

CONSTRUCTED LANDSCAPES - EXPLORING THE MEANING AND SIGNIFICANCE OF RECENT DISCOVERIES OF ARTIFICIAL CAVES -

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Archaeologists in the Maya area have traditionally shown great interest in public architecture, if for no other reason, than that it represents a major, easily recognizable activity area. As archaeology began focusing on ideology and beliefs, public architecture was once again scrutinized as researchers attempted to read symbols and meaning encoded in the form and layout of the built environment (Ashmore 1991). Recent interest in sacred landscapes has tended to stress the interpretation of architecture within the context of landscape. Advances in hieroglyphic decipherment have also helped to erode the dichotomy between cultural as opposed to natural space. Stuart's reading of the *kawak* monster as *witz* or 'hill' (Stuart 1987) appears to verify Vogt's suggestion that pyramids represented sacred mountains (Vogt 1964). Stuart and Houston remark that, "(...) the idiom for referring to human construction is often a metaphor for 'hill'. The geography of the Classic Maya apparently involved a conceit in which there existed substantial overlap between natural and artificial categories" (Stuart & Houston 1994: 86). The recognition of the close relationship between pyramid and mountain enhances our appreciation of the importance of landscape features for the ancient Maya. Nor is this a peculiarity of Maya ideology; the Nahuatl term for community, *altepetl*, literally means 'water filled mountain' (Broda 1996: 460). Thus, features of place form the point of reference for architecture and even identity.

Along with mountains, ethnographic accounts generally mention caves as being the other landscape feature of central importance in Maya ideology (e.g. Vogt 1981). David Stuart's reading of the 'impinged bone' glyph, one of the most common glyphs in Maya inscriptions, as *ch'en* or 'cave' suggests that there is a second natural feature that resonates strongly in ancient Maya cosmology. It is not surprising, but also not well recognized, that, just as with mountains, caves have their artificial or architectural forms.

ARTIFICIAL CAVES IN THE ARCHAEOLOGICAL LITERATURE

Reports of artificial caves have only appeared in the archaeological literature in the last quarter century. The first case to be mentioned in any detail is Fox's discussion of the principal cave at Utatlan. He says: "Finally, there is a man-made cave in the west cliff side just below the plateau surface, extending for about 90 meters and ending in the vicinity of the civic plaza. Interestingly, the cave is hewn in the shape of a corbelled arch, and has several 'dead end' side passages, each projecting a short distance from the main tunnel" (Fox 1978: 24). Despite its obvious monumental scale and association with the central plaza, the cave was apparently not considered significant enough to map.

Another artificial cave associated with a site's central plaza was discovered by Ichon at La Laguni-

ta. In this case, the cave and its content were reported in detail (Ichon & Viel 1984, Ichon & Arnauld 1985) and Ichon proposed that the feature represented the cave of origin for La Lagunita's inhabitants.

In a series of articles published in the early 1990s, I presented data on artificial caves at Esquipulas and the sites of Mixco Viejo and Utatlan (Brady 1990, 1991, Brady & Veni 1992). The re-study of Utatlan, contained maps of the two extant caves at the site and a note about a third that had collapsed during the 1976 earthquake. I concluded that artificial caves should be recognized as an actual architectural form and part of a larger pattern of cave construction.

While not Maya, Manzanilla's et al. (1994) re-study of the cave beneath the Pyramid of the Sun at Teotihuacan demonstrating that it was also artificial has made a significant contribution. Here, the structure in question is of such importance in the larger scheme of Mesoamerican archaeology that there should be little question that cave construction was a matter of first importance in ancient times. The documentation of artificial caves in Central Mexico also suggests that we are looking at a pan-Mesoamerican pattern of use.

It should be noted, however, that two more recent publications on artificial tunnels in Central Mexico depart from a ritual model but both have serious problems. Manzanilla et al. (1996: 246) propose that a number of tunnels found just behind the Pyramid of the Sun at Teotihuacan were created through the mining of volcanic scoria for construction material. If this were an economic activity one would expect it to obey economic laws of efficiency. No attempt was made to explain why tunnel mining, as opposed to pit or open-face mining, was used to extract this largely undifferentiated material. On visiting the caves, speleologist Allan Cobb noted that the tunnels subtly undulate so that one quickly enters the dark zone. This is the last thing that one would expect in a purely economic activi-

ty, particularly because it was avoidable. We must assume, therefore, that it was deliberate. Finally, the authors note that "the plazas of these [pyramid] complexes seem to be deliberately located on top of the tunnels" (Manzanilla et al. 1996: 246). This is interpreted as a ritual relationship elsewhere in Mesoamerica. The more fundamental question is why, if these were simply mining tunnels, would one position architecture over an area that has been destabilized through tunneling?

The Xochicalco Mapping Project recorded large numbers of artificial caves of various sizes. The most important is their class of "large caves in public or administrative areas" (Hirth 2000: 112). Only one of these, the Observatorio Cave, is recognized as having a ritual function and the analysis of this feature's multifaceted ritual use is quite good (Hirth 2000: 222-223). While the function of the others is left somewhat open, it is clear that Hirth favors the position that they were storage areas (Hirth 2000: 73, 216, 222). Considering that the caves were constructed in the site's 'upper ceremonial zone' and at tremendous labor cost, this suggestion must be treated with skepticism. In stressing the cave's dry environment, Hirth appears to be unaware that such features generally have high humidity, which makes the storage of perishables impossible (Hirth 2000: 73). Finally in stating that, "except for the observatory, none of the other caves appear to have had ceremonial uses" (Hirth 2000: 216), one is left wondering what type of model of ceremonial behavior is being applied.

ARTIFICIAL CAVES – RECENT DISCOVERIES

Since the publication of my earlier articles, a number of other examples of artificial caves have come to light. Guided by Bancroft's (1875: 128-129) comment that the site of Zaculeu was popularly known as 'Las Cuevas', a reconnaissance was undertaken. The contact period Mam capital is located just outside the modern city of Huehuetenango on a plateau surrounded by barrancas. The

remains of three caves were found approximately a half-kilometer north of the central plaza along the river that runs below the site. Caves 1 and 2 were mostly destroyed when the face of the hill in which they were located was bulldozed to create a level area on which to build a house (fig. 1). Some 100 meters to the west of these caves is a third cave only 8-10 m long (fig. 2).

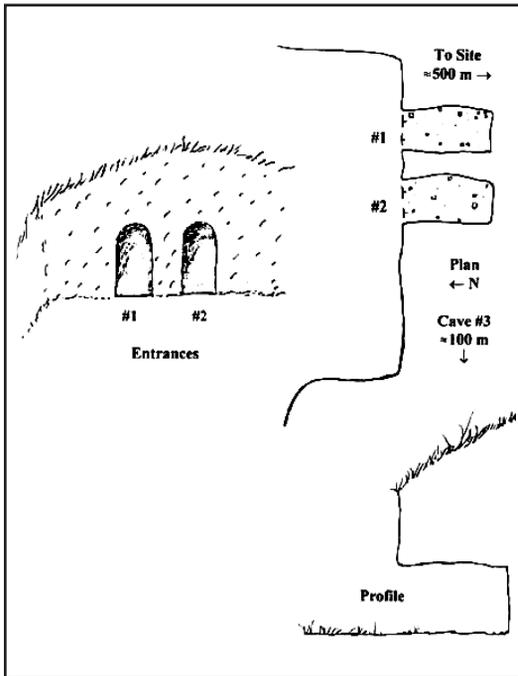


Fig. 1: Plan and Profile views of Zaculeu, Huehuetenango, Caves 1 and 2

Draft: John Fogarty

Although local people have mentioned the presence of caves at the contact period Kaqchikel capital of Iximche, a preliminary search has only been able to locate a single small feature, 3 m deep by 5 m high, called the Cueva de la Campana. A small pseudo-karst tunnel, 35 cm in diameter, in the back of the cave penetrates several meters deeper into the hillside and may have been the feature that was modified to make the cave. The excavation itself was not a major undertaking as the matrix is a

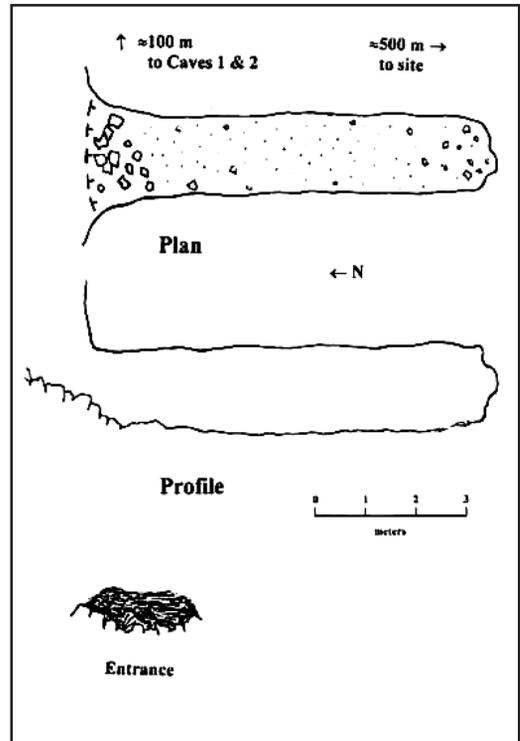


Fig. 2: Plan and Profile views of Zaculeu, Huehuetenango, Cave 3

Draft: John Fogarty

loosely compacted mixture of volcanic ash and pumice. The walls and ceiling show some fire blaking and the guard said that costumbre was still practiced here but was more active in the past. The form of this cave is considerably different than those at Zaculeu and Utatlan so I am reluctant to propose this cave as a focus of ancient site ritual.

To sum up, recent investigations have documented artificial caves at Utatlan, Zaculeu, Mixco Viejo and perhaps Ixmiche. In addition, Termer (1957: 178) mentions that there was an artificial gallery excavated at the foot of one of the mounds at the site of Mixco and was told of another at Chinautla (Viejo?). These data present an interesting pattern in which it appears that artificial caves were a regular component of

the important contact period settlements in the non-karstic area of the Guatemala highlands (fig. 3). In addition, the cave at La Lagunita suggests that the pattern has its origins in at least the Late Preclassic. Thus, the pattern was both widespread and of long duration.

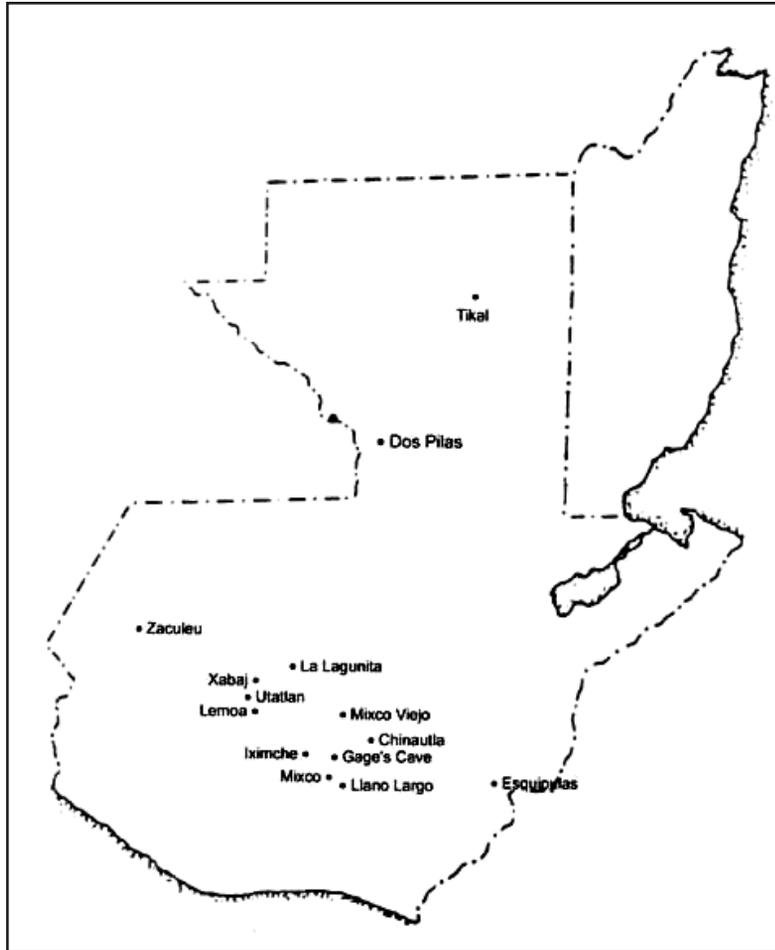


Fig. 3: Map of the Guatemalan Highlands with the location of artificial caves

Draft: James Brady

Another set of artificial caves was discovered at Llano Largo on the outskirts of Guatemala City just off the road to the Atlantic coast. No settlement was seen on the hill where the caves are located but the surface of the hill is covered with obsidi-

an nodules and there is a great deal of debitage indicating that the hill was the site of obsidian collection and preliminary reduction.¹ Two caves were encountered. The first is a single passage approximately 30 m in length that turns sharply at the back of the cave (fig. 4). Today the more interesting

of the caves appears to have two separate tunnels at the entrance. It is apparent from the scar on the hill, however, that the roof of the cave once extended out at least an additional 6-7 meters so that both branches were part of the same cave (fig. 5). The tunnels were excavated along a fault line so that water percolating through the soil drips from the ceiling. A shallow pool has been excavated at the entrance to the cave to catch the run-off. All of our informants agreed that the water drips all year long and an older man stated that residents at the base of the hill uses to draw water from this source. On

1 Materialist archaeologists seem to be enamoured with the idea that any hole in the ground must be a mine. The possibility that the tunnels were excavated to extract obsidian was examined but road cuts along the hill and the cave walls indicate that the obsidian occurs only on the surface while the caves were excavated into a homogeneous, fine-grained white volcanic ash.

both of my visits to the site I found large numbers of frogs and toads in the tunnels which is probably significant given their widespread association with rain in Maya cosmology.

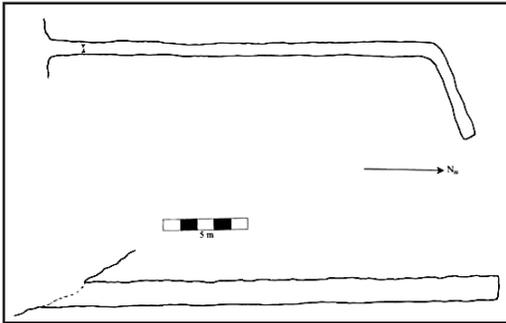


Fig. 4: Plan and Profile views Cave 1 at Llano Largo, Guatemala City, by James Brady and Allan Cobb, 9 April 2001. Draft: Allan Cobb

In 1949, Smith recorded the presence of two small caves associated with a small mound group called Xabaj in the Department of Quiche. Smith (1955: 43) noted that: "Just below the top at the southwest end of the ridge are two small caves, one above the other, that are used by the Indians for worship. The sides and the ceilings are blackened from the smoke of candles and incense. Two of the platforms, Strs. 2 and 3, each had a small modern shrine on top; the third, Str. 1, had six. According to the local inhabitants, Xabaj is an important place of worship today and Indians come from Quiche, Chichicastenango, and as far away as Quetzaltenango and Huehuetenango" (Smith 1955: 43). Forty years later, Earle (1989) verified that the caves are artificial and proposed that Xabaj was one of the 'dawning places' in K'iche' mythology.

Fray Francisco Ximenez appears to document another cave at San Sebastián Lemoa in the Department of Quiche. He states, "en los edificios antiguos

de S[an]ta Cruz del Quiché hay uno de estos. Junto a Lemoa está otro, y de aquestos se podrían contar infinitos que hallan a cada paso" (Ximenez 1967: 144). A search of the area failed to locate the cave and none of our local informants were aware of the existence of any. Given the geology of the area, the cave referred to by Ximenez would have to be artificial. I suspect that a cave may have been associated with the important lake there but it could have collapsed during one of the many earthquakes since Ximenez's time.

Another well-known cave is that described by Gage (1958: 280-281) in the 17th century as being associated with the worship of a jet black wooden idol. The cave is located some six miles north of the town of Mixco in an area of Tertiary volcanic materials and Quaternary derived pumice and volcanic ash deposits. The description of the cave being small, only about 10 meters deep, and of the tunnel turning sharply to the left just inside the entrance is consistent with an artificial cave.

There is good reason to believe that these caves represent only the tip of the iceberg and that there are hundreds, if not thousands, of artificial caves in the Maya Highlands. Carmack points out a number of caves mentioned in ethnohistoric sources. These include Cakapec or 'Beautiful Red Cave' located south of Quetzaltenango, Tz'ibampec or 'Painted

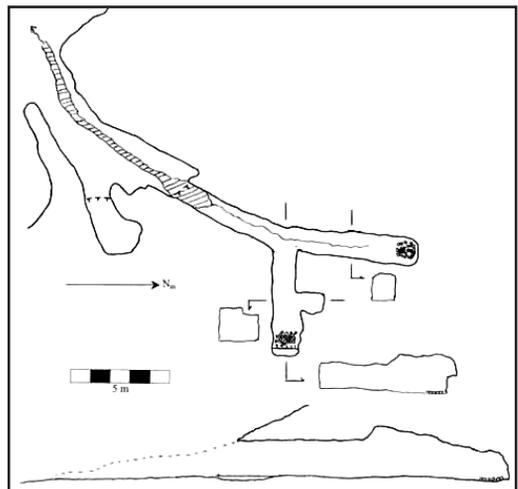


Fig. 5: Plan and Profile views Cave 2 at Llano Largo, Guatemala City, by James Brady and Allan Cobb, 9 April 2001. Draft: Allan Cobb

Cave' located near the Volcán de Santa María (Carmack 1973: 333, n.154), and a cave near Chinautla Viejo called 'El Jut' (Carmack 1979: 160). The geology of these areas would suggest that the caves are almost certainly artificial. The Cueva de Pequelá near Totonicapán also appears to be artificial based on the photo provided by Carmack. This cave contains an altar and is still used by K'iche' chimanes as a place of ritual (Carmack & Mondloch 1983: 24; see also the unnumbered photo between pp. 16-17). Finally, the Título de Totonicapán mentions a place, Chutanabal Juyup on the western side of Cerro Sijá, that is associated with a cave (Carmack & Mondloch 1983: 260). In addition, Allan Christensen mentions that there are a large number of caves in the area of Lake Atitlan and his photos suggest that many may be artificial. While these caves have not been verified as artificial, the non-karstic terrain in which they occur suggests that most likely they are not natural.

DISCUSSION OF HIGHLAND CAVE CONSTRUCTION

The data presented in the previous section have a number of implications. First, in discussing Maya cosmological beliefs surrounding landscape I have suggested that, "the most sacred locations are those that combine the fundamental elements of earth and water in a unified sacred expression of the power of the earth" (Brady 1997: 603). Natural caves, as entrances into the heart of the earth and as geological conduits for the movement of ground water, tend to combine these elements. It is interesting that in the construction of caves there is a clear attempt to unite these elements as well. The Cueva de la Lola at Mixco Viejo (Brady & Veni 1992: 151) and the cave at Llano Largo were constructed around natural springs and the cave described by Gage (1958: 281) was built next to a spring. The caves at Esquipulas and Zaculeu were built along rivers and the other two caves at Mixco Viejo are

just above a stream bed that appears to carry water seasonally. Thus, artificial caves strive to invoke the same symbolic elements as natural caves leaving little doubt that the function and meaning of the two were similar.

Second, enough examples of artificial caves are now known that it is obvious that they were constructed along a fairly standardized model so that they are clearly a formal architectural type in the same way as are pyramids or ballcourts. I make this point because none of the caves associated with major sites, with the exception of the one at La Lagunita, were recorded by the archaeologists, who nevertheless documented all of the pyramids and ballcourts.

Third, a number of the artificial caves should be considered monumental constructions. The two remaining caves at Utatlan represent nearly 200 m of excavated tunnels and well over 400 m³ of material removed (Brady 1991: 2). The larger cave at Esquipulas has over 50 m of tunnel but represents a huge construction effort because it was excavated into a hard rhyolite (Brady & Veni 1992: 162). The monumental nature of the construction needs to be stressed because such lavish expenditures should alert the archaeologist to the fact that the focus of such attention is somehow central to the concerns of the society.

These central concerns are discussed by García-Zambrano (1994) in his analysis of foundation rituals in Mesoamerica. The cave is repeatedly mentioned as a key and perhaps an indispensable feature of the settlement. He states that, "these cavities, when ritually dedicated to the divinities, become the pulsating heart of the new town, providing the cosmogonic referents that legitimized the settlers' rights for occupying that space and the ruler's authority over that site" (García-Zambrano 1994: 218). I had independently come to very much the same conclusion about the role of caves in ethnographic situations when I noted, "this suggests an unwritten contract between the settlement and

the earth in which the community's right to the land is validated by cave ritual. The cave then is the symbol of that contract and serves to legitimize space" (Brady 1997: 604). The tremendous quantity of material found within the caves at Dos Pilas (Brady et al. 1997:357-359) clearly indicates that those natural caves functioned as the 'pulsating heart' of that center. On an even more fundamental level, the need to construct caves at sites lacking them provides the clearest and most indisputable evidence of this central importance.

Fourth, the expanded inventory of artificial caves provide us with data for extending the role of caves beyond simply legitimizing settlement. While a large number of the artificial caves are directly associated with site cores, others such as Esquipulas, Gage's Cave, and Xabaj are sacred or pilgrimage locations. The caves in these cases appear to mark the places as sacred or legitimize their claim to that status.

Fifth, because the form of artificial caves reflects the decisions of its makers rather than the whim of nature, elaborate caves may provide im-

portant data on exactly what the structures were designed to represent. I have argued that the seven passage terminations in Cave 1 at Utatlan make it a model of the cave of origin of the K'iche' people (Brady 1991). During a recent trip to the site of Acatzingo Viejo in Puebla, Mexico, I recorded six artificial caves excavated along a small escarpment and local informants verified that a seventh had been destroyed by the construction of a road (fig. 6). The linear arrangement of the caves is very reminiscent of the drawing of the Chicomoztoc in the Vaticanus A (fig. 7). These findings support García-Zambrano's observation that, "many times, the grotto was manually excavated to approximate its shape to that of the mythological cave with internal niches. The grotto alluded to the mythological place of origin that preceded all intent of migration: Chicomoztoc, Apoalo, Tulan Zuyua, and Chalchuitlapazco" (García-Zambrano 1994: 218). I am unwilling on the basis of so few examples to conclude that all the caves must represent the cave of origin but the meager data do, at this point, favor that position

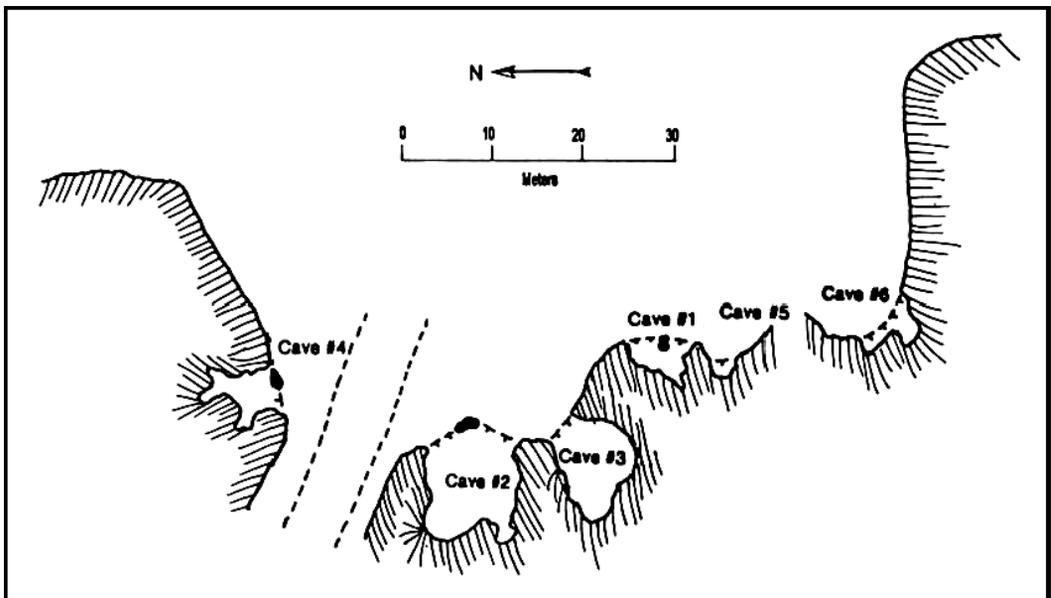


Fig. 6: Plan of the six extant caves at Acatzingo Viejo, Puebla, Mexico
Draft: John Fogarty and Allan Cobb

Sixth, an investigation of natural caves at Dos Pilas suggested that the placement and configuration of all the major and many of the minor architectural complexes were determined by the desire of the Maya to associate them with subterranean features (Brady 1997). The field as a whole has been slow to accept this position in part because of the reluctance of processual archaeologists to recognize the importance of ideology in settlement patterns. García-Zambrano (1994:217), however, points out that even areas with the best ecological conditions might be passed up in favor of less well-endowed ones if they failed to sufficiently conform to the sacred landscape configuration. As noted earlier, his work on foundation rituals makes explicit the ideological basis of the importance of caves in site settlement. The discovery of artificial caves is important to the discussion of the cave-architecture relationship because the cave's placement was a matter of a conscious decision and, therefore, its surface associations must clearly be intentional, particularly if similar associational relationships are repeatedly documented. The relationship of artificial caves with surface architecture at Utatlan, La Lagunita, Xochicalco, and Teotihuacan all have close natural counterparts which should remove any reasonable doubt about the deliberate incorporation of natural caves into site layout.

Finally, artificial caves have interesting implications for our appreciation of sacred landscape. Sacred landscape is often seen as the body of beliefs or meaning that are attached to the physical landscape. Along the same line the conceptual landscape is seen as the idealization of those natural features.

Particularly for those not working with sacred landscape, the ultimate point of reference is the local physical landscape. It is clear that within Mesoamerica there is a widely shared conceptual landscape that interestingly contains elements that are missing from huge sections of the region. Most of the volcanic area of Mesoamerica will have few if any natural caves. This appears to have no effect on the shared ideal which seems to be largely independent of specific local environments. Rather, the conceptual landscape is imposed on and reproduced in local landscapes. In addition to the artificial caves documented in the Maya Highlands, over the last several years, I have noted the presence of literally hundreds of artificial caves in Central Mexico and examples are known as far east as Tenampua and the Bay Islands (Strong 1935: 40-41) in Honduras. Clearly, all of Mesoamerica was involved in this type of construction.

EXTENDING ARTIFICIAL CAVES INTO THE SOUTHERN MAYA LOWLANDS

To this point, the focus of our inquiry has been on non-karstic regions of the Maya Highlands where caves do not naturally occur. Interestingly, an artificial cave has been reported in the karstic lowlands in the form of a 12 chambered subterranean system in the central core area of Topoxté Island (Hermes 1993: 228). The artifacts, including many ritual items, all appear to date to the Protoclassic. This cave is important in that it documents the fact that artificial caves were not limited only to non-karstic areas. The placement within the site center would also ap-

33Fig. 7: The Chicomoztoc shown as a linear arrangement of seven caves in the Codex Vaticanus A.



pear to make it analogous to many of the caves in the highlands. Finally, the date of the artifacts suggests that the practice began early. Without other examples, however, it is impossible to know if the practice of cave construction was prevalent and whether it continued through the Classic Period.

At the moment, chultuns represent the only recognized class of artificial subterranean features. The most widely accepted theory for the function of chultuns in the southern Maya lowlands is as storage spaces. Puleston's work (Puleston 1965) has shown that they did not function as water cisterns as they did in the northern lowlands. His work also demonstrated that almost nothing can be stored in these pits because of the extreme humidity. This point was one of the central pieces of evidence in his ramon nut hypothesis since they, almost alone, were able to survive in chultuns (Puleston 1971). As someone who has spent considerable time underground, I have always found the suggestion that the Maya invested relatively large amounts of labor in building subterranean storage units of such limited usefulness to be ridiculous. There seems to be little call for such storage especially in view of the fact that the modern Maya have far more versatile aboveground storage that requires less effort to construct.

I have suspected for a number of reasons that chultuns were small artificial caves used in household, and sometimes public, earth rituals. Puleston did consider the possibility that the features could have had a ritual function but archaeology's understanding of what constituted ritual behavior and a ritual assemblage was so embryonic at the time that the possibility was discarded without giving it a realistic hearing. There is far more in the artifactual record that suggests ritual than archaeologists have appreciated. One has to look no farther than Puleston's own article (Puleston 1965). The inver-

ted and cached vessels in Chultun 3F-6 are positioned in a manner often found in caves. In the captions, Puleston calls the vessels both utilitarian and unique at the site. Utilitarian vessels are produced in quantity. If the vessels are indeed unique then they are almost certainly not utilitarian.

The idea that chultuns may have served as artificial caves was first suggested by the discovery in the literature of several hybrid features that appeared to contain elements of both chultuns and natural caves. Several small natural caves have been reported that were probably inaccessible to human entry. Chultun-style entrances were carved through the bedrock to provide access. The result was a feature so similar to chultuns that both examples were listed as chultuns by the archaeologists. The first of these was recorded by Alfred Tozzer at Nakum (Tozzer 1913). The entrance of Chultun 3 was carved into the cave's central chamber and there were small chambers on either side. The total length of all three chambers was only about 7 meters. Tozzer states that, "nothing of importance was found here" (Tozzer 1913: 193).

A second example, also designated Chultun 3, was reported at Uaxactun. The artificial entrance provided entry into a cave that was 7 m long, 6 m wide and over 2 m high. A small crawlway at the southern end gave access to another small cave and there were also small passageways in the northern and western walls. Pottery from all time periods was found here and Smith characterizes it as "some of the best pottery yet found at Uaxactun" (Smith 1929: 326). In addition, a laurel leaf flint blade, human bone, a figurine and a mano and metate were recovered. Because of the large quantity of ceramics, Smith proposes that the cave was used as a dump. To this day, I frequently encounter the 'cave as city dump' hypothesis because archaeologists seem unprepared to believe that large ceramic assem-

blages could accumulate in caves simply as a result of ritual behavior.

A second piece of critical data in my formulation was finding an analogous use of small natural chambers. One of the interesting discoveries at Dos Pilas was that even very small (less than 10 m long) natural caves were consistently being utilized. These caves were associated with residential plazas or individual house mounds. Structures were placed in front of the cave entrances so that the cave passed beneath the structure. The regularity in placement indicates patterned utilization. Even these very modest caves appear to have been important enough to structure architectural layout around them, as demonstrated by Chamelo's cave. Here the surface structures were irregularly spaced on the basal platform in order to create a passage between structures N4-19 & 20 that led to the cave entrance (fig. 8).

Do we have artificial counterparts to these small household caves? The possibility that such features do exist was first raised by Chultun 4F-3 at Tikal. The entrance was placed behind a residential structure and along its centerline (Haviland 1985:13). The entrance was angled so that the chamber was partially below the structure. In other words, the relation of the chultun to the surface structure replicates that of the small caves at Dos Pilas. On the floor of the chultun we-

re two skull fragments, one of an adult over 40 and the other of an adult between 35-40. There were no other human bones to suggest that these represented primary burials so that they may had some part in a cult of ancestor veneration.

These artificial chambers may have had a wider social significance than simply household ritual. Chultun 5D-6 at Tikal contained an interesting array of artifacts, including bat bone and 400 animal teeth, that suggested to Coe (1990: 674) that the chultun had an 'esoteric' function. A radiocarbon date from charcoal on the floor gave a date of 420-200 B.C. Most importantly, in checking the map of the North Acropolis it appears that the chultun was dug directly under the center of the earliest structures in this complex. The location is certainly consistent with a ritual function and the placement of a subterranean cavity beneath a pyramid's centerline is exactly what we have come to expect with

both natural and artificial caves.

Finally, the equation of chultuns with caves has not been made because archaeologists have tended to conceptualize the digging of a chultun very much in the same terms as their excavation a test pit. What, however, were the implications of excavating such a feature for the Maya. We know that caves are included linguistically under the Maya term *ch'en* which signifies most basically a hole (Laughlin 1975:132) so we should suspect that these two types of holes might be

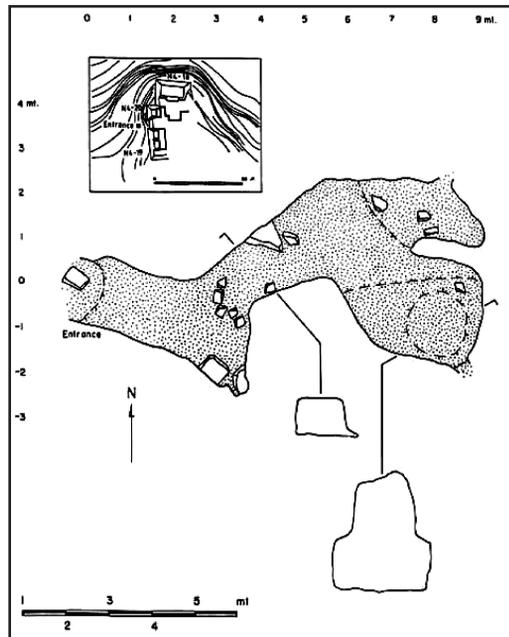


Fig. 8: Plan view of Chamelo's Cave, Dos Pilas, Guatemala. The inset shows the relation of the cave entrance to service architecture

Draft: Allan Cobb and John Fogarty

seen as related. Even where the digging of a hole is for the extraction of a utilitarian material such as sascab the resulting cavity often carries ritual significance. Redfield and Villa Rojas (1962:109) report that the patron saint of Chan Kom was found in an abandoned sascabera. I have noted that caves often functioned as the place of emergence or appearance of crosses, saints' images and other sacred objects and that the motif of emerging from the earth seems to be used for establishing the objects' sacred credentials (Brady 1989:54). Reina (1966: 191) notes that a simple clay mine had a cross set up next to the entrance and copal and candles were burned before entering the 'dangerous' place. The implications are clear. As features that penetrated the sacred earth, chultuns must have had meaning. I suspect that the situation may have been similar to the rich body of meaning associated with the other common, earth-related Maya structure, the temescal, but archaeology has yet to even consider the question of meaning with chultuns.

Puleston (1965: 26) has made a cogent argument for there being chultuns associated with every household group at Tikal and few would disagree that they occur by the hundreds in many sites. If these features were shrines and the focus of household ritual one would expect every household to have one. The recognition of chultuns as artificial caves has profound implications for the way that we view Maya sites. In looking at Tikal, for instance, we would see a landscape filled with literally hundreds of ritual landmarks. The importance of religion would be impossible to ignore because the evidence of it would be everywhere. In short, the landscape would begin to look very human.

DISCUSSION – A QUESTION OF SCALE

A second theme, very different from that of the meaning of the caves which was discussed earlier, is drawn from the implications of scale. In the decade since their first recognition, the

number of confirmed and possible examples of artificial caves in the Guatemalan highlands has grown to between a dozen and 20 despite the fact that no formal project has been set up to look for them. Clearly this must be a miniscule fraction of all that exist. In moving to the southern lowlands and suggesting that chultuns are actually small artificial caves, I am again proposing a paradigm shift on a large scale. No one doubts that there are thousands and perhaps tens of thousands of chultuns in the southern lowlands. To accept these as artificial caves would clearly elevate the cave/earth cult to a matter of first importance to Maya society. In Central Mexico, the documentation of artificial caves has advanced rapidly in the last few years with hundreds of caves already recorded (Good & Obermeyer 1986, Lazcano Sahagún & Rousillo-Perret 1984, Manzanilla et al. 1996, Medina Jaen 2000, Moragas Segura 1998) although the level of research explicitly oriented to caves is less than in the Maya area. Once again, however, these are only a fraction of all the cases that exist.

The point that is being made in all three areas is that the rapid expansion of data in a short period of time clearly indicates that cave construction was on a far larger scale than currently conceptualized by archaeologists. It is that conceptualization that I want to address explicitly here. In using the term 'conceptualization' I am referring to an implicit assumption held about the 'nature' or 'construction' of the natural world. Conceptualizations are generally seen as being based on 'known fact' and so exist at a level below theory, even though they impact theory at numerous points or are the basis on which theories are built. Conceptualizations because they exist at the level of 'known fact' are rarely explicitly questioned.

The conceptualization of caves as rather rare features in the natural landscape grew out of the paucity of reported caves and archaeologists' lack

of familiarity with the literature that did exist. I was forcefully confronted by this conceptualization while preparing a general article on caves. The editor, an archaeologist, repeatedly demanded documentation for statements appearing in my text while at the same time restricting me to six citations. I was particularly struck by a note in the margin of one draft that said, "this implies that each community has a sacred cave, we know that is not true in Central Mexico". How and when, I wondered, did we come to 'know' such a thing?

It is difficult to determine when this idea developed or began impacting theory but I suspect that it had its roots in the Inter-Worldwar Period [1915-1945] when cave research all but disappeared (Brady 1989:16-20). Indeed, a search of the archaeological literature at that time would suggest that landscapes lacking caves were more normal than ones containing caves. Even early projects such as Mercer's investigation of over 20 caves in the Puuc area (Mercer 1975) and the Carnegie's reporting of two dozen cenotes within the walls of Mayapan did little to alter this idea. It simply reinforced a notion that caves might abound in a few restricted zones while the majority of regions lacked caves altogether.

This conceptualization poses an obstacle to the development of cave archaeology in a number of ways. If caves are rare, one does not devote survey time to looking for them because the chances of locating one would appear small and limited resources would be better devoted to tasks considered as having a higher potential for yielding important data. A survey specifically oriented to investigating caves would be out of the question because few if any would be expected to occur. The belief that caves will not occur justifies not expending effort to search for them. By not searching, few, if any, are found. The subsequent lack of cave discoveries simply vindicates the original decision not to mount a search. One can appreciate at a glance how this

conceptualization becomes self-reinforcing.

The impact is not limited to field investigation, however, but stifled theory as well. It is difficult for archaeologists to accept that patterns of cave use were important on a societal level if the rarity of caves precluded the bulk of the population from participating in them. The resulting conclusion that caves could not be important was widely endorsed because it also agreed with materialist biases concerning the relative unimportance of religion and ideology. When the theoretical aspect was wedded to the field bias, a particularly insidious combination emerged. Even when caves were discovered, they could be ignored or given cursory, substandard investigation.

In the 1990s the basic conceptualization began to change among cave archaeologists, due in part to a growing familiarity with the speleological literature. Reddell (1977), for instance, mentions nearly 200 caves on the Yucatan Peninsula and Reeder et al. (1998) discovered over 150 in a small region of the Vaca Plateau in Belize. The advent of archaeological cave surveys of small areas (Bonor 1988, 1989, Bonor & Sanchez y Pinto 1991, Brady 1997, Medina Jaen 2000, Rissolo 2001, Scott 1992) similarly demonstrated that caves were both extremely common and regularly utilized. The challenge remains to communicate that understanding to the archaeological community as a whole.

Earlier, I made the point that the lavish expenditure of resources in constructing certain caves should alert archaeologists to the fact that the focus of such attention is somehow central to the concerns of the society. Let me now turn that around and say that these concerns were so central to the value system of the society that the scale of expenditures for cave construction far exceeds anything that has even been suggested in the literature. The data now clearly point to their being thousands of these

artificial features through out Mesoamerica. Considering their clear importance, the great mystery is why so few have been recorded.

CONCLUSION

The work at Dos Pilas and with artificial caves suggests that there is a central concern with earth as a sacred and animate entity. This concern structured the Maya use of landscape. Site layout was dictated by the need to incorporate natural landmarks that were imbued with cosmological significance. Artificial caves exemplify the importance placed on the relationship of the site to its physical setting because they document the great effort that was often expended to modify nature to bring it into greater conformity with the idealized landscape. The fact that the placement of the artificial caves replicated associational patterns noted with natural caves is conclusive proof that the relationship between architecture and natural caves was not coincidental. Rather, taken together, the pattern of architectural layout noted with both artificial and natural caves underscores a pan-Mesoamerican concern with relating sites to sacred and mythic space. Several of the elaborate artificial caves appear to be clear models of the seven chambered cave of origin, confirming García-Zambrano suggestion that this is what the caves are meant to represent. As the place of origin, these features served to 'center' the site since human creation always occurs at the cosmic center. Finally, the cave appears to be critical for the establishment of relations with the supernatural owners of the land. This is fundamental to the legitimization of the human occupation of that place and of the ruler's authority over it.

The association of artificial caves with sacred locations and pilgrimage sites such as Esquipulas adds another dimension to our understanding of the role of caves. The presence of the ca-

ve would appear to be one of those markers that alerts visitors to the fact that this a place of supernatural power.

It has also been noted that artificial caves appear to be constructed along fairly regular plans so that they should be considered as an architectural form. Some of the caves reflect construction on a monumental scale requiring as much or more labor input as pyramidal structures. The failure to record such features should be considered a major shortcoming of any report. I mention this because large archaeological projects had worked at Mixco Viejo, Utatlan and Zuculeu without recording the caves.

In examining chultuns in the Southern Maya lowlands, I have presented a number of reasons why these features should be considered small artificial caves that were used for the most part as the focuses of household rituals.

Finally, I have argued that artificial cave construction is on a truly massive scale that reflects the central importance of caves in the religion and society in Pre-Columbian Mesoamerica. The time is overdue for recognizing that fact and recording the evidence of it.

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EL DINTEL DEL <KOKOM> DE CHICH'EN ITZA, YUCATÁN

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La inscripción menciona de manera amplia a un representante del linaje de los <KOKOM>, quienes ocupaban el cargo hereditario de supremo juez u oidor anterior a la llegada de los españoles. Con las fechas 870 y 880 d. C., el texto remonta a aquella época histórica cuando los edificios de Chich'en Itza fueron levantados en el estilo “de la sierrita” llamado <PUUK>. A estas construcciones también pertenece el edificio de la “escritura en la oscuridad”

llamado <AK'AB TS'IB> en el cual se encuentra el dintel grabado con su inscripción que aquí presentamos.

Este dintel todavía se localiza en su lugar original en la parte superior del umbral que comunica los dos cuartos del ala sur. Ya que estos cuartos carecen de ventanas es difícil de apreciar los detalles de la inscripción aún a plena luz del día. Esta circunstancia ha contribuido a que en el trascurso del