Architecture and Urban Design: Expressions of Kingly Power and Hegemony of the State

Edited by
John Morris, Melissa Badillo
Sylvia Batty and George Thompson
2017
30

THE CHRONOLOGY OF ANCIENT MAYA CAVE USE IN BELIZE

Holley Moyes, Laura Kosakowsky, Erin E. Ray, and Jaime J. Awe

The prevalence of Late Classic cultural material in ancient Maya ritual cave sites has led both researchers and lay people to characterize cave use as a Late or Terminal Classic phenomenon; yet, data collected by the Belize Cave Research Project demonstrate that many if not most caves were initially used during earlier temporal periods and many sites demonstrate continued use beginning in the Preclassic period. From 2011 to 2013, the Belize Cave Research Project (BCRP) has explored caves in northern, western, and central Belize. In this paper, we discuss these and other sites that have been intensively investigated over the last 20 years. Here, we present the preliminary results of our analysis of the spatial/temporal aspects of ancient Maya cave use in Belize.

Introduction

The Belize Cave Research Project (BCRP) under the direction of Holley Moyes and Jaime Awe systematically collected data from ancient Maya ritual cave sites in Belize from 2012-2016. The goal of the project is to investigate the role of ritual, religion, and ideology in complex society to better understand how beliefs and practices affect political processes and decision-making. Talcott Parsons (1951:24) defines ideologies as "the shared framework of mental models that groups of individuals possess that provide both an interpretation of the environment and a prescription as to how that environment should be structured." Not only do ideologies aid in interpreting and understanding the world, but they serve to crystallize and communicate shared beliefs, opinions and values (Jost 2008; Jost et al. 2009). Because ideologies can be fundamental belief systems based on visions, and are often existential in nature, they can have far-reaching, long-term, and sometimes catastrophic effects on socio/political and economic systems (Weber 2005 [1930]).

When studying the past archaeologists are presented with the opportunity to view history from a long term perspective and bear witness to extended cultural and environmental processes and their ultimate outcomes. Through our work on the ancient Maya cave sites, we understand the artifact record in caves to be one of the myriad of ways that the Maya "materialized" (Demarrais 1996) ideologies. We follow Demarrais and her colleagues who argue that ideologies, be they religious, cosmological, or political, are effective means used by those in power to establish and maintain their hegemony. From a Durkheimian perspective, religious ideologies help to maintain political solidarity in times of external stress. Alternatively they may be used to foment change in times of uncertainty. Understanding ritual cave use is crucial in evaluating ancient Maya political strategies that include the manipulation of ideologies and religious practices.

In our work, we hope to illustrate how changing worldviews affected decision-making over time and ultimately impacted Maya historical trajectories. Cave sites provide an unambiguous context for studying ritual practices in the archaeological record. Caves were not "convenient cavities" as some have proposed (Staus 1997), but were symbolic spaces instantiating Maya cosmology (Brady 1989; Brady and Ashmore 1999; Moyes and Brady 2012; Pruner and Brady 2005). They were not simply representations of entrances to the underworld, but were those spaces. Throughout Mesoamerica, even today, caves are viewed as ritual spaces (Christenson 2008; Scott 2009; Vogt and Stuart 2005), but there is little textual data concerning ritual cave practices in the deep past. However, the archaeological record attests to their importance as ritual venues. It is the purview of cave archaeologists to work toward understanding how and when these sites were used, who was using them, and how caves as sacred spaces could be manipulated in political contests in the acquisition and maintenance of power. In this project we examine how Maya ritual has developed historically so that we may correlate changes in ritual practices with evolving socio/political structures both in the development of social complexity and its

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subsequent Late Classic transformations, so that we better understand the role that ritual may have played in these processes. Therefore, we argue that ritual practices manifest in material form in the retrospective archaeological record, but that this record is not a reflection of social change, but represents the dynamic role of ritual practice in the transformation process itself.

The BCRP has been investigating the most endangered and archaeologically intact caves in multiple regions of Belize. The project is designed to record cave contents and conduct basic analyses to better understand variation in cave usage on regional and sub-regional scales. Multiscalar investigations allow us to address local and regional differences in ritual cave use such as patterning in chronologies, changes in artifact assemblages, and variation in constructed spaces. We can then evaluate these variations over space. These data allow us to articulate cave use with social developments and environmental circumstances in different political spheres as well as ecological zones in Belize where there is variation in terms of rainfall, ecology, and geographic topography. In this paper we examine the chronology of cave use for 28 caves based on their ceramic chronologies. We focus primarily on the earliest evidence for use of each site and trace cave usage over time. This work also allows us to investigate the spatial aspects of initial usage and develop models of how cave use develops. Our sample is by no means complete and literally hundreds of caves remain unrecorded, therefore these results are, as all archaeological data, subject to future change. However, we feel confident that our data set is a good representative sample that reflects robust patterns of cave use at a regional scale.

Methods

The BCRP visited 75 caves throughout Belize, of which 25 were chosen for intensive recording and analyses. We also include in our analyses caves that were previously investigated by Moyes and Awe increasing the sample size presented here to 28. Chechem Ha (Moyes 2006a; Moyes 2006b) and Actun Tunichil Muknal (Awe et al. 2005; Moyes 2001) were investigated by Moyes and Awe during the Western Belize Regional Cave Project, and U

Mehen Sek was investigated with the Minanha Cave Project (Moyes and Awe 2011). We consider data collected from these sites commensurate with the BCRP data because they were recorded using the same methods. Data collected from all sites have been consistently and systematically recorded and all field work was supervised by Moyes.

The caves reported here were mapped, photographed, excavated, artifacts inventoried, ceramics analyzed, and organic materials collected for AMS dating. We have divided the sites into 8 regions (based primarily on river drainages), covering northern and western Belize north of the Maya Mountains. Our areas include 4 caves in northern Belize near the site of Blue Creek (Alvin’s Cave, Rice Mill Caves 1, 2, and 3); 7 caves on the west side of the Macal river in western Belize near the site of Minanha (Horno, Trumpet Tree, Isabella, Moth Cave, Lubuul Actun, U Mehen Ts'ek', and Chechem Ha); 3 caves located on the Vaca Plateau near the site Ix Chel abutting the Guatemalan border (Pottery Cave, Xai’be, Ch’en P’ix); 4 caves on the eastern side of the Macal near the Maya village of San Antonio in the Eljio Panti Forest Reserve closest to the surface sites of Guacamayo or Pacbitun (Ka’am Be’en, Sayab’ak, Cormoran, K’aana); 4 caves in the Mountain Pine Ridge near the site of Mahogany (Tan Che’, Actun Am Actun, Yax Moch, Nohoch Ka’); 1 cave in the Chiquibul Forest Reserve (Las Cuevas); 1 cave in the Roaring Creek drainage near the site of Cahal Witz Na (Actun Tunichil Muknal); and 4 caves in the Middle Sibun drainage near Hell’s Gate (Che Kom, Chawak Actun, Ceremonial Cave, and Sak Tuch).

At this point we must note that with the exceptions of Actun Tunichil Muknal and Chechem Ha, all sites exhibited some evidence of looting. Though the project has taken pains to record sites that were not heavily vandalized, there is no doubt that intact polychromes and other whole vessels were likely removed long before we began investigations. However, we feel that ceramic sherds and broken vessels provide a good chronological framework because these less valuable or collectible artifacts are the least affected by looting. Although archaeologists value discovering whole vessels and indeed polychrome images
are interesting for study, when evaluating assemblages in caves, whole vessels account for little statistically (Moyes et al. 2015). For instance at Chechem Ha Cave, there were 2074 ceramic artifacts consisting of sherds, whole, and partial vessels. Of these, 563 were diagnostics. Therefore, only 51, or about 2.5% of the entire assemblage was comprised of whole vessels which accounted for 9% of the diagnostics (Moyes 2006: 187), suggesting that large and intact vessels collected by looters are likely to have only a modest influence on artifact counts and subsequent analyses. Although recording ceramic sherds is tedious, requiring a "high definition" approach as discussed by J. Gowlett (1997), it allows us to view the archaeological record in high resolution, focusing on details. Most of the ceramic sherds in the caves were located in surface scatters as palimpsests. This was to be expected as caves rarely contain deep subsurface deposits. The most notable exception is Chechem Ha cave, where deep subsurface deposits dated to the Pleistocene period (Moyes 2006).

In this paper, we report the results of our ceramic analyses for the 28-cave sample. Ceramics are the most abundant artifact class at most sites, aside from caves in northern Belize, where lithic artifacts outnumber ceramic artifacts. Ceramic chronology building is the most cost-effective and in many instances, more precise than radiocarbon assays due to the plateau in the calibration curve, particularly during the Late Classic period. This complication affects precision, particularly in Late Classic contexts, by increasing the size of date ranges or by not allowing for ranges to be trimmed. Therefore, ceramic chronologies that have been established based on stratigraphic contexts can provide more precise dating.

One of the strengths of the project is that our chronological designations were calibrated and overseen by ceramicist Laura Kosakowsky to insure data quality. Therefore, each of our crew members received training in ceramic recording and analyses in a series of workshops conducted at the beginning of each field season. This allowed us to conduct reliable analyses of diagnostic ceramics using the standard Type: Variety Mode method (Gifford 1976). We use Gifford’s chronology for consistency for western and central Belize, and have updated some of his designations. For instance, it is clear from recent research and radiocarbon dating that the Daylight Orange type found in western Belize originally classified as Postclassic, fits squarely into the late part of the Late Classic period (Spanish Lookout I and II) (for example see Moyes 2001; Hoggart et al. 2014). Additionally, we modified Gifford’s Belize Valley ceramic typology to represent the more commonly used framework of Petén type names for the caves in northern Belize.

We chose not to collect ceramics for chronological analyses in the laboratory and our methodology dictated that all ceramics in surface contexts in each cave (not random samples), were recorded in situ. In our study, each individual rim, refitted rims, whole or partially intact vessels was assigned an artifact number and attributes recorded on data sheets in the field. Rim profiles were drawn for each sherd or complete vessel. In most cases, the crew supervisor assigned the type-variety designation in the field. Problematic examples were recorded and photographed, and in rare cases collected and analyzed by Kosakowsky, then returned to the cave. Table I describes the number of vessels analyzed for each cave. To quantify our data, we counted all sherds located at the site, but only conducted chronological analysis on rim sherds and whole or partially intact vessels. Rims were refitted in situ where possible. In situ refitting was an important part of our methodology because we did not want to inflate our data by counting the same vessel more than once. While this was indeed an onerous task, prior research suggests that few rims located in sherd scatters refit. In her study at Actun Tunichil Muknal, Moyes found that in many cases, sherds from the same vessel that refit were stacked together. Out of the entire assemblage of 1501 diagnostic and non-diagnostic entities, sherds from the same vessel were located no more than a few centimeters apart, with few exceptions (2001: 73-75). Our refitting studies also benefitted because the Maya only produced hand-made vessels introducing a great deal of variation, even within a specific type. Consequently, no two vessels were exactly alike making it possible to fairly easily determine whether rims refit.
Table 1. Table shows temporal aspects of 28 caves in study based on ceramic chronology and AMS dating. Number of diagnostic ceramics indicated by “x.”

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<thead>
<tr>
<th>Cave Name</th>
<th>Early Preclassic (1000-800 BC)</th>
<th>Middle Preclassic (800-250 BC)</th>
<th>Late Preclassic (250 BC-AD 600)</th>
<th>Terminal Preclassic (AD 600-900)</th>
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Also of interest is that in cases of in situ breakage, we found no instances in which vessels refit completely and invariably missing fragments were not located within the cave. Single sherds of rare or distinctive ceramic types that were easily identified in field recording did not refit with each other or any other vessel, indicating that these sherds were imported into the cave as offerings in and of themselves. By this sort of high definition work at Actun Tunichil Muknal, Moyes (2001) demonstrated that parts of vessels were removed from the site following ritual breakage, and that single or “orphaned” sherds were brought into the cave as offerings. This agrees with James Brady’s findings from Naj Tunich cave in Guatemala, where he noted that a portion of smashed vessels was always missing (1989:86). It begs the question of where sherds were obtained for importation into the cave. It is possible that sherds were curated for these occasions, were gathered from middens as Hayden and Cannon’s (1984) ethnographic work suggests, or may have been collected from smashed vessels at other rituals, thus linking the events.

Radiocarbon dates were processed by Erin Ray at the Center for Accelerated Mass Spectrometry at the Lawrence Livermore Laboratory in Livermore, California. Due to the prohibitive cost of AMS dating, the project was unable to obtain a full suite of dates for each of the 25 caves. Our goal for these absolute dates was not only to correlate them with ceramic chronologies but also to date architectural features. However, because most of the samples collected directly from architecture were
palimpsests and therefore problematic, we will reserve a thorough discussion of our AMS dating results for a future publication.

Results

Table 1 shows the time periods during which the caves in our survey were utilized. Figure 1 is a color-coded map of these results. The earliest calibrated dates we have for ritual cave use (not only in Belize but anywhere else in the Maya Lowlands) are found at Actun Chechem Ha on the west side of the Macal River in western Belize near the Guatemala border (Moyes et al. 2009; Moyes 2006b; Moyes 2006b). Early Preclassic (1200-800BC) dates obtained from AMS assays were reported at a 2-sigma probability range calibrated using OxCal 3.9. The earliest cultural levels were excavated from well-stratified deep deposits in Chamber 2 of the cave. Lower levels of these deposits dated to the Pleistocene period, but these contained only two or three tiny fragments of charcoal and there was no other evidence for human usage. Sparse layers of charcoal fragments begin to appear later in levels that dated 1320-910BC and 1320-930BC respectively, which may suggest that people began to visit the cave more regularly, though this is uncertain. Carpets of thick charcoal appeared in the excavations dating from 1190-920BC, which clearly indicates human usage, but the first Corn-like ceramics were found in higher levels dating to 1100-820BC. Because this is the first undeniable evidence of human activity, the cave is known to date to this time, though ancient preceramic hunter/gatherers/oragers may have explored or conducted more ephemeral rites for hundreds of years prior to the deposition of ceramic offerings. Similar early AMS dates have also been obtained from bedrock at nearby Actun Isabella and Moth Cave but these were not associated with cultural materials. Chechem Ha is also the only cave in our study to exhibit Middle Preclassic (650-350BC) usage as evidenced by both AMS dates and Savana Group ceramics.

Based on ceramic chronologies, in the Late Preclassic (350BC-AD100) period cave use expands to include nearby Actun Isabella and Moth Cave, and on the east side of the Macal River, Ka'am Be'en. The earliest cave usage in northern Belize Rice Mill III Cave also occurs at this time. All of these sites continue to be used in the Terminal Preclassic (AD 100-250) when U Hene Tse'k near Minanha and Lubuul Actun located in the Minanha site core come into use. On the east side of the Macal very near Ka'am Be'en, Sayab Ak and Cormorant Cave begin to be used as well.

In the Early Classic (250AD-600AD) period three caves in northern Belize, Alvin's Cave, Rice Mill 2 and Rice Mill 3 contain evidence for initial use. Horno Cave near Chechem Ha comes into use at this time as well. Although there are no ceramics dating to this period in Moth Cave near Minanha, a single AMS date (250-390AD) from excavated features suggests that the cave was still active. On the east side of the Macal, Ka'ana Actun near Ka'am Be'en is heavily used in the Early Classic. Actun Tunichil Muknal in the Roaring Creek drainage is also first used in the Early Classic, though it is the chambers at the entrance of the cave that were employed, not the famous Main Chamber deep in the cave's interior that is visited by tourists today, which dates solely to the late facet of the Late Classic period. The Early Late Classic period (600-700AD) has four caves that come into use in western Belize, Las Cuevas in the Chiquibul Forest Reserve and the three caves that we investigated in the Vaca Plateau near the site of Ixchel. In the late Late and Terminal Classic (700-900AD), the four caves that we investigated in the Mountain Pine Ridge and four caves in the Sibun near Hell's Gate first began to be used.

Discussion

The most striking pattern in ritual cave use is that once rites begin to be conducted in caves, the sites are then used continually through the late Late and Terminal Classic periods. The only exception in our data set is Moth Cave, which contains no ceramics dating to the Early Late Classic period and no radiocarbon dates spanning that time. It is possible that this is a sampling error or that looting has eliminated these data. One problem could be that Moth was originally recorded by the Minanha Cave Project in 2010 and re-located in 2015 by the BRCF to record the ceramics. To our disappointment, the forest surrounding the site had been cleared and
burned, so that the cave now sat in the middle of a mipa. Therefore, many of the artifacts that were present in 2010 had likely been removed.

When viewed collectively there are an increasing number of caves being used over time (See Figure 1). In our sample only Chechem Ha is used in the Early and Middle Preclassic, but following this, 28% of all caves come into use in the Late (14%) to Terminal (14%) Preclassic periods and another 22% are added in the Early Classic. Therefore more than half of all caves in our sample (54%) were used before the Late Classic period.

Early cave use does not necessarily map on to early occupations of an area. For instance, although Chechem Ha cave was used in the Early Preclassic, the nearby site of Minanha (6.5km distant) and its surrounds dated to the Middle Preclassic period (Lannone et al. 2014:283). The closest sites with Early
Preclassic occupations are Xunantunich (Brown et al. 2011) located 9.7 km northwest of the cave, Chan Nohol 9 km northwest (Robin et al. 2004) and Cahal Pech 12 km northeast (Awe 1992; Garber and Awe 2009). These sites are all at least a ½ day to a day’s walk from the cave. Additionally, at the site of Las Cuevas, both ceramics and a suite of 20 AMS dates demonstrate that cave use began in the Early Late Classic and continued through latter half of the Late Classic. However, excavated buildings in the site core directly above the cave entrance date only to the late facet of the Late Classic (Kosakowsky 2013) suggesting that the cave was used before the site was constructed. Both of these instances suggest that some caves were distant pilgrimage places well before they were surrounded by population centers.

Every cave in our study is used in the second half of the Late Classic to Terminal Classic periods and there is a 32% increase in cave use overall. The two geographic areas in which we see this Late Classic expansion are the Mountain Pine Ridge and Sibun drainage. With the exception of the upper Macal River drainage (see Awe 1985 and Awe et al. 2005), which was predominantly occupied during the Terminal Classic period, we know little of the surface sites around the Pine Ridge in terms of chronology. The Mahogany site, which is the largest in the region, has not been surveyed or excavated. But in the Sibun, there has been a great deal of research conducted most recently by the Xibun Archaeological Research Project lead by Patricia McAnany. Working with this project, Polly Peterson (2006) surveyed 15 caves and 2 rock shelters. She reported Middle Preclassic sherds at Actun Chanona near the Hershey site as well as at two other caves further north- Ek’ Waynal near Tiger Sandy Bay and Actun Ibach in what the project refers to as the “Thumb” cave district. While Peterson argues that people were living in the area at this early time period, McAnany and her colleagues (2004:296–297) suggest that cave use was a result of long-distance pilgrimage. Peterson also reports a number of caves with continuous usage from the Late Preclassic to the Postclassic. Her chronology is a bit problematic in terms of comparison with our data because her Postclassic temporal designation spans the period of 850-1200AD. This is a bit troublesome as this would subsume what many archaeologists, including Gifford, would consider to be the later part of the Late Classic or Terminal Classic period (850-950/1000AD). Therefore Peterson considers ceramics such as Roaring Creek Red high pedestal vases to be “Postclassic.” At Actun Tunichil Muknal, these are designated as late facet Late Classic to Terminal Classic with associated AMS dates of 760-910AD.

But despite any quibbles with Peterson’s chronology, her data illustrate that there is more time depth in the area than our data set predict. In fact, of the 8 caves in which Peterson conducted a chronological analysis, none dated solely to the Late Classic. According to McAnany and her colleagues (2003:77), the evidence recovered from surface sites points to a rapid settlement of the Sibun valley during the Late/terminal Classic and test excavations did not yield evidence of occupation before or after this time. She suspects that the demand for cacao brought colonists to the area. If so, this late fluorescence could help explain why the BCRP discovered sites containing few artifacts dating solely to this temporal period.

Many of the caves that we investigated with smaller entrances were blocked up with medium to large-sized limestone boulders in the later part of the Late Classic period. For instance, the entrance to Chechem Ha Cave was reported to have been blocked with medium to large-sized boulders when it was discovered by William Pleitez (2006a:174). Consequently, the family removed the blockage to create access for tourists. Both the ceramic chronology and AMS dates from the cave’s interior suggest that the entrance was blocked off no later than 960AD. Other caves were closed in a similar manner in at the end of the Late Classic period as well, including Moth Cave, Lubul, and Pottery Hill Cave whose entrances were opened recently by looters. In the case of Trumpet Tree cave, the entrance blockage remained intact. The reason for this was that the cave was originally accessed via a small squeeze, which had been easily covered over by the ancient users with small boulders. However, recently a Trumpet Tree had grown through the roof of the tunnel system creating hole that looters could use to enter the
cave, avoiding the original squeeze. Otherwise the site might not have been discovered. Formal walls with built doorways constructed at entrances to tunnel systems were also “closed” with rocks and later reopened by looters at K’aana and Cormorant Cave.

Note that there are no Postclassic ceramics in the BCRP data sets. We have yet to locate a single Postclassic sherd in any of the cave sites we have investigated thus far. Peterson found 9 Early Postclassic sherds (Papacal Incised) in Actun Ibach, the only ones from her study. If these data are correct it would be one of the few instances of known Early Postclassic cave use in Belize. Peterson also reports one “Early Postclassic” radiocarbon date (cal 890-1030AD) collected from carbon on a wall at the entrance to Actun Ik. This date could easily fall into the Terminal Classic at its early end and, is reported for some reason at 1σ, which is a bit puzzling because her other dates are 2σ. Her other evidence for Postclassic usage is a Late Postclassic date from a splinter of pine torch found in a rock shelter, but none of her data suggest any sort of sustained or continuous Postclassic cave use.

The BCRP has evidence of possible Early Postclassic use from Las Cuevas based on 2 AMS dates collected the exterior of Wall 2, located deep in the cave’s interior (Figure 2). The wall is a substantial construction of small to medium sized boulders and speleothems that completely occludes the tunnel passage. A constructed doorway was blocked in antiquity with loose rocks that were found strewn on the floor in front of the wall’s exterior indicating that looters pulled away the blockage. The construction was plastered with mud containing charcoal that appeared to have been collected from the cave floor (Figure 3). To date the construction we ran 10 charcoal samples from the plaster to ascertain a terminus ante quem date. Of the 10 returns, all fell into the Late Classic periods and two were possibly Postclassic with overlap in the late Late to Terminal Classic. There is a 99% certainty that the first falls between 870-1012 AD and a 91% certainty that the second falls between 971-1047 AD. These date ranges postdate all others collected in the cave or from the surface above and are the latest Classic period dates we have for any of the caves in our study. If the wall was indeed constructed at this late date, it is tempting to suggest that it represents a termination event; but, the constructed doorway in the feature makes little sense if one were walling off the site. It is also possible that these dates represent some sort of late stage repair to the wall, though there is no direct evidence for this. The complete lack of ceramic sherds in the cave dating to the Postclassic period casts doubt on Postclassic cave use, but a single Miseric Appliqué incensario from Structure 2 on the surface above the cave reported by Digby (1958) and three Miseric Appliqué censer fragments found in the final collapse of Structure 1, the eastern temple (Kosakowsky et al. 2013) suggests Terminal Classic use of the site.
Another possibility is that the many walls and blockages in the Las Cuevas tunnel system were “closed off” or terminated at this time, though it is unclear as to why they would add mud plaster to the wall.

Evidence for Late Postclassic cave use is practically absent in our survey area. The one exception is Actun Uechentub in the Macal River valley near the Postclassic site of Tipu. At Uechentub, Peter Schmidt (1976) discovered several fragmented pedestal censers which he noted shared considerable similarities to censers from Mayapan in the Yucatan. Schmidt further noted that these censers dated to the Late Postclassic period, and he suggested that they may have been introduced into the area by northern migrants who were reoccupying western Belize at this time.

The latest cave use reported in the literature for Belize occurs in the Spanish Colonial period (Awe and Helmke 2015). A Spanish manufactured olive jar accompanied by an Maya wide-mouthed vessel both dating between the late 16th to early 17th centuries were discovered in Olive Jar Cave in the Roaring Creek valley. Also in this area, a European rapier was found cached in a nearby rockshelter. Awe and Helmke suggest that these objects were offerings made to Maya deities as a form of resistance to Spanish incursions. Additionally, Peterson (2006:108) reported that, a fragment of a Spanish Colonial period effigy spout of an open-mouthed lion that was collected from Actun Chanona by members of the Belize Department of Archaeology (DOA site file 32/189-5:2). While we know that well-documented cave use continues into the historic period in Yucatan (See Awe and Helmke for discussion 2015:351-352; Stone 1995), in Belize our knowledge of Postclassic rituals is limited and reports are rare.

Conclusion

If one walks into a cave and notices large jars dating to the late facet of the Late Classic period, it is easy to jump to the conclusion that the cave is a Late Classic site. In fact, in Belize, almost all caves contain these jars located in high places or placed along the back walls. What we do not find in our sample are many whole or partially intact vessels dating prior to this Late Classic period. Moyes and her colleagues have suggested that this particular pattern of use first identified at Actun Chechem Ha, constitutes a change in ritual practice that, based on concurrent drying conditions, population decline, and subsequent abandonment of the area is the manifestation of a Late Classic Drought Cult (Moyes 2006a; Moyes et al. 2009). However, contrary to the obvious evidence for Late Classic usage, using a high definition approach that includes ceramic analyses, data from excavations, and AMS dating, our project demonstrated that over half of the caves surveyed contained substantial evidence for sustained use beginning in the Preclassic or Early Classic periods.

The paucity of Postclassic cave use, particularly in the Early to Late Postclassic periods is also telling. In previous work Moyes and her colleagues (2009) have attributed this cessation in use to ritual failure and outright rejection of the institution of Classic period kingship. New evidence from Baking Pot (Hoggarth et al. 2014) suggests that people moved out of the area during the Early Postclassic and returned in the Late Postclassic, which could explain why caves were abandoned and not reused until later on. But, there are only isolated cases of either Late Postclassic or Colonial period cave use in Belize with no sustained ritual practice. This suggests that caves were intentionally avoided, though it is possible that this reflects limited use by very low and ephemeral populations in the region. However, the large accessible caves with long histories of ritual activity were never revisited. Connections of cave rites with a failed institution of kingship and state ritual, or even lesser-elite associations with caves would help to explain this result. Our findings suggest that at the end of the Classic period, we are possibly witnessing not just a change in ritual practice but a change in the religion itself.

Acknowledgments We would like to thank the Belize Institute of Archaeology, especially Dr. John Morris, for granting the permit to work at Las Cuevas as well as Allan Moore, George Thompson, Brian Woodeye and the hardworking staff at the institute especially Melissa Badillo, Tony Beardall, Sylvia Batty, Delsia Marsden,
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and Josue Ramos. Thanks also to the many crew members who helped with this work, particularly Shayna Hernandez. Special thanks go to our funding organizations, the Alphawood Foundation, the Hellman Fund, and the University of California, Merced.

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