens would be expected to reside primarily in lower levels. The Q’eqchi’ Tzultlat’as that is propitiated deep within caves is an exception to this. In examples from highland Guatemala, caves appear to be considered conduits to the underworld or what Christenson refers to as the “other” world.

In terms of the archaeological record, what expectations might we derive? How might these conceptions be materialized in terms of the experience of the ancient Maya cave users? We might expect that cosmological levels were demarcated, but is there evidence for this? The cave site at Las Cuevas is instructive in understanding how underworld space was constructed.

**The Cave at Las Cuevas**

Arguably, the most heavily modified cave site in all of the Maya area is the site of Las Cuevas in the Chiquibul Forest Reserve in western Belize (Figure 5). The cave lies beneath a medium-sized minor administrative/ceremonial center whose nearest neighbor is the mammoth site of Caracol, located approximately 14 km to the east as the crow flies. The Las Cuevas surface site consists of 24 buildings including temples, range structures, a ballcourt, and linear structures surrounding the edge of a dry sinkhole measuring 73 m on its east/west axis and 90 m on its north/south axis, with a maximum depth of 1.5 m (See Figure 1). The southeast-facing cave mouth is accessed via the sinkhole and lies directly below the eastern structure (Str. 1) in Plaza A, and the tunnel system extends beneath the site. While it is not unusual for Maya sites to be associated with caves, we rarely see such a direct connection or such an extensive tunnel system beneath a site core (Moyes and Brady 2012).

The massive entrance, measuring 28 m width, opens into a cathedral-like chamber measuring 108 m in length, 40 m in width, and 17 m in height. The Entrance Chamber is heavily modified with monumental architectural constructions including terraces, retaining walls, stairs and platforms that are topped with layers of thick plaster (Moyes et al. 2012a). A cenote containing a natural spring lies at the center of chamber. The cenote is lined with cut stone block retaining walls, and five stairways descend to the spring at its base. The LCAR noted a total of 58 separate platforms connected by stairways in the Entrance Chamber, suggesting that the cave was used for large and well-organized ceremonies and that could be viewed by many observers and supported a large number of participants.

Cave excavations conducted in the 2011 field season suggest that, based on ceramic cross-dating, the cave architecture was erected in the late part of the late Classic period between A.D. 700-900. The ceramic types found at the site are typical of the Petén, Belize Valley and points south, suggesting they are being imported from afar (Kosakowsky and Moyes 2012). This, coupled with the extensive modifications to the cave, suggests that the site served as a ritual pilgrimage center. This conclusion is also supported by initial settlement surveys that located few residential structures in close proximity to the site (Moyes et al. 2012b).

The cave’s Entrance Chamber is the most heavily modified area, likely constructed to accommodate large public spectacle (Figure 6). It is divided into an east and west area separated by an archway, which from some angles resembles the representations of the maw of the Earth Monster in Maya iconography. As one proceeds west the light zone fades to twilight, which fades further into darkness at the westernmost wall of the chamber. The platforms and stairs on the east side surrounding the cenote ascend to the cave walls creating an amphitheatre-like space. More platforms and stairways in the rear of the entrance abut terraces leading up to the entrance to the tunnel system.

The tunnel system entrance lies at the back of the chamber on the westernmost wall, which forms a natural constriction. A wall (Wall 1) constructed from small to medium-sized limestone boulders spans the 6.2 m wide constriction blocking it totally (Figure 7). A formal entrance or “doorway” measuring 0.75 m in width and 1.1 m in height, forces one to bow or duck when entering Chamber 1. Loose limestone boulders strewn on the exterior of the wall suggest that the entrance was blocked off completely at some point in the past.

The main tunnel system, measuring 335 m in overall length, is comprised of rooms and passages that circle around on themselves and terminate in a window 8 m above the floor on the west wall of the Entrance Chamber (Figure 8). The window looks out onto the eastern end of the Entrance Chamber with a view to the cave mouth and cenote, as well as the platforms and terraces on the north side of the cave (Figure 9). The acoustics are quite impressive from the window and even a soft voice may be heard all the way to the north wall of the chamber. On the floor of the window there is a great...
Figure 6. Map of the Las Cuevas Entrance Chamber (Courtesy of LCAR).
Figure 7. Wall 1 blocks the entrance to the tunnel system. A constructed doorway restricts access (Photo by author).

Figure 8 (below). Map of Las Cuevas tunnel system showing locations of constructions (Courtesy of LCAR).

The Cave at Las Cuevas

Legend
- Cave Wall
- Architecture
- Cenote
- Bedrock

Cave Survey: Holley Moyes, Justine Issavi, Nicholas Bourgeois, Erin Ray, Pedro Carvajal
Digitized by: Justine Issavi
deal of charcoal but only a handful of potsherds, suggesting that performative activities occurred there as opposed to the deposition of offerings. One can imagine a grand oration being presented from this high vantage point.

Pertinent to this study is the architectural elaboration of the tunnel system. Aside the wall blocking the tunnel’s entrance, as one moves through system one encounters three blockages, two additional walls, and a natural morphological restriction. The first blockage is between Chambers 3 and 4. Blockage 1 is constructed with small to medium-sized limestone boulders and speleothems. It further restricts a small 3.3 m wide opening with a 0.7 m ceiling height forcing one to crawl through a squeeze into Chamber 4 (Figure 10a). Upright flat stones and a fallen stalactite form an entryway on the northwest side of the entrance. The blockage was completely closed at one time as evidenced by loose boulders and speleothems lying on the floor next to the interior of the wall suggesting that they were pushed outward. Another crude blockage, Blockage 2, occurs as one exits Chamber 4 and enters Chamber 5. Here, there is a 2.5 m wide natural constriction with a ceiling height of 1 m, plugged by piled up limestone boulders to further restrict the entrance (Figure 10b). Rock has been pulled out of the blockage and lies on the floor in front of the entrance.

A natural constriction occurs as one exits Chamber 5 (See Figure 8). A long narrow tunnel measuring 23 m in length and 1-2.3 m in width must be traversed in order to enter Chamber 6. The ceiling height is high enough to allow one to walk through the tunnel. The space is entered via a window 2 m above floor. Small boulders were placed on the floor below the window to assist with access at some point in the past, so this may be a modern feature. Though it is possible that the boulders once sat in the window, there is no real evidence for it.

The next construction as one moves though the system is between Chambers 6 and 7. Wall 2 was constructed in the 5 m wide natural constriction and reaches from floor to ceiling, measuring 1.5 m at its highest point (Figure 10c). It is 0.5-0.6 m thick, and on the north side there is a constructed doorway measuring 0.5 m in width and 0.8 m in height. The wall is constructed of small to medium limestone boulders and speleothems. It is nicely laid and held in place by mud mortar. The mud contains large amounts of charcoal suggesting that it was collected from the cave floor.

Figure 9. View from the window at the termination of the tunnel system looking down onto the Las Cuevas Entrance Chamber (photo courtesy of LCAR).

Figure 10 (facing page). (a) Blockage 1 separates Chambers 3 and 4, (b) Blockage 2 entrance, (c) Exterior of Wall 2 with constructed "doorway," (d) Wall 3 blocks off the larger natural entrance to Chamber 8, (e) Blockage 3 forces one to crawl into Chamber 8. Justine Issavi pictured. (Photos courtesy of LCAR).
It is loosely packed, so that it is possible to see through the cracks in the rock.

Chamber 7 contains two constructions. At the back of the chamber there is a natural 4.4 m opening into Chamber 8 along the west wall. This was completely blocked off from floor to ceiling at one time by Wall 3 (Figure 10d). The wall is constructed of well-laid small to medium-sized limestone boulders and is 2.5 m in thickness. Looters have collapsed the rock to allow entry to Chamber 8 and loose rock lies on the floor on either side of the blockage. I suspect that this entrance was blocked to force ritual participants to enter Chamber 8 via a small constructed crawl space, Blockage 3, beneath a drop in the ceiling on the north side of Chamber 7 (Figure 10e). This constriction is 1.1 m in width, with a very low ceiling height of 0.7 m. The 2.5 m crawl has a both constructed entryway and exit fashioned with upright flat stones that constrict the entrance to 0.5 m in width.

Chamber 8 terminates with a sheer drop off from the window looking onto the Entrance Chamber. The window measures 5.5 m across and has a ceiling height of 3.15 m. Although the cave has been heavily looted, judging from the number of potsherds observed throughout the tunnel system, there is a decrease in activity or at least the number of offerings as one moves through the tunnel. The floors of Chambers 2 and 3 were covered by carpets of sherds easily numbering in the tens of thousands, whereas there are few artifacts in Chamber 4. Chamber 5 contained some partial vessels, a few sherd scatters, two obsidian blades, some fragments of a child’s skull and animal bone, but little else. Chamber 6 contained a few single jute shells strewn in the pathways, very few potsherds, and a great deal of charcoal. Beyond Wall 2 there are but a hand full of sherds and large scatters of charcoal, particularly at the end of the tunnel adjacent to the window. The pattern of artifact deposition and

Figure 11. (a) James Brady stands in front of wall that does not extend to ceiling in twilight area of Las Pinturas cave near Flores in Guatemala (Photo by author), (b) Holley Moyes stands in front of wall that does not extend to ceiling in twilight area at Bird Tower Cave located near Las Cuevas (Photo courtesy of LCAR), (c) Christophe Helmke stands in front of wall that does not extend to ceiling in twilight area of Actun Chapat (Photo by Author), (d) Wall at entrance to Skull Cave (Actun Tsek’) in the Macal Valley, Belize near the site of Minanha.
low density of artifacts suggests that relatively few people were advancing into the tunnel system as it wound its way through the cave.

Discussion

When we examine the tunnel constructions at Las Cuevas holistically, they help us to understand the principles and cultural logic underlying the structure of the space. By considering the placement of the blockages, it becomes apparent that their function and meaning go beyond the public/private dichotomy. Having said this, it is clear that the cave entrance serves as a performance space while the tunnel system appears to be reserved for the few who have the spiritual power to encounter the dangers within, and the pure heart so that they may offer a sacrifice. Similar to constructions blocking entrances at other cave sites, the walls and blockages at Las Cuevas restrict access and force changes in body posture. I would argue that it is unlikely that walls in caves serve to either create dark zones or block visual access. Most walls in caves in general are constructed of dry laid boulders, and even when mud mortar is applied, the porous structure allows light to penetrate so that one can simply peek through the rock into the adjacent area or chamber. Additionally many cave walls, even those of considerable thickness located in twilight areas near cave entrances do not extend to the cave’s ceiling (Figure 11), so it is unlikely that their purpose was to create dark zones.

Rather, based on cosmological ideals, I propose that restrictions commonly present at the entrance to tunnel systems or those that separate the entrance of the cave from deeper areas, are marking the separation of earth from underworld. In the case of Las Cuevas, Wall 1 would serve this function. At Las Cuevas, the interior blockages delineate underworld levels as one moved deeper into the cave. The tunnel at Las Cuevas delineates a journey through the underworld that eventually emerges back into the twilight area of the cave’s entrance. This spatial organization is reminiscent of the underworld descent and reemergence of Hun Hunahpu of the Popol Vuh story, who is sacrificed and resurrected as the Maize God, returning to the earth as the maize plant as pictured on Classic period vases (See Christenson 2007: 190-191). This is replicated by his son Hunahpu, who is sacrificed and resurrected as the Sun deity. The element of sacrifice is suggested at Las Cuevas by obsidian blades found in the tunnels and body parts of at least one child, suggesting that blood sacrifice may have been part of that journey.

The mythological themes of the journey, sacrifice and reemergence are at the heart of Maya religious tradition, so it is hardly surprising that they are played out in caves—the “center” or midpoint of the journey, and finishes by giving offerings at the cave of the Dawning Place high on a mountain “at the edge of the spiritual universe.” Here, the cave referred to as the “Window of the World,” is entered via small chamber that leads to a small squeeze described by Earle as “not unlike a ritual birthing canal,” which opens into a small room. The room contains a deep fissure into the earth that produces wind. This is where offering are made before the initiate emerges from the cave and waits on the mountain top for the sun to rise. One can hardly imagine a better analogy to describe the journey through the tunnels at Las Cuevas where one enters the dark tunnels through a narrow constriction, moves through the underworld and squeezes into deep passages giving offerings and making sacrifices along the way, finally emerging back into the light high above the cenote at the cave’s entrance.

Conclusion

Architecture in caves has received little attention from Mayanists, so it is not well-known that they were constructed environments nor that many contain monumental architecture. Some, such as the cave at Las Cuevas, were likely to have functioned, at least partially, as public performance spaces similar to plazas in surface contexts, but with the added ideological salience of their associations with the natural landscape. Cave tunnel systems provided more restricted access and it is likely that these spaces were reserved for those with special agency such as the elite, the spiritually powerful (such as priests or shamans), or their initiates.

Using Las Cuevas as an example, I have suggested here that constructions within caves accomplished more than the partitioning space or separating public from private domains. Cave constructions recreated cosmic space, reified cosmological principles, and enhanced the embodied experience for the ancient users. Architectural constructions in the tunnel system of Las Cuevas structured a narrative for participants as they moved through the space. These elaborations not only separated the earth from the underworld, but also defined levels of descent as participants moved deeper into the cave. By taking human experience and embodiment into account, architecture is envisioned not as static piles of rock that partition space, but as dynamic constructions that created, directed, and structured the ancient journey through the underworld.

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