CACHING AGGRANDIZERS:

RITUAL CACHING PRACTICES, COMPETITIVE GENEROSITY, AND THE RISE OF INEQUALITY IN THE PRECLASSIC MAYA LOWLANDS

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ABSTRACT

One of the central questions in Maya archaeology is why social, economic, and political inequality developed and what the long-term effects of hierarchical sociopolitical organization were at local and regional levels. A marker of developing inequality during Preclassic period (1200/1000 BC-AD 300) Maya communities is the appearance of dedicatory caches that mimic the orientation of the cosmos and reflect elements of the Maya creation story. These caches often contain exotic imported items and fineware ceramics that were costly to procure or produce, suggesting the creation of caches by an emergent high-status class. By placing caches in relation to monumental architecture, early Maya leaders bolstered their power and prestige within an emerging system of social stratification. This project examines the relationship between caching to the development of inequality by analyzing the form, contents, and function of three recently excavated deposits from the site of Cahal Pech, Belize as a case study. Laboratory analysis include ceramic, lithic, and radiocarbon dating. These results are compared to examples of previously excavated Preclassic caches from Cahal Pech and elsewhere in the Maya lowlands to assess the role of these features in the development of leadership strategies. This project also contributes to examinations of a common language of symbolic meaning that emerged alongside social inequality in the Maya lowlands.

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Chapter 1: Introduction and Background

Researchers have long wondered how relatively egalitarian societies could change in such a drastic fashion as to undergo considerable increases in social inequality throughout prehistory (Kintigh et al. 2014). In Mesoamerica, the appearance of permanent villages, population expansion, the introduction of pottery technology, and a commitment to agriculture first appear between 2000-1000 BC, and they influenced the establishment of increasingly complex social and political relationships within and between communities (Chase and Chase 2012:259; Clark and Cheetham 2002). Despite several decades of investigations, the processes impacting the development of complex groups in the Maya lowlands during the Preclassic Period (1200/1000 BC-AD 300) remains poorly understood. This study examines the use of ritual practices as an outlet for competitive generosity by aggrandizers in the Maya lowlands during the Middle and Late Preclassic periods (1000/900 BC-AD 300), focusing on caching practices associated with early forms of leadership at the site of Cahal Pech, located in the Belize River Valley of west-central Belize (Figure 1). For the purposes of this study, aggrandizers can be defined as individuals that seek to increase their status and influence in early stratified societies within culturally defined restrictions (Clark and Blake 1994). While egalitarian societies recognize distinctions between people, including age, sex, and achieved statuses, hierarchically stratified societies include those where hereditary inequality is a characteristic. In this context, ascribed status is reflected archaeologically through material culture that reflects rituals associated with "beliefs, creeds, symbols, and myths [that] direct, inspire, or promote activity, but they themselves are not activities" (Bell 1992:19).

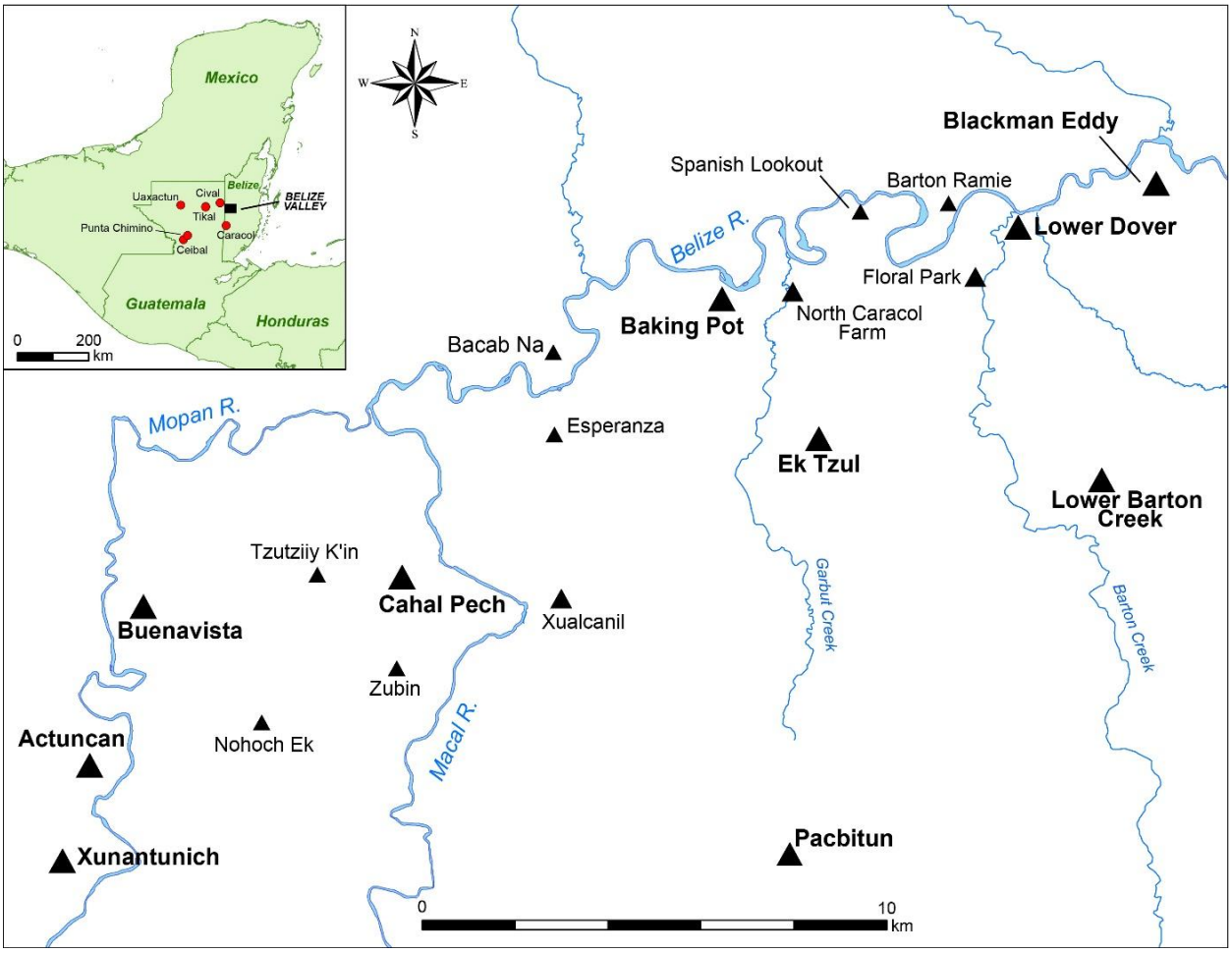

Figure 1: Map of Belize Valley and Maya lowlands (inset) with major sites mentioned in text (map by C. Ebert, 2018).

In this study, the results of targeted excavation, radiocarbon dating, and artifact analyses of Preclassic dedicatory caches from the site of Cahal Pech, Belize are used to document complex sociopolitical change during the Preclassic Period. Cahal Pech was initially occupied during the Early Preclassic period (~1200-1000 BC; Table 1) and subsequently abandoned during the Terminal Classic (~AD 850/900; Awe 1992; Ebert et al. 2017). This long occupation sequence offers an excellent case study to examine the relationship between inequality and caching practices among the site's Preclassic community.

Caches are common types of ritual deposits found in Preclassic (as well as later Classic period) contexts across the Maya lowlands. They are composed of single or dense concentrations of artifacts that were typically deposited intact (Schiffer 1987:79-80) or fragmented in diverse contexts (Morton et al. 2019). Cached artifacts in the Maya regions include pottery, jade, obsidian, faunal remains, and human remains, among other categories, and are typically not associated with utilitarian functions (Bradley 1982). While most caches are interpreted as ceremonial in nature (i.e., they are offerings), archaeologists have made distinctions between types of caches. Dedicatory caches are located under floors or within the construction fill of a building and were likely used to commemorate an important event. Termination caches, on the other hand, are placed on top of floors to mark the end of use life of a building or other architectural feature (MacLellan 2019:1250; Schiffer 1987:79-80). This study moves beyond documenting typological distinction between dedication and termination caches, and instead aims to determine the role that ritually charged caches may have played in the emergence of social inequality. Ritual caches provide insight to the ancient Maya perspective of life cycles and the nature of social structures, which informs upon ideological concepts including life, death, and renewal. They were powerful symbols that reflect not only the actions of an emergent elite class, but also the creation and maintenance of early forms of leadership.

Table 1: Chronological periods in calibrated radiocarbon years and associated ceramic complexes for Cahal Pech (after Awe 1992; Gifford 1976).

Time Period	Ceramic Complex	Calibrated year BC/AD
Terminal Classic	Spanish Lookout	AD 740-850/900
Late Classic	Tiger Run	AD 600-750
Early Classic	Hermitage	AD 300-600
Late Preclassic	Late Facet Xakal (Mount Hope)	AD 100-300
	Early Facet Xakal (Carton Creek)	300 BC-AD 100
Middle Preclassic	Late Facet Kanluk (Jenny Creek)	750-300 BC
	Early Facet Kanluk (Jenny Creek)	900-750 BC
Early Classic	Cunil	1200/1100-900 BC

Social Complexity and Origins of Inequality

While the model of typological benchmarks for a society moving from simple to more complex configurations can be problematic in some contexts, understanding common characteristics between stages creates a common reference point from which to assess related archaeological correlates. Following Sharer and Traxler (2006:70-71) socially complex societies can be defined as:

> ...societies that have more intricate and heterogeneous organizations than egalitarian societies where the only inequalities are based on gender and age (nonadult and adult, for example). Complex societies are both larger than egalitarian societies and organized with status and role categories beyond those defined by gender and age. They are also characterized by differential access to resources, which produces economic and sociopolitical inequalities such as ranking or social stratification.

Multilinear models of social evolution have been adopted by many archaeologists and are generally based on a combination of "archaeological indicators of increasing levels of economic and social integration and increasing degrees of social inequity" (Sharer and Traxler 2006:73). Through the lens of multilinear social evolution, relatively egalitarian social structures likely

dominated Early Preclassic Maya society (i.e., tribal societies; Clark and Cheetham 2002). Ranked societies appear during the Middle Preclassic, after 1000/900 BC, and represent the beginning of hereditary inequality through a material record that include monumental buildings, temple pyramids, long-distance exchange of exotic items (including specialized crafts), and multi-tiered settlement hierarchies (Sharer and Traxler 2006:73). The social integration of ranked societies is typically weak compared to state-level societies, which are "based on warfare and redistribution of goods," with social inequality "based on relationship to [the] chief" (Sharer and Traxler 2006:73). Power among ranked individuals instead is gained through achievements, such as "success in war, [adherence to] ideology, obligations created by gifts [and] feasts" (Sharer and Traxler 2006:73). In the Maya lowlands, the integration of Preclassic communities can be documented through shared traditions, such as ritual caching, that serve as a proxy for the creation of local interaction networks. During the Middle Preclassic, population expansion and economic growth throughout the Maya lowlands was also accompanied by the gradual adoption of a more standardized Mamon ceramic tradition (monochrome, red-slipped pottery; Willey et al. 1967), many of which appear in caches and signal the emergence of new integrative networks between different parts of the Maya region (Ball and Taschek 2003; Callaghan et al. 2018; Ebert et al. 2019). The exchange of these goods may have been intended for caching purposes, underscoring the development of a political economy (Earle 1997). Elite status was maintained through the monopolization of regional distribution systems (Clark 1987), which generated economic and social debt for subordinate members of society (Clark and Blake 1994). Many of the artifacts deposited in caches represent these specialized craft items including jade objects, marine shell items, and elaborate ceramic vessels.

Among ethnohistorically documented societies characterized by hereditary inequality (i.e. ranked societies), obligations are created through the act of resource redistribution in the form of gifts given in the contexts of feasts and ceremonies. Each contribution is often carefully recorded because all such contributions are seen as debts between those giving and those receiving (Clark and Blake 1994:21). Where this research departs from, or more accurately amends, the notion of power and prestige created through redistributive activities is that items redistributed in ritual contexts, such as caches, go beyond creating typical economic obligations. Rather, these actions would function to invoke the supernatural realm, and serve as sacrificial offerings for the entire community. Preclassic caching shared common elements such as the inclusion of items associated with maize (e.g., jade), cruciform layouts, and placement within monumental contexts, suggesting that "redistribution" of the items in the caches as well as their deposition were both equally important for the people creating the caches. The repetitive nature of caching would demonstrate not only adherence to a standard set of rules (Bourdieu 1977:167), but also an elevated form of ideological devotion and spiritual status, both of which would reflect upon an individual's social position within their community. The achievement of these prestigious individuals, or aggrandizers, through various forms of redistribution of goods including spiritual offerings could eventually lead to ascribed status for the hereditary aggrandizers (Clark and Blake 1994). The origins of hereditary status for the Maya may, therefore, have been in part related to the continual redistribution of goods through ceremonial actions, such as dedicatory offerings represented by caches. Hereditary rule is precisely what culminated in the appearance of dynastic rulership towards the end of the Late Preclassic (100 BC ~AD 100) at Cahal Pech, characterized by "strong... centralized hierarchies (ruler or kings)," with "social stratification based on status and wealth," and sources of power were expanded to include "management of

economy and coercive force and law" (Coe and Houston 2015:93-95; Sharer and Traxler 2006:73; Schele and Mathews 1998:18-19).

Preclassic Maya Caching Practices

The term 'cache' typically describes objects stored away for future use, sometimes in a secret place. In the context of the Preclassic Maya lowlands, however, caches are typically defined as a "reasonably discrete concentration of artifacts, usually not found in a secondary refuse deposit; in addition, ritual caches generally contain complete artifacts, sometimes unused, that are intact or easily restored" (Schiffer 1987:79-80), or fragments of objects that were ritually deposited in special contexts in surface and subterranean sites (Morton et al. 2019). According to Schiffer (1976), some caches fall into the category of *de facto* refuse, which held a special status in the same way as grave goods, because of their ritual nature. Bradley (1982) mentions that while caches are typically composed of items with utilitarian functions, other items may only have decorative or ceremonial purposes, and were sometimes purposely destroyed (see also Morton et al. 2019). While Bradley was referring to Bronze Age caches from north and north-west Europe, archaeologists working in Mesoamerica acknowledge collections of hidden artifacts are also primarily associated with dedication or termination offerings (Coe 1965; Morton et al. 2019).

According to Coe (1965:1401-1419), three common types of caches are found in the Maya lowlands: 1) dedicatory caches placed within construction fills or below stone monuments; 2) termination caches located on floors marking the final use of building; and 3) intrusive offerings cut into surfaces that are still in use. The presence of human remains in deposits identified as caches has at times confounded the typological distinction between burials and

caches. Becker (1992:187), for example suggest that, "archaeological evidence may not be able to determine if the intent was to cache (make an offering) or to bury (dispose of the dead). If this cannot be determined from an archaeological reconstruction of the evidence, then the process may not have been differentiated by those who made the burial or cache." In other words, burials may have also functioned as a type of cache associated with the deactivation of life during termination rituals (Monaghan 1998:47).

The practice of dedication and termination rituals has contemporary parallels among ethnohistoric and modern Mesoamerican populations. Vogt (1998) provides descriptions of Zinacanteco ceremonialism in the Highlands of Chiapas, Mexico, where dedication and termination rituals are often carried out during the construction or demolishment of buildings. There are two essential rituals for the dedication of a house among the Zinacanteco. The first involves compensating the Earth Lord for the building "materials taken from his domain" (e.g., wood, stone, thatch; Vogt 1998:21), making the building "part of the living Zinacanteco society," and providing the building with *ch'ulel* (i.e., inner soul). The ritual involves suspending four black chickens, which signify the four corners of the house, to a rope hanging from the interior central peak of the ceiling. A hole is dug to conceal the chicken heads that are eventually cut off and buried, an act that is seen as feeding the Earth Lord. Vogt (1992:21) describes that, "chicken broth and sugarcane liquor [are fed to the Earth Lord]... by pouring both liquids on the four corners of the joints on each of the three level and on the peak of the roof where the rafters come together." Significantly, the quadripartite nature of this contemporary Zinacanteco ritual is similar to cosmological models created in prehistoric caches placed underneath building floors (Awe In Press; Lucero 2010). Additionally, the use of liquids (including alcohol) can also be

extrapolated to prehistoric contexts since most caches contain whole vessels, sometimes with spouts.

Caching and Maya Ideology

The entirety of Maya ideology is vast in its scope and cannot be fully comprehended or detailed within the confines of this thesis. The purpose of this section is to describe current understandings of ancient Maya ideology gained through archaeological, ethnographic, and ethno-historic data, focusing on the symbolic expressions associated with caching practices.

At the center of Maya ideology lays the creation narrative, which is a tale of trial and error, coupled with key figures striving to conqueror forces that were hindering the creation of humanity. The most extensive account of the creation narrative is the colonial era document *The Popol Vuh*, written in the K'iche Mayan language and originally translated by the Dominican priest Fransico Ximenez in the 18th century (Christenson 2007:12; Tedlock 1996:27). *The Popol Vuh* recalls the need of the gods to create a humanity able to worship and sustain the gods (Christenson 2007:65). To bring about the current incarnation of creation, the gods had to experiment with several trial runs of quasi-humans, but failed to bring forth the people able to fulfill the god's requirements (Christenson 2007:76).

The summarized version of the creation narrative introduces a set of twins before the current creation (i.e., the present world we live in). The twins are ball players that are challenged and defeated by the lords of Xibalba (the underworld) in the Maya ballgame. One of the twins, Hun Hunahpu, was decapitated; his head was planted in Xibalba and sprouted a tree with his head as fruit that subsequently impregnated a lord of Xibalba's daughter. The pregnancy resulted

in a second set of twins, known as the Hero Twins, who defeated the lords of Xibalba in another ball game. After partaking in a series of adventures, the Hero Twins consult their grandparents Xmucane and Xpiyacoc, the modeler and maker of humanity, to create human flesh out of ground maize meal. To repay the gods for their creation of humanity, human beings are required to worship and sustain the gods with sacrificial offerings including maize (Christenson 2007:183; Tedlock 1996:145–146). This creates a reciprocal relationship between humanity and the gods and is often recreated materially through sacrificial offerings often deposited in dedication caches.

The importance of cosmology, as any model of reality, is that it grounds the people of a culture in a well-defined landscapes, allowing people to make sense of the world along social principles (Bourdieu 1977). *The Popol Vuh* also explains the composition of the Maya cosmos as a quadripartite universe aligned to the cardinal directions of north, south, east, and west (Christenson 2007:56). The quadripartite world is inhabited by humans, animals, and plants, and is encompassed above and below by a celestial realm and underworld, respectively, both of which are inhabited by gods, supernatural agents, as well as the deceased. The celestial realm is composed of thirteen levels that arch over the earth, six levels up to the seventh level at the apex, and six more levels down. The underworld is composed of nine levels that descend below the earthly realm, four level down to the fifth level at the nadir, and four more levels up (Schele and Mathews 1998:67). The symbolic analogs to the quadripartite model are the *milpa*, or slash-and-burn maize field, and the Maya house (Taube 2012), which demonstrate importance of the structure representing the base of the family unit and the broad ubiquity of maize in the human realm. Maize was the staple crop of the ancient Maya to such a high degree that Proto-Mayan vocabulary contained several words to describe “maize agriculture, with separate words for

generic maize, the green ear, the mature ear, the cob, maize flour, maize dough, the tortilla, a toasted maize drink, the grindstone, and three terms for the increasingly fine grinding of maize" (Sharer and Traxler 2006:28). The importance of maize also pervaded ancient Maya religious and political systems (which were likely one and the same), and their iconography, with kingly and elite regalia often displaying quetzal plumes and jade celts, both of which were depictions of maize elements (Taube 2000). Depictions of the Hero Twin's father Hun Hunahpu, described in the *Popol Vuh*, cast him as the Maize God who was resurrected from the underworld (Figure 2).

Figure 2: Resurrection of the Maize God depicted on a Late Classic polychrome dish (drawing by Shawn Morton; from Awe 2020).

During the Classic period, the connection between king and the Maize God was most popularly represented in the artwork. For example, the imagery displayed on the sarcophagus lid

of King Pakal of Palenque depicts him as the Maize God either descending into or emerging out of the underworld after his death (Schele and Mathews 1998). Representations of tamales, a food product made primarily from maize dough, are seen throughout Classic period Maya artwork and epigraphy (Taube 1989). Maize was of such paramount importance to the ancient Maya that humans are seen as being created from maize in the Popol Vuh (Christenson 2007; Tedlock 1996). Examples of the Maize God imagery during the Preclassic period are also prevalent across Mesoamerica. At Cahal Pech, for example, the association of rulers with the maize god is artfully represented in a dedicatory cache found in Structure B4 (Awe 2020). This Preclassic cache also provides an excellent example of the layered cosmos, which is represented by two lip-to-lip vessels, enclosing a human skull (Figure 3). In this cache, the top vessel is interpreted as representing the celestial realm, while the bottom vessel represents the underworld. The two ceramic vessels with the human skull inside are framed by human long bones along each cardinal direction, as well as by spouts from chocolate vessels, the heads of figurines, and the shell effigy of a crocodile that was placed beneath the lower vessel to represent the watery underworld (Awe 2020:10-13). The complex and symbolical charged arrangement of the cache, as well as the placement of the exhumed human remains around and inside the lip-to-lip configuration led Awe (2020) to suggest that the remains were likely those of a revered high-status individual whose remains were deposited in such a way as to associate him with the decapitated Maize God.

Figure 3: Photograph of Burial B4-3 from Cahal Pech, showing lip-to-lip cache (photograph by Jaime Awe).

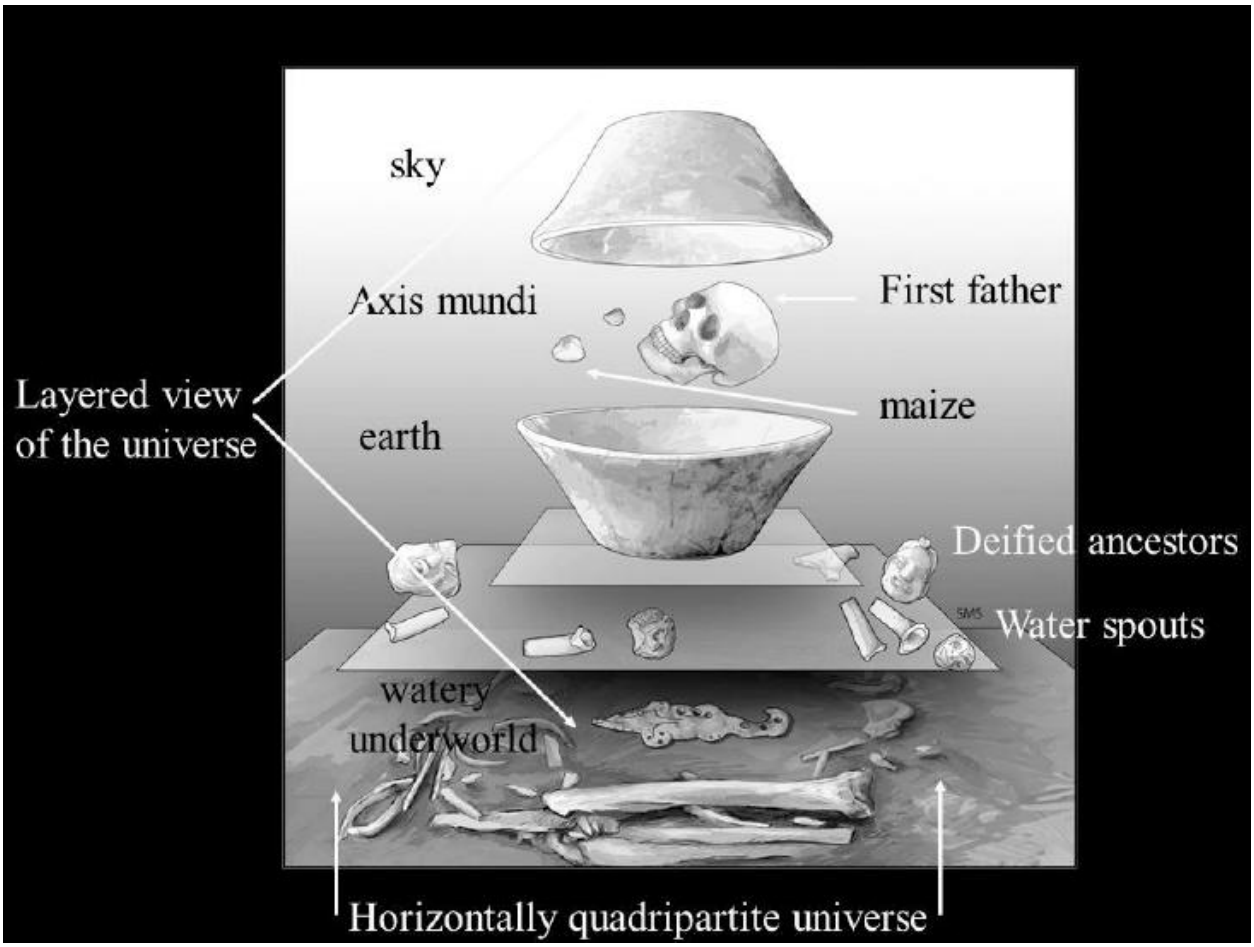

Figure 4: Artistic reconstruction of Burial B4-3 from Cahal Pech (drawing by Sarah Sage; from Awe 2020:4).

One of the central objects within the Structure B4 cache (i.e., Burial B4-3) is jade, known for its esthetically appealing greenish and bluish color, as well as its relative rarity. The only known source of jade in Mesoamerica is located along the middle and upper reaches of the Río Motagua in Guatemala. In numerous studies, jade is related to symbols of "rulership and authority, wealth, water, maize, and centrality" (Taube 2005:23), especially during the Classic period. Taube (2005) discusses the use of stylized jade celts in ceremonial contexts, stone implements that typically have a beveled edge made into adornments and as blanks to sculpt other artistic forms. Taube (2005:23, 2000:300) notes that celts held cosmological significance as

early as the Middle Formative period (900-500 BC) across Mesoamerica. Numerous celts associated with the Gulf Coast Olmec include examples of the maize symbolism with incised depictions of the Olmec version of the maize god as the central world tree at the axis mundi (Taube 2005:24). One of the earliest examples of four jade objects framing a central image in the Maya lowlands has been documented at the site of Cerros, Belize, during the Late Preclassic (Taube 2005:25). Earlier Middle Preclassic examples have also been found at the site of Ceibal in Guatemala (Inomata and Triadan 2015). The symbolism of celts in the Maya cosmological model is nuanced to distinguish the difference between horizontal and vertical oriented celts to denote earth and sky celts, respectively (Taube 2005:25). The evidence for this contrast is provided by Copan's Stela A, which refers to stelae as "celt stones" (Stuart 1996:162). The role of stelae as celt forms continues into Postclassic Mixtec ideology that views a vertical copper ax as supporting the heavens (Taube 2005:25).

The use of jade celts as multi-faceted representations of the cosmological model, maize, and the Maize God demonstrates the importance this form of jade held. Flannery and Schoenwetter (1970:148-150) explain two possible uses for celts. First, they were a way of "'banking' unpredictable maize surpluses (as an alternative to storage) is to convert them into imperishable trade goods which can be used wither (1) as 'wealth' in time of shortage, or (2) as part of a ritual exchange system, used to establish reciprocal relations between neighboring peoples." Taube (2000:300) refers to the similarity such a system has to the Kula exchange system among the Trobriand of Melanesia. In addition to shell ornaments, greenstone celts called *beku*, were also exchanged. The use and context of jade celts in Mesoamerica, at least with the Olmec, as Taube (2000) points out, likely functioned beyond an early form of currency.

Caching practices have also been associated with ancestor veneration in the Maya lowlands. They represent ceremonial aspects of reverence for ancestors that are continuing to exist in the current or another realm after their passing (McAnany 2013:1). McAnany (2013), discusses the uses of ancestor veneration in ritually prescribed settings of formalized respect, which engages the notion of a system of legitimacy. McAnany (2013:14) states "...the importance of ancestor veneration as an agent of legitimating is being recognized increasingly not only in hieroglyphic text of royal dynasties but also in non-elite residential compounds. Ancestor veneration, however, does not exist in a vacuum; rather, it is the quintessential expression of lineage structure." This element of ancestor veneration, as a system of lineage structure, is important to understanding the use of ancestor remains in dedication caches. Late Classic caches at Saturday Creek, Belize, for example, were placed in residential spaces and included smashed jars aligned in cardinal direction configurations (Lucero 2010:146-153). The human skull placed in Structure B4 at Cahal Pech also reflects this type of ancestor veneration (Awe 2020). These contexts reflect a system of ancestor veneration that involved a prescribed manner of tracking genealogies to maintain a coherent understanding of complicated kinship networks that were likely forged in the Maya lowlands and "mitigate competition for resources" (McAnany 2013:15). The placement of caches underneath floors or in the ground on the centerline of structures created cosmological place for commoners and elites alike (Lucero 2010:14-145), but also centered on human remains to keep close spiritual ties for purposes of ancestor veneration (McAnany 1995).

The Preclassic Period in the Belize Valley River Valley and Cahal Pech

The focus of this thesis is on Preclassic caching practices at the site of Cahal Pech, but also includes a comparison to contemporaneous sites in the Maya lowlands during the Middle (1000-300 BC) and Late (300 BC-AD 300) Preclassic periods. Cahal Pech is located in the modern-day Belize Valley in the Cayo District of Belize, Central America (Figure 5). The site core is upon a hilltop in the modern-day city of San Ignacio at the confluence of the Macal and Mopan Rivers. Cahal Pech was initially settled around 1200 cal BC during the Early Preclassic, which is associated with the Cunil ceramic phase (1200/1000-900 BC; Awe 1992:344; Ebert et al. 2017). The first permanent inhabitants maintained their livelihood by subsisting on a combination of low intensity agriculture and the gathering of wild plants and riverine resources, along with hunting animals (Ebert et al. 2019). In addition to Cahal Pech, the Belize Valley was the home of several Early Preclassic Maya communities located at Xunantunich, Barton Ramie, and Blackman Eddy. Settlement along a major river allowed these communities access to riverine resources, and a conduit for communication and trade (Awe 1993:345). The location of the site core on hilltop follows the trend of Early Preclassic settlements and villages settling on hilltops (Awe 1992:345; Rice 1976).

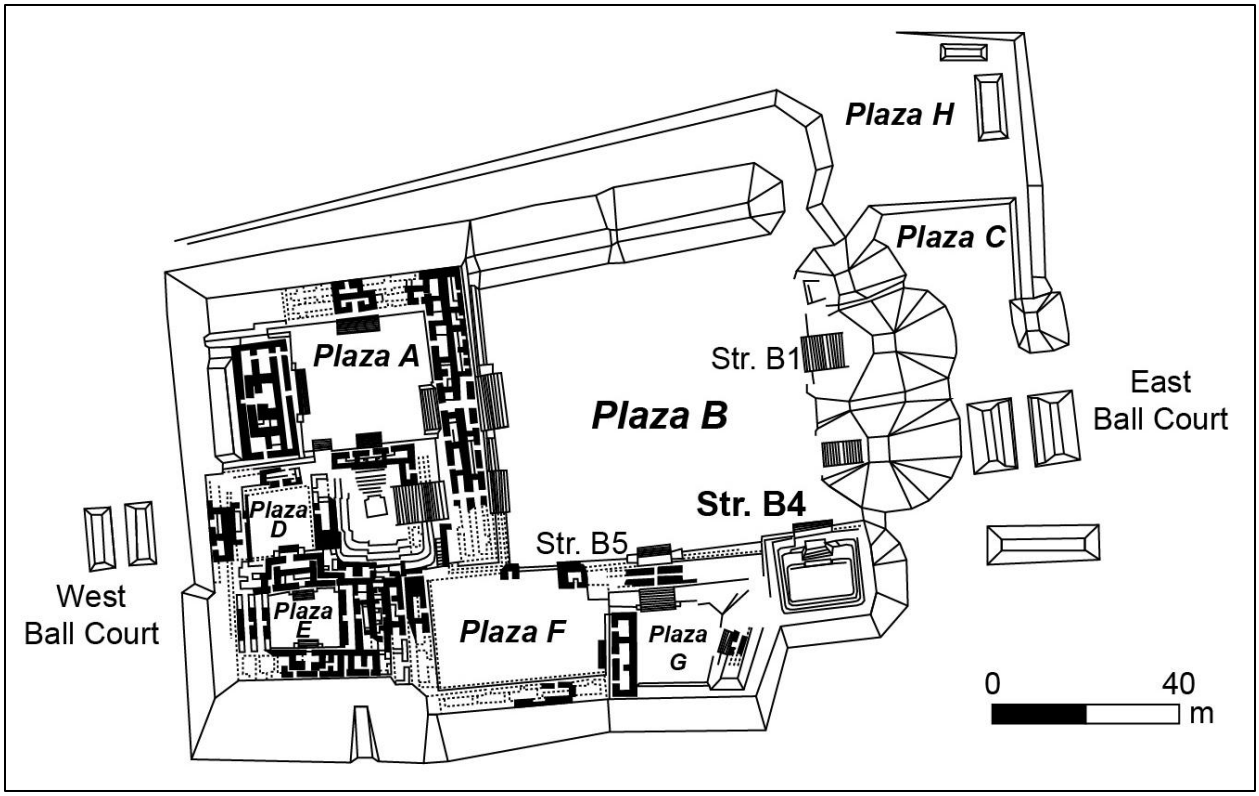

Figure 5: Map of the Cahal Pech site core (courtesy of the BVAR Project).

In addition to producing utilitarian items, the initial inhabitants of Cahal Pech were also involved in specialized craft production. Craft items documented from the site include locally produced fineware ceramics (Ebert et al. 2019), as well as imported exotic items including greenstone beads and celts, marine shell discs, and slate plaques (Awe 1992:346). The presence of jadeite and marine shell demonstrate that the founders of Cahal Pech were already involved in long distance trade at its initial settlement (Awe 1992: 348). The development and use of craft objects by the lowland Maya are important when considering the objects that were placed in ritual caches. Previous excavations of Structure B-4 at Cahal Pech, for example, provides evidence that caches with objects such as jade were used to mark difference in status among the inhabitants of the area (Awe 1992). The cache also contained many items for personal adornment, crafted from both local and traded materials, which is viewed as a form of conspicuous consumption (Awe 1992: 348-349).

The Middle Preclassic Kanluk ceramic phase (900-300 BC) shows striking changes at Cahal Pech in terms of population growth and the increase of construction activity in the site's epicenter (Awe 1992:352; Ebert et al. 2019; Horn 1995; Peniche May 2016). New, locally produced ceramic types appear in the Cahal Pech assemblage including Jocote and Savana ceramic types, primarily unslipped water jars and red-slipped bowls respectively, which dominate the assemblages. Trade during the Kanluk Phase, like the Cunil Phase, was robust, circulating the same imported materials, such as greenstone and marine shell, while also expanding to include raw materials for obsidian technology from other sources (Awe 1992:353; Ebert 2017). The first appearance of distinct social inequality also appears during this time, in the form of architectural shift and formal high-status burials. Architectural shifts include "the first lime plastered courtyard, and the erection of several new domestic and non-domestic structures around the perimeter of the plaza," all located in the site's monumental epicenter, surpassing the outlying structure groups in frequency (Awe 1992:353).

Burials also begin to change during this period when the first burials were placed in the Cahal Pech epicenter (Awe 2013:34), sometimes associated with cached vessels and other objects (see Zanotto 2017). Plaza B Burial 1, for example, was located on the east side of a large platform with caches arranged on the southeast, northeast, southwest, and northwest corners of the platform (Awe 2013:35; see also Garber and Awe 2008; Horn 2015). The human remains are believed to have been disarticulated and placed in two separate crypts, including a skull in a crypt near to the southeastern corner and what is likely the body of the same individual at the southeastern corner of the platform (Figure 6; Awe 2013:35). Garber and Awe (2008:187) have argued that these remains likely are those of an important individual, perhaps connecting this person with the father of the Hero Twins in the Maya creation story who was decapitated by the

Lords of Death, and was later resurrected by his sons (Tedlock 1996; Christenson 2007). Therefore, the burial associated with the platform is an example of ascribed status based on the placement in public architecture, with the presence of exotic grave goods (Awe 2012; Chase 1992; Grove and Gillespie 1992).

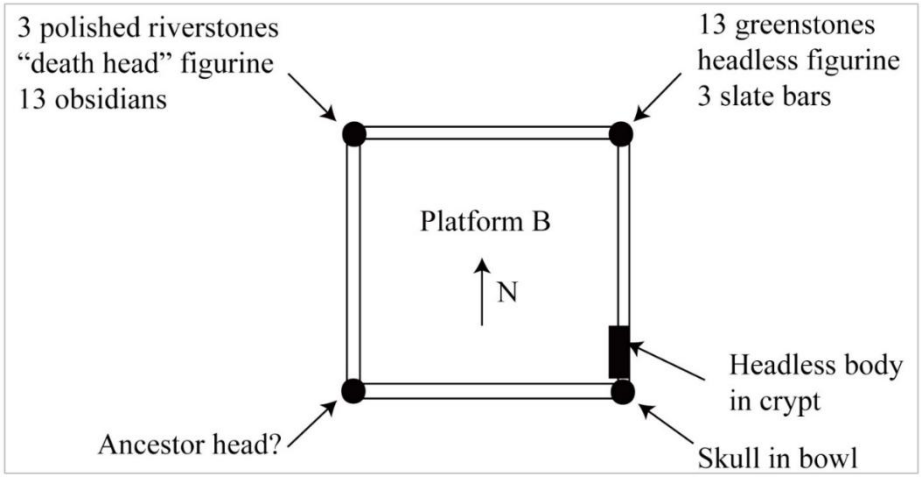

Figure 6: Illustration of Platform B showing location of caches and burial (from Awe 2013:Fig. 3).

During the Late Preclassic Xakal Phase (300 BC-AD 300), the rate of construction at Cahal Pech reached its highest peak during the Preclassic. Accelerated architectural activity in the site's monumental core included the expansion of several public and private plazas and construction of temple-pyramids. Plaza B, the largest public plaza at Cahal Pech, was raised and enlarged, and Structure B4 underwent several modifications beginning with the construction of a specialized round structure (Ebert et al. 2017), and terminating with a large, 4-m-high pyramid that supported a pole and thatch super structure (Awe 1992). Plaza A, a private elite space, was also expanded and Structure A-1 (the *audiencia*) reached a height of almost 15 m. Populations also began to expand around the Cahal Pech site core in the Late Preclassic. Approximately 75% of all the mounds tested produced evidence of initial construction (Awe 1992:356; Ebert et al. 2017). The appearance of monumental residential architecture denotes the intensification of

wealth based status. The various sizes and quality of construction material for monumental residential architecture is based on access to resources and labor, which also corresponds with a centralized political component in agrarian societies (Feinman and Neitzel 1984; Hayden and Cannon 1983; Netting 1982; Smith 1987; Wilk 1982). As during the Middle Preclassic Kanluk Phase, the expansion of construction at Cahal Pech was accompanied by a further expansion of trade, and the increase of imported jadeite, obsidian, marine shell, "iron pyrite for mosaic 'mirror' plaques, magnetite, and possibly ceramics" (Awe 1992:356-357). Increasing craft specialization may have linked the community into interdependent networks designed to accumulate wealth above the household level (Costin 1991; Hirth 2009). Both the construction of monumental buildings and the expansion of trade networks show social hierarchy able to marshal material and human resources to build and maintain technological and ideological aspects of Maya lowland society (Awe 1992:357).

Research Questions and Thesis Organization

Caches in the Maya lowlands provide visual representations of ideology and cosmology (Awe 2020; Lucero 2010; Becker 1992), but how do Middle Preclassic ritual caching practices reflect the development of Maya ideology for the purpose of elite aggrandizement (Clark and Blake 1994)? This thesis examines the role of prestigious objects deposited in caches as mythological and cosmological representations of the world that were manipulated by emerging elite members of the Preclassic Cahal Pech community. In other words, if caches in ritual and elite contexts resemble elaborate spiritual representations constructed from prestige objects, then they might reflect a form of spiritual and social aggrandizing behavior by elites to consolidate and maintain socio-political influence and power.

To answer the general question of how caches functioned to create power and prestige at the community and regional levels, this thesis asks the following questions:

1. Do caches from Cahal Pech and other Maya lowland sites contain artifacts that have ideological symbolism and/or were they arranged in a manner to symbolize ideological concepts?
2. Are the artifacts in caches examples of prestigious items in Maya society?
3. Are artifacts classified as prestigious found in only certain spaces, for example, ceremonial or elite contexts?

To examine these research questions, this thesis is organized in six chapters to build upon previous research, present data gathered from laboratory analysis of three caches found in 2017 in Plaza B of Cahal Pech, and to compare the Cahal Pech data with previous caching data recorded at sites in the Maya lowlands. Following the introductory chapter, Chapter 2 discusses three theoretical perspectives used to interpret the data presented in this thesis including the appearance of aggrandizers in the archaeological record of Mesoamerica (Clark and Blake 1994), identification of key symbols among the Preclassic Maya (Ortner 1973), and Practice theory (Bourdieu 1977, 1990). Chapter 3 describes the excavation and laboratory analyses of three dedicatory caches excavated from Plaza B at Cahal Pech during the 2017 field season. Chapter 4 presents the results of the laboratory analysis of the caches from Cahal Pech. Chapter 5 is a discussion of the how the results of the analyses answer the research questions and how the theory relates to the results. This chapter also presents a comparison between the 2017 Plaza B caches and other Preclassic Cahal Pech caches, and with caches recorded in the published literature from elsewhere in the Maya lowlands. Chapter 6 concludes the thesis with a final

summary of the research and its conclusions, and it provides recommendations for future research on this topic.

Chapter 2: Theoretical Background

The goal of this thesis is to determine to what extent ritual practices played a role in the growth of social inequality. In particular, it examines the role caches, as a form of competitive generosity, was used by emerging elite individuals in Preclassic Maya lowland society. Clark and Blake (1994) provide a model for understanding the appearance of aggrandizers (i.e., emergent elite) among Formative (Preclassic) Mesoamerican communities and competitive generosity as an avenue to gain power and prestige in relatively egalitarian societies. The specific examination of ritual caching practices in this thesis is found to reflect the manipulation of symbolic expressions of Maya ideology by these early aggrandizers. The importance and role of different types of symbols in a culture and the way to identify such symbols is discussed by Ortner (1973). Bourdieu (1977, 1990) provides his perspective on the establishment of cultural ideology as a construction of schema that creates and reproduces dispositions that are practiced by participants of a society, who can strategize to gain benefit from such a system, and change the established norms in various ways.

Aggrandizers and Social Inequality in Mesoamerica

The appearance of aggrandizers in social inequality stems from the consequences of individuals' or families' promotion of their own social, political, and economic agendas, and kick starts a process that would eventually pave the way for dynastic rulership in lowland Mesoamerica. Clark and Blake (1994:17) suggest that the transition from egalitarian to rank societies resulted from competitive generosity by these aggrandizing individuals and general competition between factions, which likely fell along kinship lines. Often this included the

display of items such as imported fineware ceramics displayed in the contexts of competitive feasting, where emergent leaders used resources (e.g., newly adopted ceramic technology; food) to establish a coalition of supporters. Among Formative period communities in the Soconusco region of Mesoamerica, along the Pacific Coast of Guatemala and Mexico, aggrandizers may have introduced specialized crafts, such as fineware ceramic vessels that were redistributed as gifts (Clark and Blake 1994:24). Competitive generosity then created reciprocal obligations or built connections between trading partners. The individuals in the coalition of supporters would likely cement alliances through marriage-based unions, with aggrandizers joining with other influential families, and creating a larger, more powerful kin group with ascribed social status (Clark and Blake 1994:23). Other social norms likely changed, as well, with cascading effects on social action and cohesion. New alliances and competitive rivals fueled change in and outside of communities as aggrandizers had to spread outside their communities to establish connections with more areas to increase their influence (Clark and Blake 1994:28-29).

Key Symbols

An essential feature of aggrandizers' strategy to gain and maintain prestige and power in early Maya communities was likely the manipulation of symbolic elements of Maya ideology, or what Ortner (1973) calls "key symbols". Ortner (1973:1338) states, "it is by no means a novel idea that each culture has certain key elements which, in an ill-defined way, are crucial to its distinctive organization." Going beyond the purely structural-functionalist perspective of culture that focuses on the environmental aspects of cultural change, a deeper meaning of the symbolic aspects of a culture allows for a more nuanced understanding of possible developments of structural facets of a society. The post-processual archaeological perspective maintains that

symbols played an important role in past society as it does today, but is confident that interpretations can be reached with useful application, even if the symbol is not thoroughly understood in the context of the specific time and culture (Hodder 1992). In this respect, Ortner (1973:1339) recognizes how "the investigator observes something which seems to be an object of cultural interest, and analyzes it for its meanings." To this is end, Ortner (1973:1339) lists five indicators of key symbols, which are documented in Table 2. While maintaining that there are probably more indicators, Ortner also asserts that these basic indicators are enough for an investigator to discern symbols of importance in a culture. Though Ortner is approaching the study of symbols from a socio-cultural prospective, which deals with living community members, the five indicators of symbolic importance that she identified can still aid archaeological analysis.

Table 2: Indicators of key symbols, summarized after Ortner (1973).

Key Symbol Number	Indicator
1	Local discussion of cultural importance
2	Positive or negative emotions associated with symbol, as opposed to indifference.
3	The symbol appears across contexts (e.g., domestic, ceremonial, elite, and non-elite)
4	The symbol is associated with cultural elaboration (e.g., special vocabulary) compared to similar phenomena
5	There are cultural restrictions associated with the symbol, including large number of rules of sanctions associated with misuse of symbol

The items represented in ritual caching expresses key symbolic aspects of Preclassic Maya culture. Because previous sections describe ancient Maya ideology in more detail, I will only reiterate how some of those aspects relate to symbols expressed in caching contexts, and how they meet Ortner's key symbols criteria. Because cultures possess many key symbols, I am

also not attempting to diminish or prioritize Maya ideology by focusing on specific symbols in this section and throughout this thesis. Instead, my aim is to demonstrate the utility of these concepts in identifying key symbols by using Ortner's five indicators.

As a key symbol, maize meets the requirements for indicators laid out by Ortner. First, maize is culturally important, which is demonstrated by the continued significance of maize as a staple crop of Mesoamerica in modern times (Sharer and Traxler 2006:645–646) and by its mythological status in *The Popol Vuh* (Christenson 2007:118). Second, the members of the culture seem positively excited by maize. The third indicator of maize's importance is the variety of different contexts in which it is represented. Various maize forms show up in Mesoamerican artwork (Taube 1989, 2000; Saturno et al. 2005) and Preclassic Maya pottery (Sharer and Traxler 2006:181), usually tied with creation narratives. Classic period rulers are also known to have modeled their appearance after depictions of the Maize God. For example, the King Pakal of Palenque is depicted as the Maize God on his sarcophagus lid (Schele and Mathews 1998:111). Jade celts, common in Classic Maya royal burials, are also interpreted as being stylized representations of maize cobs, and there are numerous examples of jade celts with carved images of the Maize God (Taube 1985; 2000). These examples are also related to the fourth indicator, the elaboration of a symbol, and in the case of the Maya elaboration to span different domains. The fifth indicator deals with the restrictions and sanctions surrounding maize, which is difficult to discern from an archaeological perspective.

In addition to the five indicators of key symbols, Ortner (1973) also distinguishes between summarizing and elaborating symbols, which exist along a continuum. Summarizing symbols provide an emotional connection to members of the culture in a "relatively undifferentiated way, what the system means to them" (Ortner 1973:1339). The summarizing

symbol often has a sacred characteristic, which lend the symbol a reverential quality and invoke a profound emotional response (Ortner 1973:1340). An example of a summarizing symbol is the American flag, which embodies the mythos and ethos of the so-called "American Way," without encouraging logical reflection of those ideals validity or realized consequences and demands full faith and devotion (Ortner 1973:1340). Among the ancient Maya, maize is a summarizing symbol that is comparable to a national banner. Not only was it consumed as a primary food, but it was central to the mythos of the ancient Maya creation. For example, maize meal was used to create the first humans as described in *The Popol Vuh* (Christenson 2007:183; Tedlock 1996:146; Taube 1989:38). Different interpretations describe the head of the Hero Twins father sprouting from beneath the earth. The Hero Twins father rises to the celestial realm to become the Maize God (Schele and Mathews 1998:117; Awe 2020:27).

The other sub-category of key symbols is elaborating symbols, which helps people understand more complicated abstract ideas expressed by summarizing symbols (Ortner 1973:1340). An important aspect of elaborating symbols is that they are not typically held as sacred in the same way summarizing symbols are revered (Ortner 1973:1340). Elaborating symbols, on the other hand, are important for their ability to orientate the participants to the experience of their cultural reality. Ortner refers to the elaborating symbol's ability to conceptualize "root metaphors" (Pepper 1942). An example of a root metaphor for the Maya is the quadripartite cosmological model. The ancient Maya envisioned a quadripartite cosmos with four sides and four corners, with each side representing one of the four cardinal directions (e.g., north/white, south/yellow, east/red, and west/black), and the axis mundi at the center (Sharer and Traxler 2006:704; Taube 2012:744–745). The axis mundi itself, which is at the center of the three-tiered cosmos with the earthly realm at the center, is often represented as a crocodile or a

turtle floating on the primordial sea (Taube 2012:746). On other contexts, the axis mundi is interpreted as the World Tree that resembles the ceiba tree, a plant that would have been easily identified by the Maya in daily contexts (Taube 2012:746). While the quadripartite layout of the Maya cosmos also relates to the layout of a *milpa*, a corn field that would have been cultivated by most Preclassic Maya families (Coe and Houston 2015:16; Sharer and Traxler 2006:704; Taube 2012:744).

This elaborating symbol is also present in the contexts of dedication and termination caches (following Ortner's third criteria that symbols be represented in multiple contexts). For example, the Middle Preclassic Cache 4 at Cival, Guatemala, dating to around 600 BC, included five jars to represent the four cardinal directions and the axis mundi associated with the Maize God (Figure 7; Estrada-Belli 2006). Late Classic caches at Saturday Creek, Belize, also show three layered ceramic vessel deposits with items placed at the cardinal directions of all three layers (Lucero 2010:149–153). The Structure B4 cache at Cahal Pech, Belize, with lip-to-lip vessels containing the remains of a human skull and two jadeite triangulates that were surrounded on four sides by ceramic spouts and figurines, symbolize not only the three-tiered cosmological patterning, but refers to the resurrection of the Maize God as personified by the human skull remains (Awe 2020). These examples of cosmological pattering in site layout, architecture, and ritual caching composition show the elaboration of the model to other aspects in Maya society.

Figure 7: Photograph of Cache 4 at Cival, Guatemala (courtesy of Jaime Awe).

By identifying key symbols, members of a given culture are able to lay out clear scenarios or actions that are appropriate. Ortner (1973) expressly describes a key scenario as including rituals in addition to examples of narratives that encompass the ideological aspects of a culture's core values (e.g., *The Popol Vuh*). Caching was practiced by both commoner and elite in ancient Maya society (Lucero 2010), and was not simply a way to showcase symbolic importance of particular items, but was also used to promote harmony. Ethnographic account of Zinacanteco dedication and termination rituals (Vogt 1998) demonstrates the importance of caching rituals to properly animate structures with a life force, imperative to keeping all the spiritual and thus natural forces in harmony. The owners of a new Zinacanteco dwelling repay different gods and supernatural agents with offerings and prescribed actions, for example, cane liquor, pine branches, and chicken heads maintain harmony for their home and community.

Among the prehistoric Maya the practice of ritual caching produced positivity from the participants of the ritual and community. Lucero (2010) also contends that the cosmological patterns of dedication caches gave the Maya, especially commoners, the sense of being significant in their own space, and endowed a greater societal sense in the face of increasing social inequality.

The elaboration of caching (following Ortner's fourth criteria) is also apparent in dedication and termination caches across the Maya lowlands. The variations in ritual caching composition and orientation are discussed in further details in later sections, however, while certain symbolic trends are present in different city centers and regional contexts, those various symbolic representations are constructed with varying materials. One simple example is the configuration of five greenstone celts into a cruciform, with four celts at the cardinal directions, and one celt as the axis mundi. A more elaborate expression of a cruciform is a cache at Cival (Cache 4), with several vessels at each tier to represent the four corners and jade celts and pebbles mostly grouped in the center of the cache as the axis mundi (Estrada-Belli 2006).

While no written account of restrictions or sanctions on the uses or components for ritual caches are known it is clear that ritual dedication and termination performed by contemporary Maya communities have specific requirements to meet when carrying out such rituals (Vogt 1998). Initial phases of house dedication are handled by the builders, while later phases of the ritual must be conducted by the local religious practitioners. With each phase, certain numbers of chickens had to be used and a set amount of procession rotations had to be completed while passing through the four corners of the dwelling (Vogt 1998). Maya dedication rites have formalized rules in contemporary practice, and it stands to reason ancient Maya dedication rituals had rules formulating their use.

The interaction of key symbols in the overall system of cultural symbols has to do with the effect a summarizing symbol has in relation to other symbols that makes sense in the context of a key summarizing symbol (Ortner 1973: 1343). For example, maize as a summarizing symbol is "logically prior" to the larger idea of the Maize God, maize as an essential ingredient of humans, and maize as a human food. The interactions between the multiple facets of maize in the Maya culture and as a symbol is tightly condensed, but is aided by elaborating symbols, which can unpack the complicated nature of people emotionally aroused by a key summarizing symbol. The elaborating symbol of Maya cosmology "extensively and systematically formulates relationships–parallels, isomorphisms, complementarities, and so forth–between a wide range of diverse cultural elements" (Ortner 1973: 1343). It is important to mention that both summarizing and elaborating symbols may take on aspects of each other's qualities. Summarizing symbols key to culture "may move into the sacred mode and operate in much the same way as does a summarizing symbol... and... some summarizing symbols may play important ordering functions, as when they relate the respondent not merely to a cluster of high level assumptions and values, but to a particular scenario which may be replayed in ongoing life" (Ortner 1973: 1344). This dynamic aspect of key symbols is crucial to not only understanding the role certain symbols play in a culture, but also how the symbols play into an established order that can be manipulated for personal gain (Bourdieu 1977:164).

Practice Theory

Pierre Bourdieu's theory of practice also works well to understand ancient Maya ritual caching as an element of aggrandizer behavior. Practice theory, in broad terms, suggests that social actors, based on their cultural dispositions and previous events, actively construct cultures.

This approach to understanding human behavior suggests that structural and agency approaches are insufficient theoretical frameworks (Bourdieu 1977, 1990) since they only account for extremes in human behavior within a given society. In the case of an objective structural approach to society, Bourdieu (1990) argues against the use of universal laws and structures to understand any given society because proponents of the rigid structure were unable to account for change within a society. While on the opposite side of the theory spectrum, proponents of social phenomena rely too heavily on individual agency to explain social phenomenon (Bourdieu 1977). To bridge the divide between the two extremes of social theory, Bourdieu (1977), developed in his theory of practice an answer to the rigid extremes, calling it the *habitus*.

The term *habitus* is Bourdieu's (1997) way to explain the structural rules of social phenomenon. It is described as "a system of lasting and transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions and makes possible the achievement of infinitely diversified tasks" (Bourdieu 1977:82-83). In other words, the way in which a culture is arranged is related to historical contexts that likely continue to present. While it reinforces similar dispositions (i.e., perceptions) in people by way of practices modeled in the past, people are able to defy or augment cultural norms that reproduce structures. In this way, ritual caching can be seen as a type of practice formed from the past dispositions and functioned as an actable expression of that past reproducing itself. As a ritual practice, using various symbols representing subjective principles relates ritual caching because they were deeply internalized key symbols (i.e., part of *doxa*, Bourdieu, 1977). The power of social phenomenon (e.g., rituals involving the creation of caches) was intertwined with symbolic power (i.e., key symbols), which is in an interplay with

the habitus (Bourdieu 1977). The importance of symbolic power is used to help reinforce an established order. Bourdieu (1977:164) states:

> Every established order tends to produce... the naturalization of its own arbitrariness. Of all the mechanisms tending to produce this effect, the most important and the best concealed is undoubtedly the dialectic of the object chances and the agent's aspirations, out of which arises the *sense of limits*, commonly called the sense of reality, i.e. the correspondence between the objective classes and the internalized classes, social structures and mental structures, which is the basis of the most ineradicable adherence to the established order.

Any objective class will create its own established order, through the systems that contribute specific logic to maintain a power that initially produced the established order (Bourdieu 1977: 164). For example, a male dominated society derives its legitimacy from a creation narrative that casts men as the first person, with women as merely offshoots of male anatomy. Directed and ordained by a supreme creator (who is also male), cultural norms will reinforce that principle to maintain male dominance. This is analogous to aggrandizers manipulating ideology to their own ends.

Ancient Maya society practiced rituals that contained an assortment of subjective principles, which are represented by symbolic expression (e.g., the milpa or the quadripartite cosmological model). The *doxa* of the ancient Maya, similar to other prehistoric cultures, created a perception of the world through traditions that were "experienced as a 'natural world' and taken for granted" (Bourdieu 1977:164). The use of various types of "mythico-ritual systems" provides the mechanism for the creation of hierarchy by exploiting subjective principles where it is possible to create small pockets of power and prestige that can be maintained and increased. For example, if the mythico-ritual system can create divisions of age limits via rites of passage, division of labor between the sexes (Bourdieu 1977:165), or the division in quality and quantity of ritual cache offerings, then ritual caching can serve as a venue for competitive generosity mainlined straight to the spiritual realm to create potent forms of reciprocity. If the creation of

humanity by the gods, as told by *the Popol Vuh*, was for the express purpose of humanity worshipping and sustaining said gods, then a system of reciprocity lays at the foundation of ancient Maya society ethos. The intersection of "myth" in the form of *the Popol Vuh* narrative and ritual caching reinforces the system of reciprocity demanded by the former by reproducing the system of offering based reciprocity expressed by the latter. It is important to note that ritual dedication and termination caching are just a couple types of mythico-ritual activity that reproduced and reinforced the reciprocity-dominated system.

The use of symbolic power constructs principles of a reality in order to political capital (Bourdieu 1977:165). Heavily dominated by the symbolic imperative of reciprocity, ancient Maya society would likely perceive any form of gift giving, competitive or not, as requiring a form of reciprocity to the benefactor. Viewing such an interaction from a practice theory perspective, there is a "quasi-perfect fit" (Bourdieu 1977: 166) between the objective natural world seen through an empirical lens reveals one group with more resources they have accumulated, and those who receive goods from the resource rich group owes a debt. The creation narrative of the ancient Maya explicitly perceives the world in a dynamic of humans' constantly owing worship to supernatural beings for our continued existence (Christenson 2007:56). Any continuous reproduction of objective and internalized structures' (i.e., reciprocity) interactions along the lines mentioned, the subjective principles are continually reproduced, and "the established cosmological and political order is perceived not as arbitrary" (Bourdieu 1977:166). The non-arbitrariness of this established order is probably due to the environmental and social conditions that communities share, especially when individual members and institutions reinforce a collective mentality through expressions, for example, of ritual caching and other cultural forms (Bourdieu 1977:167). Caches and the ceremonies associated with their

deposition use representations of cosmology and the creation narrative to produce expected physiological reactions and further meld the natural world with the cosmological and creation narrative models. The constantly reinforced validation through consensus of individual dispositions reproduced from past dispositions creates an unquestioned tradition (Bourdieu 1977:167). In the case of the ancient Maya and ritual caching, this tradition is apparent due to the long-lasting practice of ritual caching that has lasted through millennia.

If the reciprocity at the foundation of ancient Maya religious belief is reproduced in expressive actions such as ritual caching, then offerings must meet a minimum obligation to maintain the homeostasis reality (spiritual and natural, both seen as one). Does going beyond the minimum threshold of offerings placed in caches (and likely other ritual contexts) warrant a more beneficial status among agents? Whether the ancient Maya considered gaining higher status from the offering of higher prestige items in a dedication cache is not clear. Concerning sacrifice, however, current interpretations of ancient Maya rituals maintain that auto-sacrifice, for example, bloodletting from one's penis or tongue (Wright 2011:68-70; Saturno et al. 2005), do suggest a gradation offering, because the location the blood was extracted from demonstrates the level of commitment, and the value of the sacrifice.

The use of symbolic capital is another facet of symbolic power as valued by the dispositions of social participants. Possessing the ability to mobilize groups in a society to an individual or family unit's benefit, requires the expenditure of economic capital and symbolic capital (Bourdieu 1977:180). The use of both material and symbolic capital are closely linked, where the sponsoring of feasting or other forms of conspicuous consumption require the use of material capital (Bourdieu 1977:180), but the prestige gained through symbolic capital can be useful even when wealthier individuals are lacking material capital. The use of symbolic capital

is the ability to maintain relationships of alliance continuously to utilize various strategies to maintain increase power and prestige (Bourdieu 1977:179). Although economic gains are usually accumulated from the use of symbolic capital, the use of symbolic capital must be perceived as coming from a place of honor, to keep any interests of the individual or group "above suspicion" (Bourdieu 1977:181). The symbolic capital gained from offering prestige items in ritual caching practices would have such an effect in practice theory's perspective. The use of economic wealth is consumed both as a gift to a living member of a community, just as it is consumed in a ritual that offers a gift to supernatural agents, and still establishes and/or maintains an individual or family as adhering to the doxic order of the society, while accumulating symbolic capital. The symbolic capital can serve several functions: maintaining a reputation of honor, influence to create and/or mobilize alliances, and possibly increase an individual's and family's public perception of spiritual potency and influence with the spiritual realm. The aspect of ritual practices is essential to understanding the rise of certain individuals and families in Preclassic Maya society, because, as Bourdieu explains, the "quasi-perfect correspondence" between objective class and subjective principles forms reproducing dispositions to establish an order of society that may not view reality as having a split between the sacred and the profane.

Since aggrandizers can only operate within socially acceptable venues to gain power and prestige, generosity directed towards community ritual caching is a perfect venue for gaining higher status. Ritual cache offerings, which serve to fulfill humans' reciprocal obligations to the gods, and other supernatural forces, serve to maintain harmony. The public ritual caching activity engages the community in an emotional and physical scenario and is remembered by the participants and those people informed of its occurrence. An act of remembering while forgetting, i.e. burying cached objects, has a more powerful ability to create a shared cultural

memory than placing ritual offerings for those to see day to day (Mills 2008). The generosity of the aggrandizers creates a community wide reciprocal obligation that will at least maintain the aggrandizer's status. With the quasi-correspondence between the social principles and the natural world, an increased spiritual favor through increasing the quality and quantity of sacrificial offerings would increase the perception that the aggrandizer has an increased natural objective standing compared to those with less ability to increase their offerings. Thus, the aggrandizer secures another venue to increase their power and prestige among their community and region.

Chapter 3: Field and Laboratory Methods

During the 2017 field season of the Belize Valley Archaeological Reconnaissance (BVAR) Project, excavations at Cahal Pech focused on documenting Middle and Late Preclassic (900 BC-AD 300) deposits in Plaza B (Ebert 2018). This research documented the presence of three ceramic caches, two of which were located along the centerline of Structure B1 and the third located along the centerline of Structure B6. All three caches are interpreted as dedicatory in nature, located in fills or under floors, as opposed to termination caches, which would be found on top of floors (MacLellan 2019). The caches demonstrate a continuity of practice from the Preclassic period well into the Late Classic period at Cahal Pech (Awe 2013). This chapter presents field methods for recovery and laboratory analyses of the artifacts from the Plaza B dedicatory caches excavated in 2017.

Excavation Methods

Plaza B is the largest open plaza area at Cahal Pech, and likely functioned as a public area opened to large numbers of people for various gatherings, rituals and community events. Work conducted in Plaza B over the course of three decades has revealed occupation activity as far back as the Early Preclassic period (1200/1000-900 cal BC), associated with the Cunil ceramic complex (Awe 1992; Ebert 2017; Horn 2015; Peniche May 2016). Figure 8 shows the location of excavations in Plaza B and its surrounding structures that has occurred between 1990 and 2017. Based on a series of test units placed across Plaza B, David Cheetham (1996) identified the presence of at least eight small domestic house structures, which were later covered by a series of large raised platforms constructed from high quality cut limestone. More

extensive excavations, including a 52m long trench running north-south in Plaza B, occurred from 2004-2010 and sought to analyze Preclassic economic systems at Cahal Pech (see Horn 2015). Excavations conducted from 2012-2014 in the southern section of Plaza B revealed several architecture phases starting during the Early Preclassic and continuing through the Late Classic (600-900 AD), which expanded on previous excavation test pits, and revealed a more comprehensive understanding of construction phases (Peniche May 2016; see also Ebert et al. 2017).

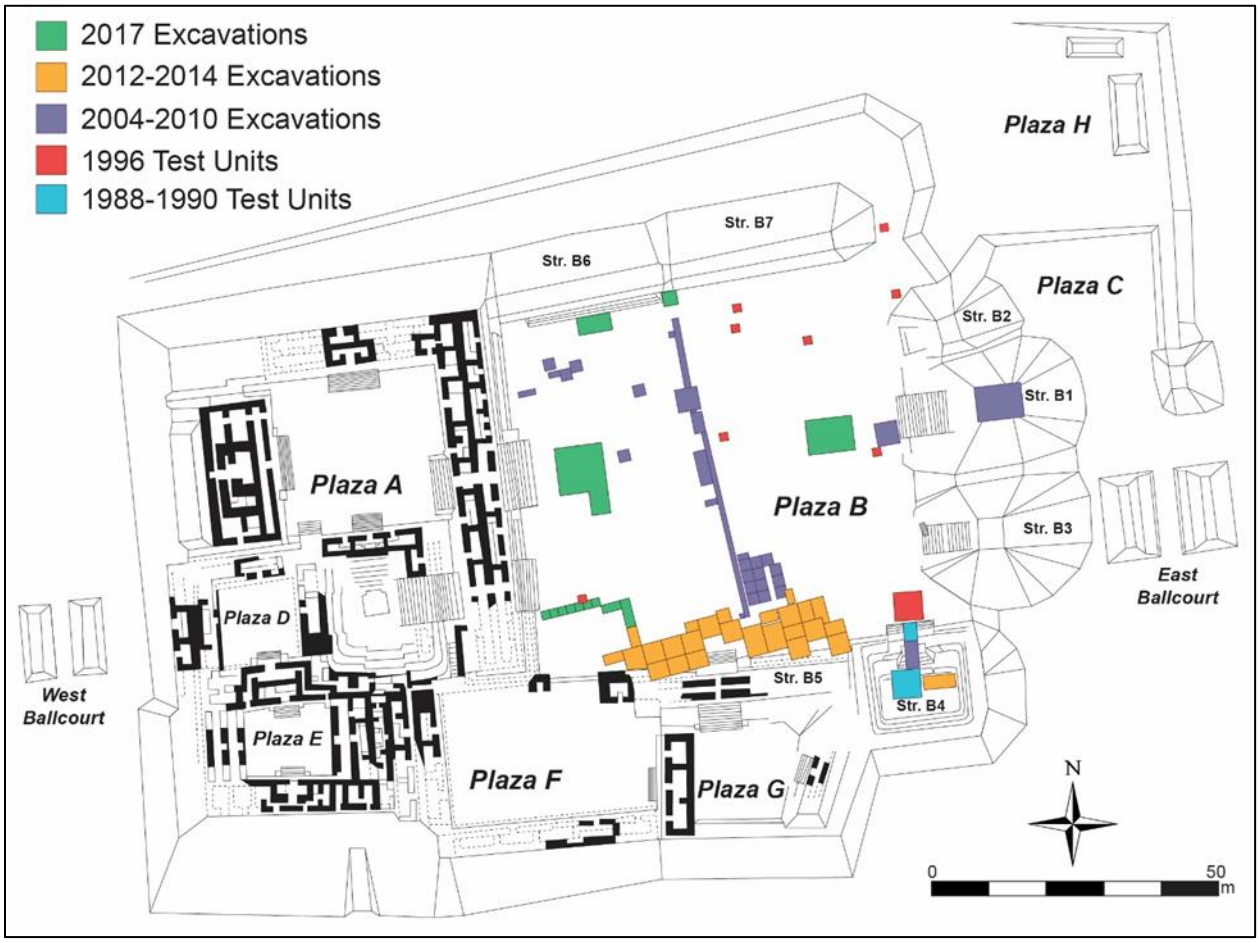

Figure 8: Map of Cahal Pech site core, showing location of major Plaza B excavations (Ebert 2018:Fig. 6).

During the 2017 field season of the Belize Valley Archaeological Reconnaissance (BVAR) Project, Claire Ebert oversaw several excavations units (EU) in Plaza B at Cahal Pech (Ebert 2018). The purpose of these excavations was to expose successive phases of Preclassic activity at Cahal Pech (Ebert et al. 2017:4). This thesis is concentrating on the excavation of units EU-2017-1 and EU-2017-17. EU-2017-1 was a 3x3m test unit located "7 m to the west of Structure B1 in the eastern side of the plaza" (Ebert 2018:4). During investigations, the unit was excavated in two separate sections: A and B. EU-2017-17 was placed along Structure B6's southern façade. Both units were placed in front of central stairways along the center axis of both Structures B1 and B6, respectively. Ebert reports that "excavations were conducted using both cultural and arbitrary levels" (Ebert et al. 2017:4). Arbitrary levels rely on using a pre-established depth to excavate and record any artifacts or features located within an arbitrary level, then repeats the process using the same depth measurement consistently. On the other hand, cultural levels are dependent on recognizing cultural material within each phase of construction. Cultural levels are therefore never arbitrary but are separated by plaster floors that are associated with sequential construction levels or phases. The matrices from the test units were screened through ¼-inch mesh on site in order to recover artifacts that were not documented *in situ* (Ebert et al. 2018:4).

Excavation in front of Structure B1 (EU PLB-2017-1), located on the east side of the plaza, encountered two caches (Cache 2017-1 and 2017-2) aligned with the centerline of the building (Figures 9 and 10). Both caches were associated with a small cobble platform and were placed directly on top of bedrock in front of the platform (Figure 11; Ebert 2018). Structure B1 is an ideologically significant building at Cahal Pech, located at the center of the site's Eastern Triadic Shrine (Awe et al. 2018; Ebert et al. 2019). The building is also associated with the most

elaborate royal burials at the site, and subsequently became the focal point of the Cahal Pech epicenter during the Classic period (Awe 2013).

Figure 9: Cache 2017-1 (EU PLB-2017-1A, Feature 2) containing 13 reconstructible and partial vessels on the northwest corner of cobble platform, viewed from the west (Ebert 2018:Fig. 7).

Figure 10: Cache 2017-2 (EU PLB-2017-1B, Feature 3), containing 26 reconstructible and partial vessels on the northeast corner of cobble platform, viewed from the north (Ebert 2018:Fig. 10).

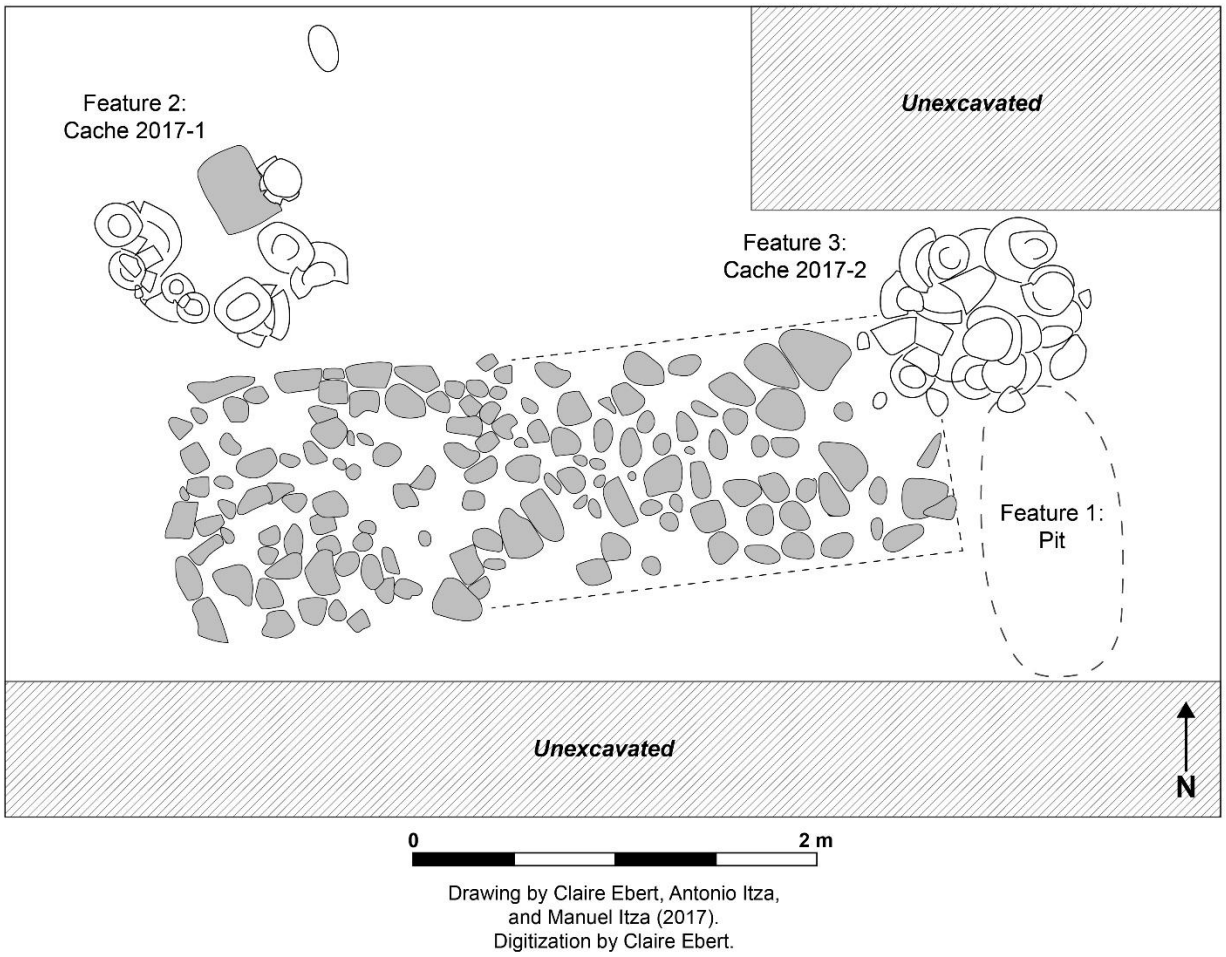

Figure 11: Plan map of EU PLB-2017-1A/B showing location of Caches 2017-1 and 2017-2 (drawing and digitization by Claire Ebert).

A third cache, Cache 2017-3, was also located along the central axis of Structure B6 during the 2017 field season at Cahal Pech (Figure 12). Structure B6 is located at the northwestern side of Plaza B, and along with the connected Structure B7 likely functioned as an administrative building during the Classic period (Johnson 2019). The cache was located below a series of nine plaster floors (Figure 13) and consisted of three fragmentary Savanna Orange dishes surrounded by freshwater shells (primarily *Pachychilus* sp.). Other artifacts present in the deposit include five figurine fragments. High frequencies of charcoal were also present within

the matrix around the cache, suggesting intentional burning in this part of the unit (Ebert 2018:24).

Figure 12: Cache 2017-3 (Feature 3, EU PLB-2017-17), containing 15 reconstructible and partial vessels, viewed from the east (Ebert 2018:Fig. 30).

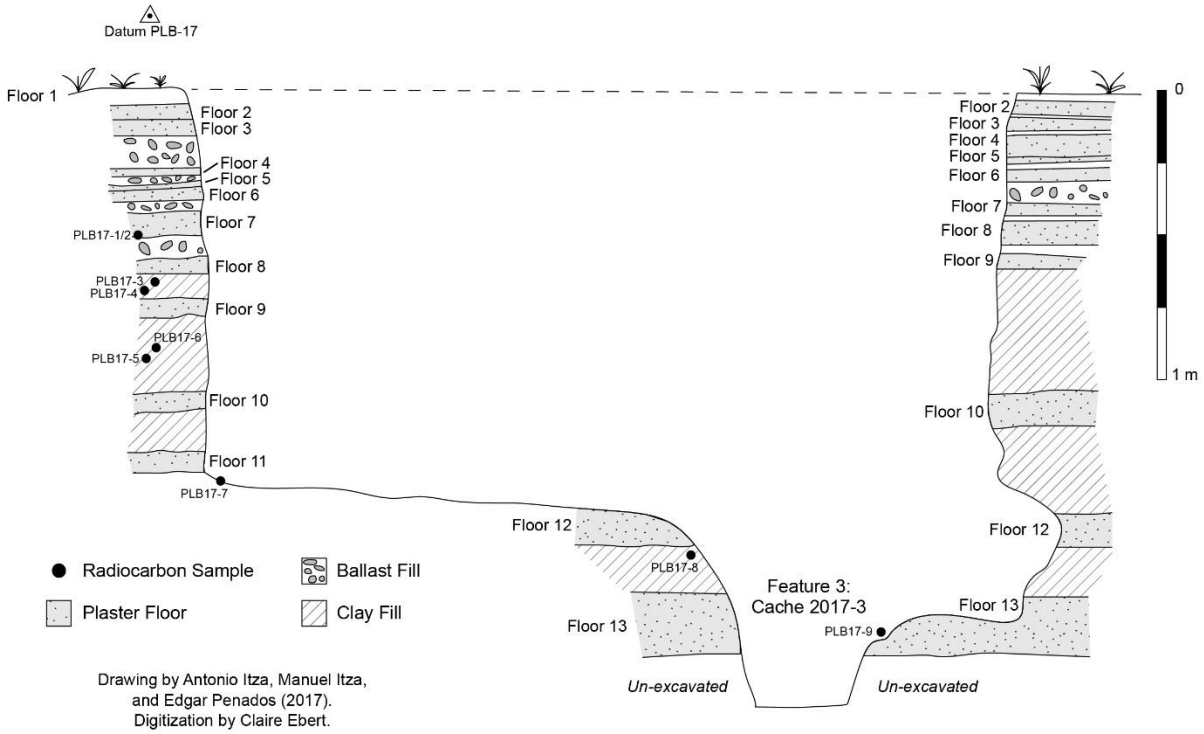

Figure 13: East profile of EU-PLB-2017-17, showing location of Cache 2017-3 within the unit (Ebert 2018:Fig. 23).

Table 3 presents the frequencies for different artifact classes for each unit including vessel fragments, figurine fragments, and various special finds. The artifacts analyzed from excavation unit PLB-2017-1, which contained Cache 2017-1, are only vessel fragments. The artifact inventory for excavation unit PLB-2017-1B, which contained Cache 2017-2, consisted of mostly vessel fragments, one jadeite stone, a figurine head, and miscellaneous vessel fragments. The inventory for excavation unit PLB-2017-17 contains a high number of special finds, including figurine fragments, a biface, jade like stone (unknown type of stone), an *ocarina*, a celt of unknown stone, and a ceramic ring.

Table 3: Artifact frequencies for the 2017 Plaza B caches.

Context	Vessels	Figurines	Chert	Vessel Jadeite	Cache Fill Jadeite	Marine Shell	Freshwater Shell	Total
Unit PLB-2017-1A, Cache 2017-1	13	1	1	0	6	104	684	810
Unit PLB-2017-1B, Cache 2017-2	26	2	35	16	24	12	130	245
Unit PLB-2017-17, Cache 2017-3	15	20	1	0	1	5	125	167

Laboratory Methods

The laboratory analysis conducted for this thesis was a continuation of the preliminary analysis conducted in 2017 by Claire Ebert (2018). The initial laboratory analysis method involved an artifact inventory for EU-2017-1(A), EU-2017-1(B), and EU-2017-17. The inventory counted the bags labeled as individual ceramic vessels for each of the units to ascertain the preliminary counts of ceramic vessels, with the understanding that further analysis may yield an amended frequency of vessels. Upon inspection of EU-2017-1(A) and EU-2017-1(B) artifact bags containing sherds of separate ceramic vessels, all of which were damaged due to the elements, time and their deposition in a buried cache, were deemed too damaged to perform any significant diagnostic ceramic analysis, beyond the preliminary findings by Dr. Claire Ebert. The remaining artifact types were inventoried into an excel spreadsheet. EU-2017-17 contained bags with ceramic sherds labeled as individual vessels, however, unlike the excavation units' ceramic

vessels, the EU-2017-17 sherds possessed enough diagnostic aspects which allowed for further ceramic analysis. All other ceramic types from EU-2017-17 were inventoried in an excel spreadsheet.

Analysis of diagnostic ceramic vessel sherds followed the process of first sorting the pottery in each vessel bag into diagnostic pieces to determine if there appeared to be more than one vessel per bag. Next, the type and variety of ceramic vessels were determined based on the ceramic typology presented in *Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley* by James C. Gifford (1976). After the sherd's diagnostic characteristics were matched with a type and variety, additional information was recorded as follows: context information from the artifact card; type of sherd (rim, body, neck, or a combination of the three); complex; ware; ceramic group; type; variety; vessel form; types of appendages; decorations; rim diameter in cm; body thickness in cm; rim thickness in cm; Munsell coding of the paste; Munsell coding of the slip; and any additional observations. A similar process was used to record measurements for all ceramic figurines, except without the use of James C. Gifford's text, and measurements recorded the length, width, and thickness of the figurine fragments in centimeters, while also recording the Munsell coding, and comments that note fragment depiction. Jade bead fragments were recorded in the same manner as the figurine fragments, including Munsell coding. Other special artifact types found in less frequency were measured and recorded in the same manner as the figurine and jade bead fragments; however, no Munsell coding was determined.

After completing the inventory, the ceramic typological information, and vessel measurements, ceramic refitting proceeded. Ceramic vessel refitting involved the use of diagnostic sherds from each vessel as primers for attaching sherds together and for gluing them

together with Duco adhesive cement to construct as complete of a vessel form as possible. The final set of the laboratory analysis was to take pictures of the ceramic vessel refits with a photo box provided by Dr. Claire Ebert to give the vessels the proper lighting and black felt background.

Radiocarbon Dating

Middle and Late Preclassic dates were produced from charcoal samples associated with the three caches in Plaza B (Table 4 and Figure 14). These samples were selected for dating because the caches included ceramic figurines with ash temper pastes, which are characteristic of Early Preclassic ceramics. Two samples from Cache 2017-1 placed this context firmly in the Late Preclassic at between 45 cal BC-cal AD 80 (PSUAMS-5855 and PSUAMS- 6759), Cache 2017-2 produced a Middle Preclassic date between 765-515 cal BC (PSUAMS-5857). This date drastically removed from the time range established by relative dating through ceramic seriation of similar ceramic types associated with the Late Preclassic (Gifford 1976). It was originally hypothesized that both caches, because of their similar composition, were placed at the same time, and therefore we suggest that it is possible that the charcoal dates from Cache 2017-2 is old wood, and has produced a date this is too old for the context. Additional chronological information is still necessary to evaluate the issue.

Two radiocarbon dates were run for Cache 2017-3. While one produced a Middle Preclassic date (PSUAMS-6760, 770-520 BC), the other was a Late Preclassic date between 25 cal BC-cal AD 80 (PSUAMS-5856). There are three scenarios that can be interpreted from this data. First, the ceramics from the caches are primarily Middle Preclassic in form, so the Late Preclassic date may have resulted from the movement of younger charcoal into this context.

Secondly, it is possible that older ceramics and figurines may be heirloom items that were deposited in Late Preclassic caches. Thirdly, it is possible that Cache 2017-1, which has two Late Preclassic ^{14}C dates, was deposited during the Late Preclassic period, while Cache 2017-2 and Cache 2017-3 are earlier and date to the Middle Preclassic. The earlier date for the latter two caches is suggested by a couple lines of evidence. First, and unlike Cache 2017-1, both of the caches contain anthropomorphic figurines that are typically associated with the Middle Preclassic period. Secondly, both caches have ^{14}C dates that fall solidly within this time frame. Thirdly, Cache 2017-3 has ceramics that are predominantly diagnostic of the late Middle Preclassic period.

Table 4: Radiocarbon dates from the 2017 Plaza B caches.

Context	Lab #	^{14}C yr BP	2σ cal range
Cache 2017-1, inside vessel #9	PSUAMS-5855	1980 ± 25	45 BC-AD 70
Cache 2017-1, inside vessel #4	PSUAMS-6759	1920 ± 20	AD 25-130
Cache 2017-2, inside vessel #16	PSUAMS-5857*	2475 ± 20	765-515 BC
Cache 2017-3, below vessel #5	PSUAMS-5856**	1965 ± 20	25 BC-AD 80
Cache 2017-3, from fill	PSUAMS-6760	2480 ± 20	770-520 BC

* Possibly too early for context.
** Too late for context.

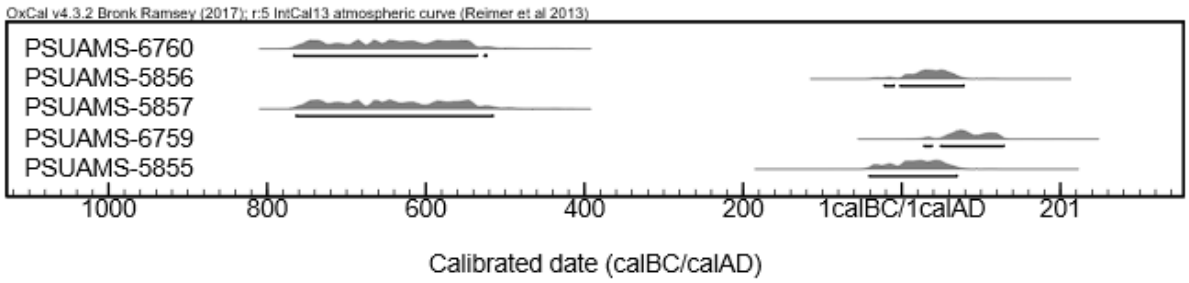

Figure 14: Calibrated radiocarbon dates from the 2017 Plaza B caches.

Chapter 4: Results

This chapter discusses the results of laboratory analyses of ceramic vessels, figurines, and other special finds, for example, jade bead fragments from the 2017 caches. As mentioned in the methods section, my ceramic analysis applied a stylistic approach that incorporated previously established typologies by Gifford (1976) for the Belize River valley. Ceramic vessel counts and their typologies provide insight on vessel: forms, their types and varieties, relative date of manufacture, and whether vessels might have served as heirlooms for later deposition in ritual caches. Reconstruction efforts create visual aides to further understand the dimensions, forms, and functions of ceramics in ritual caches.

Caches 2017-1 and 2017-2

The ceramic in PLB-2017-1 and PLB-2017-1B were inventoried as whole vessels (labeled with vessel numbers) when they were removed from the excavation unit. However, upon excavation most of them were too fragmentary to be reconstructed. Their typological associations were based off field observations, as the damage was too extensive for later analysis. While most of the vessels were unslipped, at least three had remnants of a thin red slip (Figure 11). While the form and paste of the vessels from Cache 2017-1 and Cache 2017-2 possess similarities to Hermitage phase (Early Classic) Hewlett Bank Unslipped pottery from Barton Ramie (Gifford 1976:190-191; Fig. 108), it should be noted that similar slipped and unslipped bowls appear in lip-to-lip caches from the Preclassic through Late Classic periods in western Belize (Figure 8; Awe et al. 2014:197; Chase and Chase 2006:49-51).

Figure 15: Photograph of Vessel #14 from Cache 2017-2, providing an example of typical lip-to-lip vessel recovered from Cache 2017-1 and Cache 2017-2 (photo by Claire Ebert).

Other artifacts in these caches are mostly jade bead fragments inside of and associated with the vessels (see Appendix B). The jade bead fragments (Figure 16) were mostly found in the fill surrounding Cache 2017-2 (*n*=24) and some in the vessels of the cache (*n*=16). Whether the jade fragments were all placed in the vessel at the time of deposition by the ancient Maya or if they were disturbed during the covering of the catch with fill are difficult to tell. The presence of jade in ceramic vessel and surrounding fill demonstrates its importance in caching rituals as symbolic kernels of maize (Taube 2005) that is further reinforced by the placing of jade pieces in

lip-to-lip vessels as a symbol of Maya cosmology, very much like the Preclassic cache in Structure B4 (Awe 2013).

Figure 16: Sample of the jade bead fragments found in Cache 2017-2 (Photo by M. Porter).

Cache 2017-3

Because of better preservation, typological analyses of the ceramic focused on those recovered from Cache PLB-2017-3, since it contained several vessels that were partially reconstructible (Table 6). During excavation, fragmented vessels were bagged individually. Laboratory analyses took the steps to conduct a more thorough sorting of sherds to ensure a single ceramic type and likely same vessel were bagged together. All the sherds separated from a

single vessel bag were placed into smaller bags and kept together in the original vessel bag to maintain a consistent artifact record.

The most complete vessels that were suitable for analysis were recovered from lots PLB-2017-17-18, PLB-2017-21, PLB-2017-23, and PLB-2017-24. Diagnostic sherds include rims, appendages, or sometimes bases, all of which allowed for typological analysis using Giffords's (1976) ceramic analysis of Barton Ramie. A single representative diagnostic sherd from each vessel was measured for various metric variables. The variables of measurement for analysis consisted of type of sherd, such as rim or rim with body, and one example of rim, body, and base. Ceramic wares are categorized as Uaxactun Unslipped, Mars Orange, or Gale Creek Red. Table 5 presents the typological analyses from the cache by lot number. The three ceramic groups present were Jocote, Savanna, and Hillbank with common corresponding ceramic types of Jocote Orange-Brown, Savanna Orange, and Hillbank Red, respectively. Ceramics primarily mostly consisted of Jocote Orange-Brown (v. Jocote), Savanna Orange (v. Savanna), and Hillbank Red (v. Rockdondo). The ceramic wares, groups, and types/varieties came from two primary ceramic complexes: Jenny Creek (Middle Preclassic) and Barton Creek (Late Preclassic). Three Cunil complex sherds were also documented after descriptions provided by Sullivan and Awe (2013).

Jars, bowls, and plates make up the predominant vessel forms (with some vessel forms undetermined) and appendages were represented only by handles. Vessel decorations consist mostly of fillet cordage designs in wave formations on the body and necks of jars, incisions on the rims of Savanna Orange bowls, and indented grooves on Hillbank Red vessels. A rim diameter chart served to determine rim diameters for each vessel that contained at least one diagnostic rim sherd. Vessel rim thickness and vessel body thickness were measured with digital

calipers and recorded in centimeters. The Munsell soil chart gave a standardized reference for designating paste and slip colors. Lastly, the presence or absence of fire-clouding on vessels was noted.

Table 5: Ceramic Types associated with Cache 2017-3.

Lot Number	Complex	Type/Variety	Frequency	Proportion of Assemblage
PLB-2017-18	Cunil	Uck Red? (ash temper paste)	2	20%
	Kanluk/ Jenny Creek	Jocote Orange-Brown	5	50%
		Savanna Orange (v. Savana)	3	30%
PLB-2017-21	Kanluk/ Jenny Creek	Jocote Orange-Brown	4	66%
		Savanna Orange (v. Savana)	1	17%
		Savanna Orange (v. Rejolla)	1	17%
PLB-2017-23	Cunil	Uck Red? (ash temper paste)	1	20%
	Kanluk/ Jenny Creek	Jocote Orange-Brown	2	40%
		Savanna Orange (v. Savana)	1	20%
PLB-2017-24	Kanluk/ Jenny Creek	Jocote Orange-Brown	20	67%
		Savanna Orange (v. Savana)	7	23%
		Savanna Orange (v. Rejolla)	2	7%
	Xakal/ Barton Creek	Hillbank Red (v. Hillbank)	1	3%

Most of the ceramics analyzed from the Cache 2017-3 are diagnostic of the Middle Preclassic Kanluk phase (i.e., Jenny Creek). Three Early Preclassic Cunil sherds (Uck Red type) were recovered from the matrix of the cache, but likely were displaced from earlier levels. A total of 31 diagnostic sherds were identified as Jocote Orange-Brown (v. Jocote). The most typical Jocote Orange-Brown vessel form is jars. Figure 17 is a photograph of one of these jars (Vessel #10) that was partially reconstructed. It is a necked jar with out-curving lips, loop

handles, wave form fillet decoration, orange paste, and fire-clouding. Figures 18 and 19 show other examples of Jocote Orange-Brown vessels forms from the cache. There were a total 14 Savana Orange vessels, with a total of 12 Savanna variety and 2 Rejolla variety vessels. Figure 20 is a picture of refit Vessel #8, a Savanna Orange (v. Savanna) dish/bowl with an incised rim, and red slip. One of the vessels is Reforma Incised (v. Mucnal). There are two Barton Creek vessels that are Hillbank Red (v. Rockdondo), one plate and one jar.

Figure 17: Vessel #10, a Jocote Orange-Brown (v. Jocote) jar from Cache 2017-3 (Refit and Photo by M. Porter).

Figure 18: Vessel #2, a Jocote Orange-Brown (v. Jocote) bowl from Cache 2017-3 (Refit and Photo by M. Porter).

Figure 19: Vessel #14, a Jocote Orange-Brown (v. Jocote) bowl from Cache 2017-3 (Refit and Photo by M. Porter)

Figure 20: Vessel #8, a Savanna Orange (v. Savanna) dish from Cache 2017-3 (Refit and Photo by M. Porter).

Table 6 shows the distribution of vessel forms in Cache 2017-3, which are mostly jar, bowls, and plates in order of frequency. The high frequency of jars to bowls and plates may show the importance of numerological expressions to symbolize ideological aspects of ancient Maya culture, such as numbers 13 and 9 (or multiples of those numbers), which represent the Maya celestial and Lower Worlds, respectively (Sharer and Traxler 2006:730). Jars are vessels well suited to storing large amount of fluids, such as water, and water symbolizes the underworld and an essential factor for growing maize. The presence of several lip-to-lip vessels that appear to be plate vessels would suggest that plates were not necessarily a rarer use vessel but were used for symbolic purposes. Lip-to-lip bowls or deeper plate vessels deposited in caches were used by the ancient Maya to symbolize the cosmologic model of Maya ideology (Awe 1992, 2013:39).

Table 6: Ceramic forms documented from diagnostic sherds in Cache 2017-3.

Context	Bowl	Jar	Plate
Cache 2017-3	8	19	4

After the typological analysis was conducted on a sample sherd from each vessel bag(s), that same sample sherd was used to obtain measurements on rim thickness, rim diameter, and body thickness (Table 7). Figure 21 shows the distribution of those measurements for the three ceramic vessel types in cache 2017-3. Excluding the single measurement for the Hillbank Red vessel, Savanna Orange vessels have a larger rim diameter and body thickness than Jocote vessels, reflecting the prevalence of dishes and bowls.

Table 7: Average dimensions of diagnostic sherds from Cache 2017-3 by ceramic type.

Ceramic Type	Number of sherds measured	Average Rim Thickness (cm)	Average Body Thickness (cm)	Rim Diameter (cm)
Jocote Orange-Brown	31	0.89	0.53	9.17
Savana Orange	15	0.80	0.70	10.22
Hillbank Red	1	1.1	0.93	19

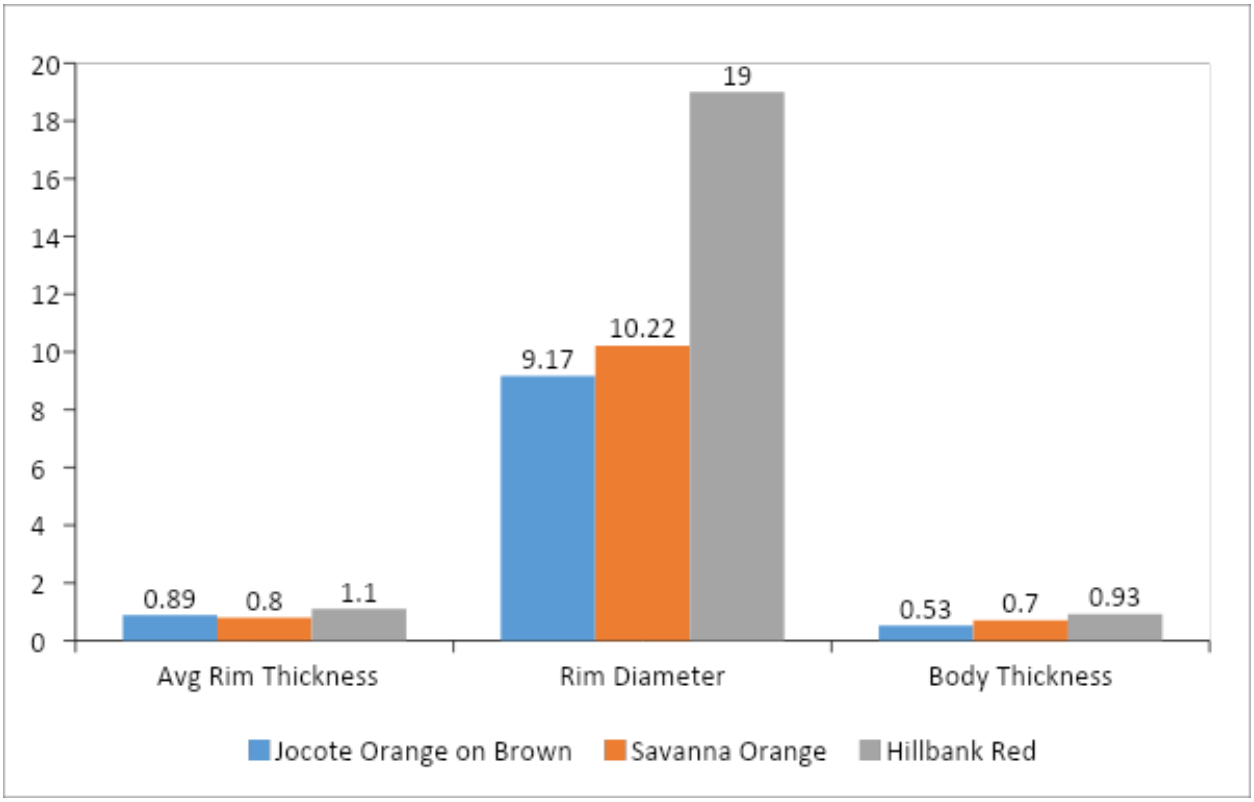

Figure 21: Average dimensions of diagnostic sherds from Cache 2017-3 by ceramic type.

In addition to the vessels recovered from Cache 2017-3, other associated artifacts included one ocarina fragments, jade bead fragments, greenstone stone artifacts, chert bifaces, a small pot, a celt, and one cobblestone (Appendix C). Figure 22 shows a breakdown of the small find figurine fragments above, below, and in Cache 2017-3. The levels above Floor 21, in which Cache 2017-3 was located, contained fourteen figurine fragments. Floor 21 containing Cache 2017-3 only had four figurine fragments, which was more than the one figurine fragment below Floor 21. The increase of figurine fragments located later than levels below Floor 21 increases times four in Feature 10 and the amounts stay above one until it drops back to one figurine fragment below Floor 12. Many of the figurines were fragments of anthropomorphic appendages or torsos, some of the appendages were feet without ankles, or arms without hands, and heads

missing an ear (Figures 23-25). It appears the figurine fragments were purposely broken off the body before deposition in the cache, which is evidence ritual killing. The ritual killing of figurines is also evident on one figurine head whose face was grinded away, leaving only the farthest interior depressions of the eye and the remains of an earspool present (Figure 25, PLB-2017-SF-85). Two conch columnelas were also present in the Cache 2017-3 and provide evidence of trade for marine resources and likely water symbolism (Figure 26).

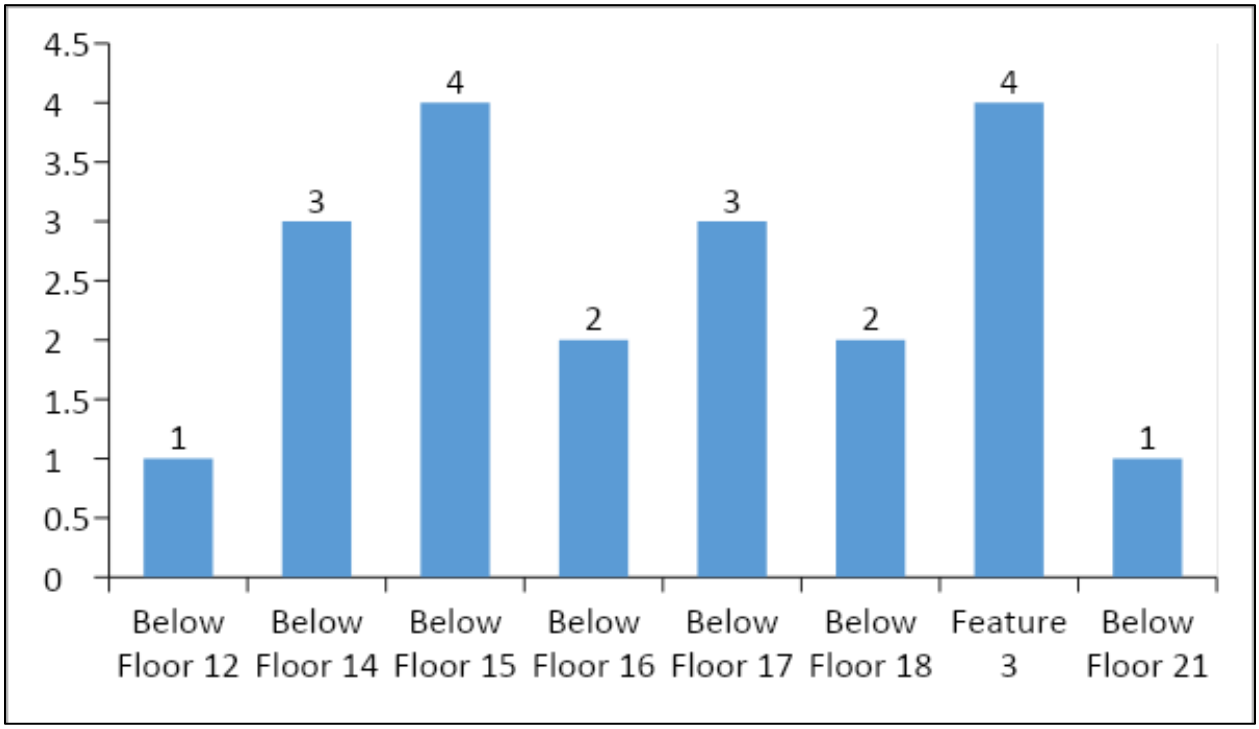

Figure 22: Distribution of figurines from EU PLB-2017-17 Floors 12 through 21, associated with Cache 2017-3.

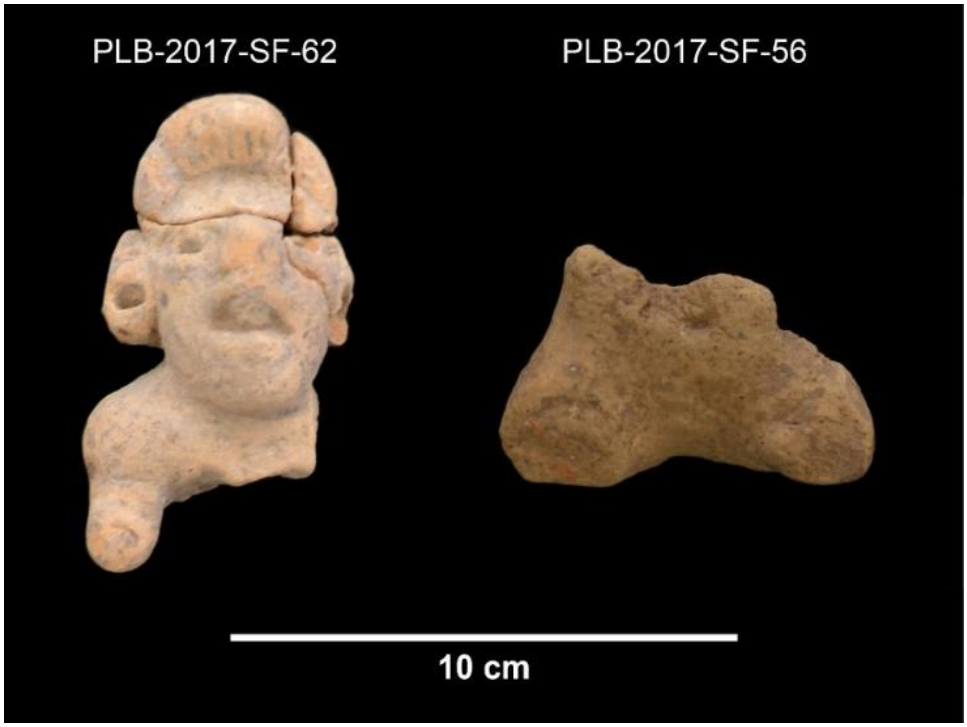

Figure 23: Anthropomorphic figurine fragments from above Cache 2017-3 (photo by Claire Ebert).

Figure 24: Figurine fragments and mini-ocarina found on floor above Cache 2017-3.

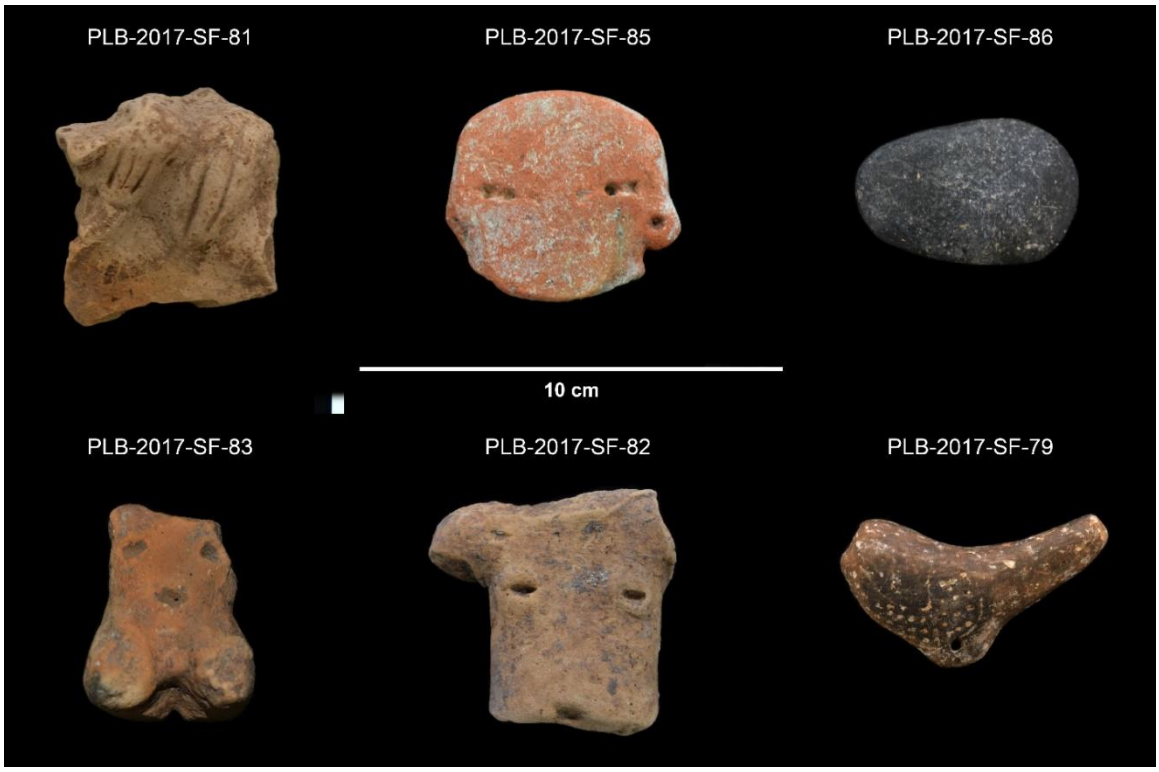

Figure 25: Special finds in Cache 2017-3 (after Ebert 2018:Fig. 31).

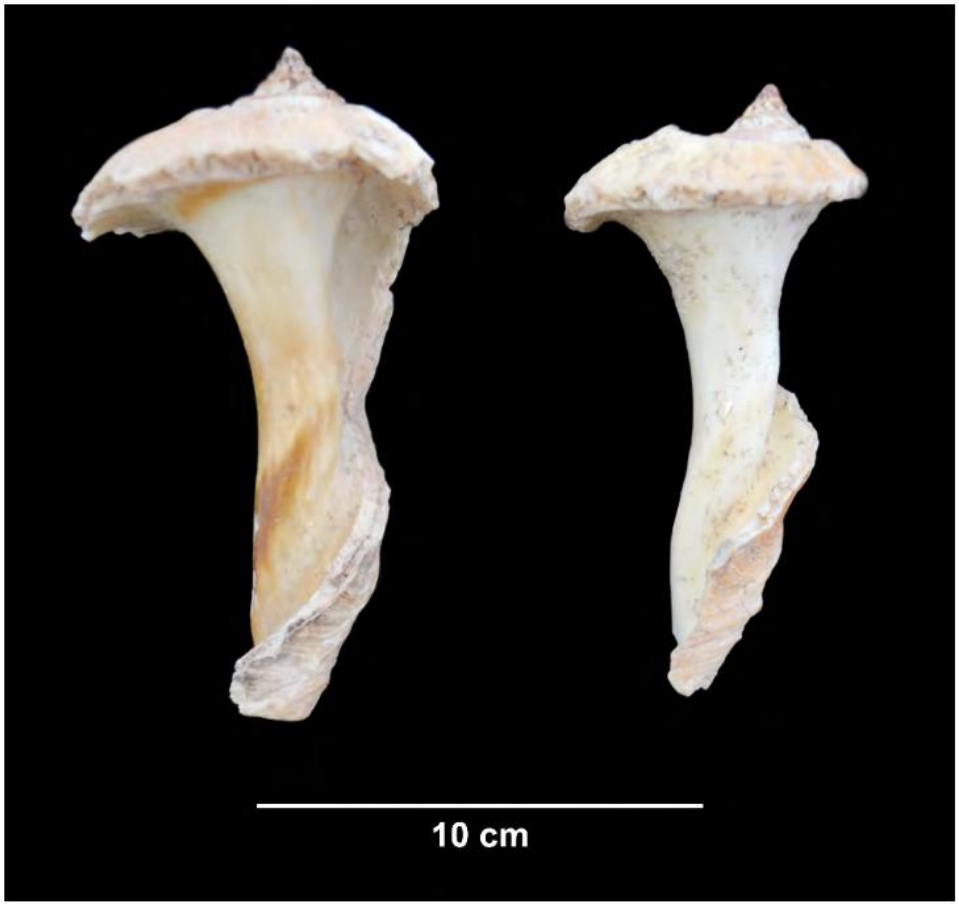

Figure 26: Conch comunella from Cache 2017-3 (Photo by Claire Ebert).

Summary

Analysis of the artifacts excavated from the three caches in Plaza B in 2017 allow for comparisons between their formal attributes and artifact assemblages. All three caches possess high frequencies of ceramic vessels. Due to the poor preservation of the ceramic vessels in Cache 2017-1 and Cache 2017-2, we were unable to conduct a detailed analysis of the pottery, but were able to record information on vessel frequency which numbered 13 and 26, respectively (Ebert et al. 2017:8-10). The 13 vessels in Cache 2017-1 has numerological association with the Maya celestial realm (Sharer and Traxler 2006:730), while the 26 vessels in Cache 2017-2 is the double of the sacred number 13. The analysis of the vessels from Cache 2017-3 gave a count of 15

vessels, however, it is likely that most of the ceramic vessels in the caches were deposited at the same time, but it is possible that some of the vessels sherds got mixed into the cache from the fill.

All three caches contained lithic artifacts that are likely symbolic of maize (Taube 2005), or associated with lightning/rain. The modern Maya, for example, associate chert (or flint) with lightning bolts that Chahk produces during rain storms (Wisdom 1940). Caches 2017-1 and 2017-2 were placed in lip-to-lip configurations, depicting the Maya cosmological model as seen in Structure B4 (Brown et al. 2018:113), where the presence of jade was interpreted by Awe (2020) to represent maize. Like the lip-to-lip ceramic cache in B4, many of the vessels contained jade bead fragments, but unlike the B4 cache, these caches did not contain human remains in the vessels. Cache 2017-3 does show the use of a celt of unknown material (Ebert 2018:28), which like the jade beads from the other caches, may also be symbolic of maize or rain. The lack of jade in Cache 2017-3 may signal a change in caching practices.

The presence of ceramic figurines within and around the caches may indicate a specific form of ancestor veneration during the Preclassic period at Cahal Pech (Peniche May 2016). Cache 2017-3 possesses the highest frequency of figurine fragments (n=4), with an additional fragment below the cache, and additional two fragments below the floor directly above the cache (Figure 10). This cache dates within the same period of highest concentration of figurine fragments documented at Cahal Pech between 850-350 BC (DeLance 2016:191). With the Cache 2017-1 and Cache 2017-2 contemporaneous with each other, the lack of figurines is consistent with the trend of figurine fragment distribution that falls drastically between AD 1-250 to only 3.27% of the figurines, as opposed to around 74.69% of the figurines found in contexts dating between 850-350 BC (DeLance 2016:191). The difference in figurines present in the caches from

these two time periods reflects the shift in artifact deposition in ritual contexts. The shift from higher numbers of figurines does not likely signal the lack of ancestor veneration, but maybe a change in ancestor veneration expression (see Awe n.d.).

The reduced number of figurines and abundance of jade in Cache 2017-1 and Cache 2017-2 may symbolize a different form of specific dedication based on the association with Structure B1, the eastern pyramidal temple at Cahal Pech. The lip-to-lip vessels in both of those caches with jade inside them reflect a cosmological model that may have been more significantly related to the ritual and ceremonial function of Structure B1. The shallow vessels in Cache 2017-1 and Cache 2017-2 are also better suited to create the lip-to-lip configurations, while Cache 2017-3 has mostly jars that do not lend themselves to the creation of lip-to-lip cosmological models.

Future directions for these analyses will continue comparing caching data from multiple contexts. An important aspect of comparison will be to analyze not only caches from ceremonial contexts, but caches from elite and non-elite residential contexts that may reveal the more nuanced forms of caching beyond dedicatory and termination cache types. Different types of caches may likely vary due to the function and location of a specific structure, the purpose of the cache, as well as with site-specific caching practices. Caching practices throughout time may also show shifts in use of certain objects at specific sites over time, such as the use of figurines, or demonstrate what objects were likely deposited as heirlooms to understand cherished objects.

Chapter 5: Discussion

The expression of Maya ideology is a rich tapestry of symbols represented in various forms, from microcosms of portable objects, to the design and layout of monumental epicenters. Engagement of participants in a complex symbolic system of principles believed to mirror the natural world, not only creates a social imperative to maintain ones place in reality (Lucero 2010), but provides opportunities for individuals to use rituals as a way to create, maintain, and increase their power and prestige (Blake and Clark 1999). The use of objects to compose the symbolic expression of Maya ideology ranges from common utility objects to exotic ritual objects. Ritual caching of these objects in the Maya lowlands among individuals or kin networks qualifies as a form of conspicuous consumption that would have been acceptable behavior within the cultural boundaries of Maya society for the purpose of aggrandizement. The use of generosity as a competitive strategy among aggrandizers in the form of gifts and feasts all had a spiritual component to the act, with ritual caching as another practice that involved more abstract forms of socially acceptable generosity.

Artifacts deposited in the three caches excavated in Plaza B of Cahal Pech in 2017 range from ceramic vessel, ceramic figurines, marine shells, and jade beads (Ebert 2017). While objects made of jade have well documented symbolic significance (e.g., Taube 2005, 2000; Aoyama et al. 2017), the symbolic use of ceramic vessels becomes apparent in specific configurations and contexts. A comparison between the three shows a high frequency of ceramic vessels in all three caches. The number of ceramic vessels in Cache 2017-1 & Cache 2017-2, which numbered 13 and 26 respectively (Ebert et al. 2017:8-10), are also numerologically significant reflecting the number of the levels of heaven in the Maya cosmos. The number 26

likely holds the same significance as it is double 13. The number 13 is also represented at Cahal Pech by the 13 doorways of Structure A2 which is located west of the caches at the western side of Plaza B.

The analysis of the vessels from Cache 2017-3 gave a count of 30 vessels. The highest frequency of ceramic type was Jocote Orange- Brown (v. Jocote), primarily found in jar form. Jars as containers for liquids are symbolically associated with life-giving rain and water, which are also of critical economic importance to agriculturalist societies as noted by research at the Middle Preclassic Maya sites of Nakbe (Sharer and Traxler 2006:218–219) and Nixtun-Ch'ich' (Rice and Pugh 2017), and the Late Preclassic site of Chocola (Sharer and Traxler 2006:242). At Nixtun-Ch'ich', for example, large Terminal Early and Middle Preclassic ceramic jars were deposited in a bottomless cavity at the center of the site (Rice and Pugh 2017:7-9), which is symbolically connected to the terrestrial turtle or crocodile floating in the primordial sea of creation and the underworld (Sharer and Traxler 2006:730–731; Rice and Pugh 2017:11-14).

Jade or jade-like material is another category of artifact found across the caches. Both Cache 2017-1 and Cache 2017-2 contain jade bead fragments that were recovered from within and outside the vessels. Cache 2017-3, on the other hand, had one polished jade-like green stone. This is anomalous since the use of greenstone in caches at Cahal Pech dates to as early as the Cunil Phase (Awe 1992:341). The high frequency of jade in Cache 2017-1 and Cache 2017-2 compared to Cache 2017-3 may be due to the fact that both of the first two caches are associated with Structure B1, the central pyramidal structure of the site's Eastern Triadic Shrine (Awe et al. 2017).

Figurines, associated with ancestor veneration during the Preclassic at Cahal Pech (Awe 2020; Peniche May et al. 2018), are present in two of the caches analyzed here. The

concentration of figurines in Caches 2017-1 (*n*=1*)* and 2017-2 (*n*=2) is considerably less than Cache 2017-3, with the former only containing figurine fragment (Ebert et al. 2017:10). A total of four figurine fragments were recovered from Cache 2017-3, with an additional one fragment below the cache, and two fragments below the floor directly above the cache (Figure 10). The presence of figurine fragments in Cache 2017-3, which is directly dated to the Middle Preclassic (770-520 cal BC), dates to the same period of highest concentration of figurine fragments found across the site (DeLance 2016:191). The low frequency of figurines in Caches 2017-1 and 2017-2 is consistent with their Late Preclassic date, when figurine distribution falls drastically at the site (DeLance 2016:191). While the difference in figurines present in the caches from these two time-periods reflects the shift in artifact deposition, it may also reflect a change in ancestor veneration expression. According to Awe (n.d.) and Marcus (2009:31), the discontinuation of figurine manufacture in Late Preclassic times was likely associated with the formal establishment and consolidation of hereditary rulership in the Maya lowlands. The reduced number of figurines and abundance of jade in Caches 2017-1 and 2017-2 may therefore symbolize a different form of specific dedication at Cahal Pech, and one that was related to the interment of rulers in Structure B1 of the site's Eastern Triadic Shrine. The lip-to-lip vessels in both of those caches, with jade inside, can be interpreted as a cosmological model, perhaps reflecting the significance of the building. Cache 2017-3, on the other hand, was placed in the plaza along the centerline of Structure B6 which has been interpreted as an administrative range structure (Johnson 2019).

The presence of freshwater shell, including jute (*Pachychilus* sp.), and marine shell (e.g., conch columella) in the caches associate them with water. In many modern and prehistoric cultures water or shells is connected to life and spiritual renewal (Andrews 1969:53; Benson 1997:123-124). To the Chorti Maya, for example, shells are associated with moisture, rain, and

thus fertility of corn plants (Girard 1962:248). Jute, or freshwater snails, is also documented as a source of sacred food collected from caves, and according to ethnographic accounts, cooked whole within the shell to create sacred water (Halperin et al. 1989:214). Caves as the source for jute link these shells with the watery underworld and cave-like homes of the gods (Vogt 1969:595; Schele and Mathews 1998:43, 417 [in Christenson 2007:209]) Thus, the presence of shells creates further symbolic significance for the Cahal Pech caches.

The presence of jade and marine shells also has economic significance that reflects the status and identity of those placing the caches. Cahal Pech is located over 100km from the nearest jade source in the Motagua River Valley (see Powis et al. 2016). Taube (2005) has suggested that jadeite served as a basic unit of economic exchange, as well as a cosmological symbol of the four-sided maize field (also see Taube 2000:303). Exchange of shell was also extensive as evidence shows from Ceibal in Guatemala and sites in Belize, which had the same species of shell, suggests that "it is possible the primary shell exchange routes to the coast went eastward to the Caribbean" (Sharpe et al. 2019:512).

Excavations conducted by Jaime Awe, Claire Ebert, and other BVAR Project researchers have established evidence of a robust trading network beginning during the Middle Preclassic period (e.g., jade, Awe 1992; obsidian, Awe 1992, Ebert 2017; Mars Orange ceramics, Ebert et al. 2019). The importation of exotic items demonstrates connections between Cahal Pech to other polities in the Maya lowlands, but some of the exotic items are primarily ritual in use and may be of significant value for offerings in ritual caches. Cached artifacts, however, are not all exotic and may not have ideological symbolism in non-ritual caching contexts. For example, plain ware ceramic vessels may only be symbolic when deposited in certain configurations that represent ideological principles.

Comparison to Other Cahal Pech Caches

In order to understand changes in caching at the site core of Cahal Pech and other lowland sites throughout the Preclassic, a database was constructed to record caches from the published literature, their contents, and their forms. This data is presented in Appendix D. A total of nine caches (including those that are the subject of this thesis) have been excavated from Plaza B at Cahal Pech, or from structures associated with Plaza B. Three of the caches were excavated from Structure B4 and date to the Early Middle Preclassic and Middle Preclassic periods (Awe 1992:123, 127). Cache 1 from Structure B4 was deposited near "the east face of the low apsidal wall" on the eleventh floor, containing various artifact classes, for example crafted marine shell disks, chert, obsidian, slate, jadeite, and one ceramic vessel (Awe 1992:123). Cache 2 was excavated "directly beneath Floor 9C, and just north of the base of the wall," containing several shell discs and a figurine fragment spread over an half meter by half meter area (Awe 1992:127). A third Cunil phase cache in Structure B4 was axially located beneath the floor of B4-1st. The cache contained the mandible of a Morelet Crocodile and identified by Awe (2020) as reflecting the symbolic connection between earth and crocodilians. An additional three caches around a large platform located on the northwest side of Plaza B also date to the Middle Preclassic (Garber and Awe 2008; Zewig 2010; Horn 2015). Excavations during 2006 revealed a 17.7 m x 17.5 m platform in Plaza B of Cahal Pech, with ritual caches placed at each corner, including human remains in a crypt along the eastern side and both southern corners, and is interpreted as a cosmogram (Garber and Awe 2008:187). The sample of ritual caches discussed in this

comparison is not large enough to be statistically significant but can provide a cursory summary of caching practices at the site during the Preclassic.

One of the common artifact characteristics of all caches excavated is a high frequency of ceramic vessels and marine and freshwater shells. Compared with the other caches from Platform B and Structure B4, there is a disproportionately high frequency of ceramics vessels in the caches deposited in front of Structures B1 and B6. When considering all vessels from across the chances, Cache 2017-3 has 43% of the ceramics of the nine caches, while Cache 2017-2 and Cache 2017-1 have the next highest frequencies of ceramic vessels, with 36% and 18%, respectively. Figure 27 shows the vessel frequency distributions of the nine caches arranged in time-periods from left to right, showing a concentration of vessels in Middle to Late Preclassic caches. The caches deposited in front of stairs along the centerline had the highest frequency of ceramic vessels.

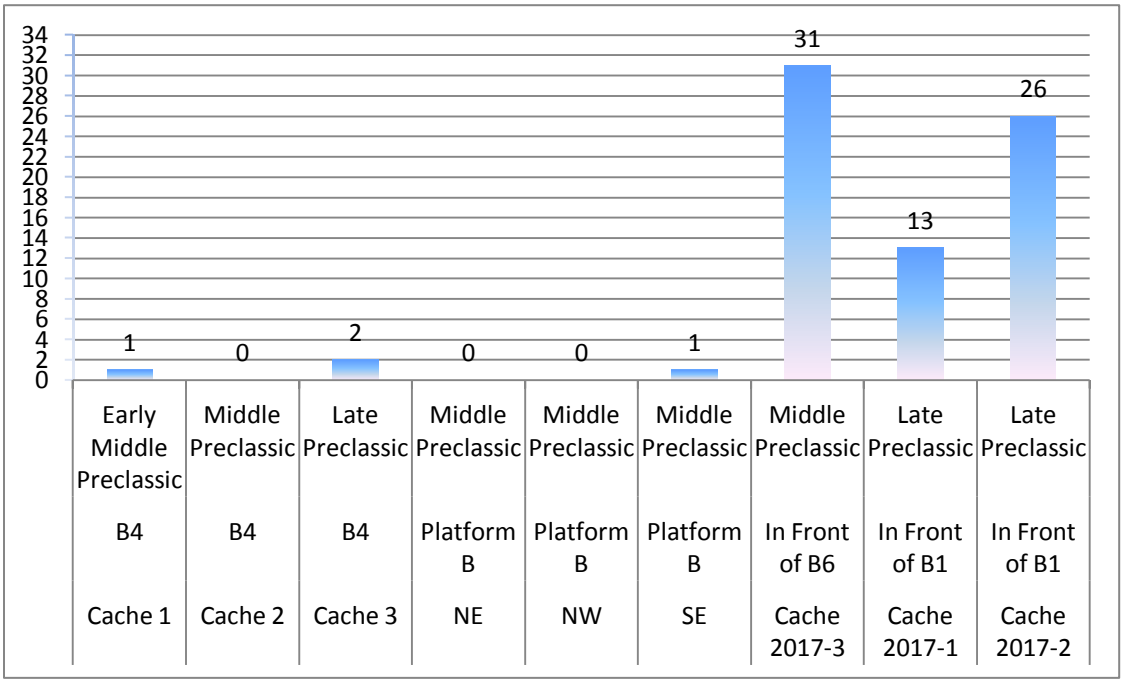

Figure 27: Frequency ceramics vessels for the Preclassic caches deposited in Plaza B and associated structures at Cahal Pech.

Figurine frequency is disproportionately high in Cache 2017-3 compared to the other Plaza B caches. Figure 28 shows proportions of figurine frequency among the five out of nine caches with figurine fragments. Again, the lack of an adequate sample size does not provide for a more critical analysis of caches with figurines and the frequency density for any given time-period during the Preclassic. With the comparison the nine caches discussed here, the Middle Preclassic caches are still in keeping with trends of figurine fragment concentrations deposited in ritual contexts at Cahal Pech (DeLance 2016; Peniche May et al. 2018). Having said that, however, it should be noted that construction fill in Structure B4 contains the largest number of figurines discovered at Cahal Pech. Awe (n.d.) argues that this distribution is likely very significant, suggesting those figurines were purposely deposited within the fill of Structure B4 because the building may have served as an early ancestor shrine.

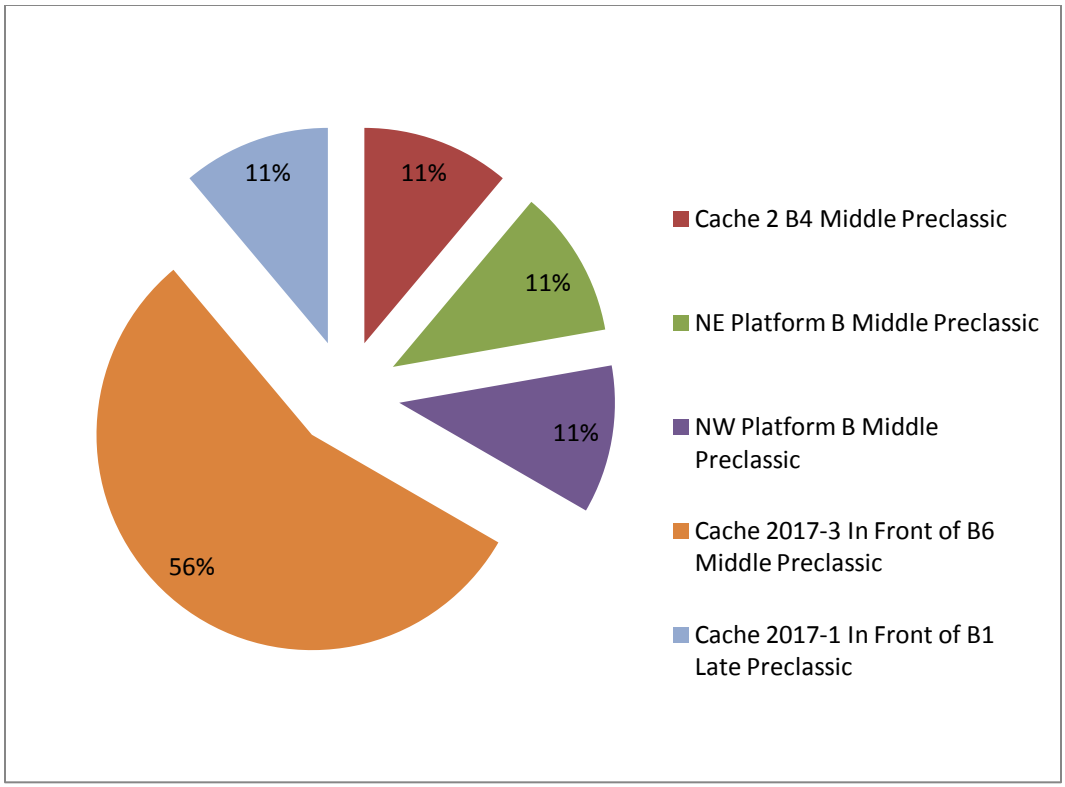

Figure 28: Pie chart showing percentage of figurines and figure fragments distributed across caches deposited in Plaza B and associated structures at Cahal Pech.

The frequency of jade among eight Preclassic caches at Cahal Pech is disproportionately concentrated in Cache 2017-2, which dates to the Late Preclassic period. Figure 30 shows the distribution of jade pieces among the five caches with jade, Cache 2017-2 has 62% of the jade, while Cache 2017-1, also Late Preclassic, and a Middle Preclassic cache on southeast corner of Platform B combined have 14% of the jade among the five caches. The increasing frequency of jade deposited in Late Classic caches among this small sample may suggest an increase in their deposition as offerings in ritual caches, which may also correlate with an increase in the jade trade.

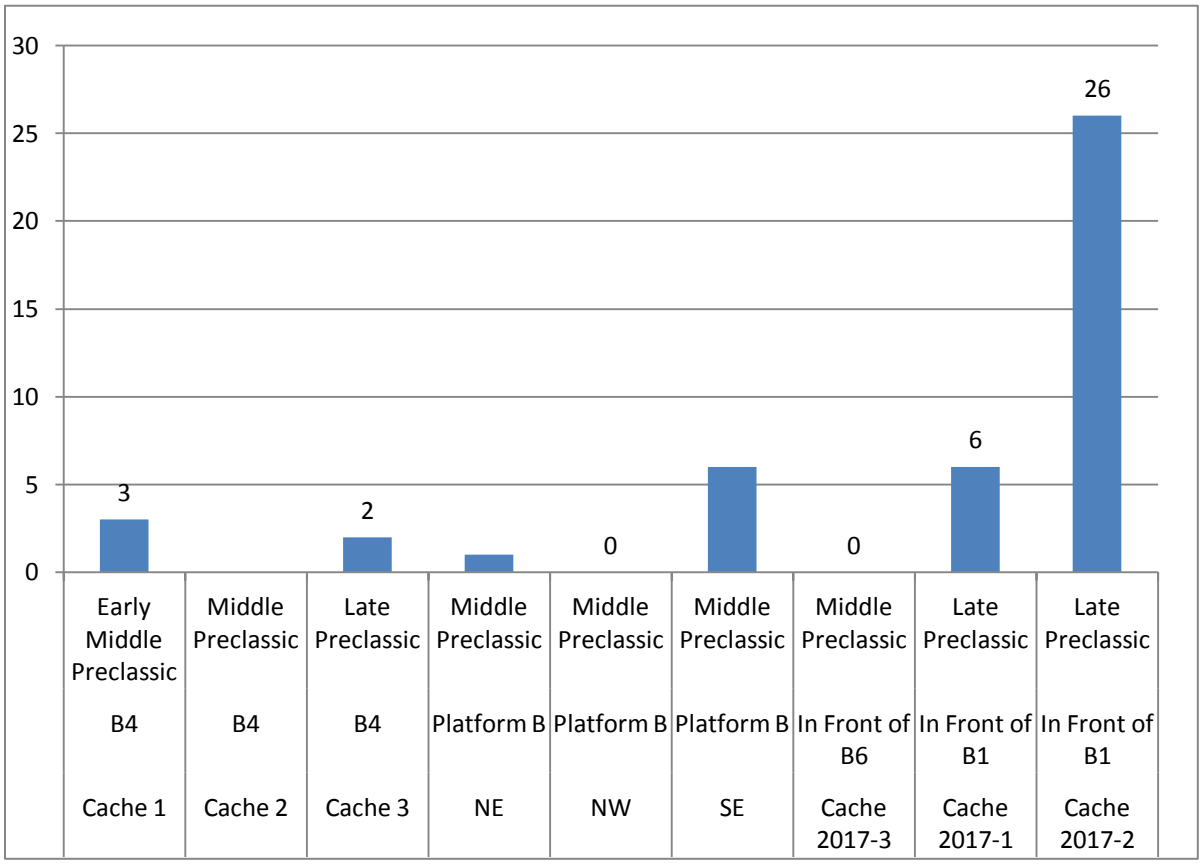

Figure 29: Frequency distribution graph of jade artifacts from caches deposited in Plaza B and associated structures at Cahal Pech.

The nine caches deposited in Plaza B and associated structures show a variation in locations and contents. Three of the caches were deposited along the centerline in front of structure stairways (B1 and B6), three other caches were deposited inside a structure (B4), and three other caches were deposited on the corners of a platform in Plaza B. The association with structures and features does show a continuity of use in rituals pertaining to dedication. The variation in location, however, does show there is not a strictly standard location to place caches in relation a given structure. The contents of the different caches are not standard either but show variation in artifact types and frequencies. The frequency of ceramics and imported jade does

increase in the Late Preclassic, while the frequency of ceramic figurine fragments decreases, suggesting a shift in craft production and jade importation to allow for larger offerings.

Morphological Characteristics of Preclassic Maya Lowlands Caches

Since ritual caching is not exclusively found at Cahal Pech, it is useful to compare the caching practices of different sites in the Maya lowlands. A total of 47 Preclassic caches from the Maya lowlands were collected from the published literature. Associated information was recorded for each cache, including contextual information (specific stratigraphic and spatial relationships reported), relative dates, presence of artifacts, frequency of artifacts, and symbolic representations. While this is not a completely exhaustive dataset, it presents an attempt at systematically compiling published data.

A total of five sites are represented including Cahal Pech. Most of the caches were documented from recent excavations at Ceibal (*n*=35; Inomata and Triadan 2015; MacLellan 2019; Aoyama 2017), located in the Pasion region of Guatemala. While Cahal Pech has only eight caches in the sample (Awe 1992; Ebert et al. 2018; Kiss 2010), it represents the second highest number of caches in the dataset. Next, K'axob in northern Belize has two documented caches (McAnany 2013; Mathews and Garber 2004). Uaxactun and Cival only have one cache each in the dataset. The locations of the Cahal Pech epicentral Preclassic caches were all located in the Plaza B, a public space and the site's largest plaza. The three earliest caches, those in Structure B4, were likely not associated with domestic space (Awe 1992). The Ceibal caches were located predominately in the public plaza of Group A and deposited in plaza space that was covered by later phases of construction. The two K'axob caches were in an ancestor shrine located in the center of the site.

Figure 30 shows the percentage of artifact classes in caches in each region. Ceibal and Cahal Pech have the largest number of artifact classes in their cache assemblages, which include ceramics vessels, ceramic figurines, faunal remains, human remains, freshwater shell, marine shell, lithics, and greenstone (jadeite or other greenstone). The fact that both Cahal Pech and Ceibal have more than two caches in the sample does skew the range of diversity. For example, just one of the Cahal Pech caches in Structure B4 possessed ceramic vessels, ceramic figurine fragments, human remains, jade, obsidian flakes, cave "pearls", and faunal remains. The main difference between Cahal Pech and Ceibal is in the use of ceramics and jade type in the caches. Ceibal has ceramics present in a large amount of the caches, but the main artifact class expressed is greenstone, specifically celts (Inomata and Triadan 2015). Stone celts are elongated, smoothed, and usually rounded on both ends (Powis et al. 2016). Utilitarian celts are used for a variety of purposes including farming. Greenstone celts, however, are stylized representations of a stone tool and maize (Taube 2000). The latter symbolic expression of greenstone celts occur in most of the Ceibal caches within cruciform (cardinal direction) cosmogram configurations and in specific numerological expressions. Some of the celts aligned east to west, while other celts may have been deposited to align to the direction of sunrise (Inomata and Triadan 2015). While the placements of ceramic vessels at Cahal Pech are mostly in cosmogram forms with numerological symbolism, jade items are often smaller and fragmentary. The jade bead fragments at Cahal Pech, also, represent maize, but the larger celts at Ceibal may represent whole ears of corn (Taube 2005). Cival, located in the central Petén, had a large cache with ceramic vessels dug out in a multi-tiered cruciform pattern, with ceramics forming the quadripartite cosmogram, more than thirty jade celts, and 84 jade pebbles (Estrada-Belli 2006).

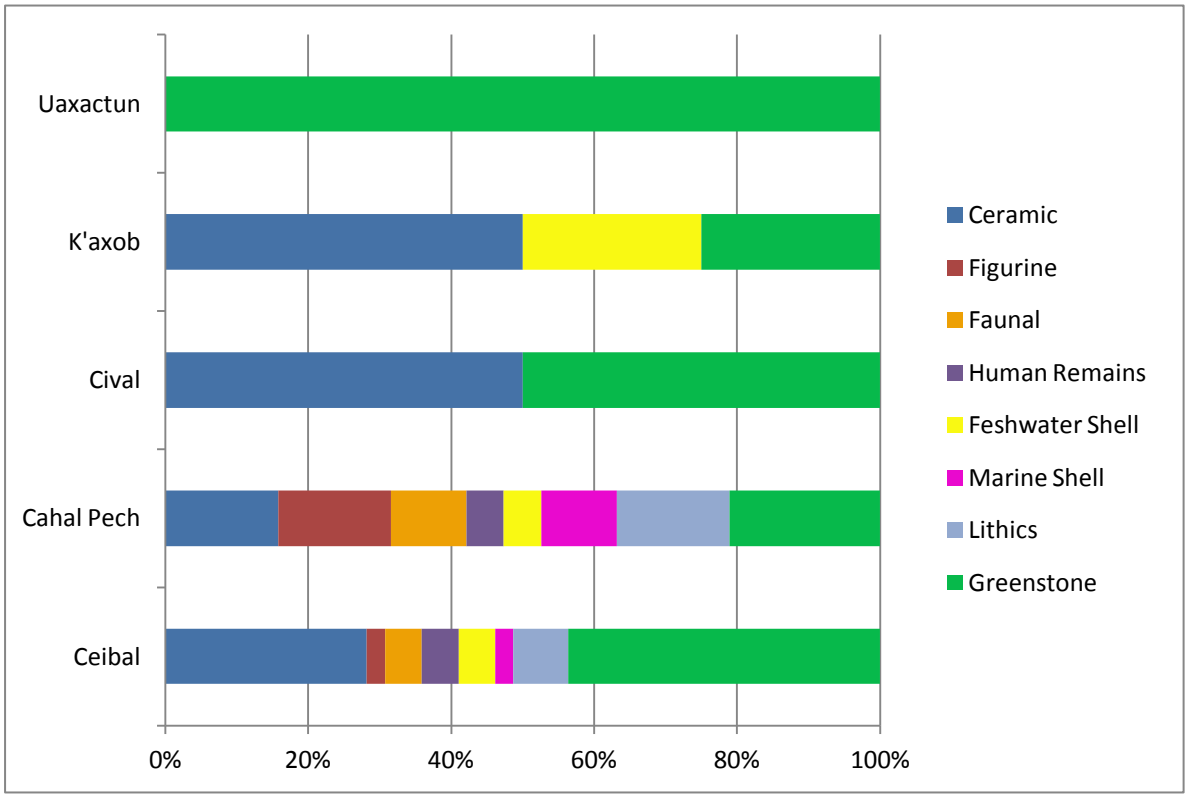

Figure 30: Percentage of artifact distribution for Maya lowland sites with Preclassic caches. The chart is shows the percentages of artifacts in the caches are each site in the database of this study. Only Cahal Pech and Ceibal have all the artifact classes present in the collection of caches documented. Note: lithics represents all lithic artifacts other than jade or other types of greenstone. Cache frequency: Ceibal *n*=35; Cahal Pech *n*=11; K'axob *n*=2; Cival *n*=1; Uaxactun *n*=1).

The K'axob caches are an example of ancestor veneration among the Maya (McAnany 1995). In one Late Middle Preclassic cache the vessels were arranged in a cruciform pattern with faunal remains that are interpreted as having calendrical symbolism (McAnany 2013:104). The second cache, dating to the Terminal Preclassic, had various ceramic vessels with one of the vessels containing "delicate jade and shell carvings", and it thought to be part of a ritual to pass on power between generations (McAnany 2013:104). The significance of ritual caches is shown

similarly between each site by the symbolic referencing of cosmological models, with maize, shells, and figurines likely used for ancestor veneration purposes.

The Uaxactun cache dates to the Late Preclassic and is described as possessing a single jade bead and no other artifacts (Maxwell 1996). A cache with only one artifact is difficult to reconcile with the others discussed here, begging the question as to the appropriateness of labeling it a cache. During this research, it was found that the term cache is used unsystematically to refer to a deposit of many artifacts or a single item, ritual or not. The use of the term cache in the ritual sense of dedication or termination is a binary typological distinction of ritual practices conducted by the ancient Maya that is useful to archaeologists but can limit archaeological interpretations of the ancient Maya (Newman 2018). While certain caches clearly represent dedication and termination rituals, Uaxactun's one jade bead cache is difficult to compare with in regards to the ritual activity seen at both Cahal Pech and Ceibal, where elaborate material with associated symbolism were arranged along centerlines of monumental architecture or along an east to west plaza axis.

Part of what allows for the use of solitary items as evidence of caching behavior during the Preclassic period is the limited amount of data present in published research. The relatively limited sample size of sites with caches, and number of caches made statistically significant analysis unfeasible. In addition, the initial aim of this research was the comparison of caching practices between elite ceremonial and residential spaces. The literature did not reflect a significant concentration of research conducted outside of site core areas to gain data on commoner caching during the Preclassic. Other concerns with the data found in published literature had the same limitations encountered when dealing with other people's data. The earliest data on caching behavior was not as well informed about symbolic markers of ancient

Maya ideology, thus, many caches were only inventoried and not described in regards to orientation or location of artifacts that could yield a more insightful ideological interpretation (Mock 1998).

Key Symbols, Practice, and Aggrandizers in Preclassic Maya Society

Ritual caching is an important aspect of ancient Maya society and also important for understanding the increasing power and prestige of aggrandizers (i.e., emergent elite) during the Preclassic. The data shows different types of materials deposited in caches were by themselves ritual in nature, but also that otherwise utilitarian ceramic vessels were arranged to convey ideological significance. Objects deposited ranged from locally crafted and sourced objects, for example, ceramic vessels and figurines, to jade, obsidian, and marine shells, which were imported through long-distance trade networks. Use of both symbolism and the material to express symbolism in ritual caches is crucial to understanding the importance served by such practices to aggrandizers practicing competitive generosity.

The data from Preclassic caches at Cahal Pech and other Maya lowland sites demonstrate the importance of certain symbols in ancient Maya society (Figure 31). Ortner discussed key symbols a researcher could identify while observing a culture. Ritual caches reflect various ideological symbols. Maize is a suitable summarizing symbol, due to its significance as the staple crop of the ancient Maya, as well as its connection to humans and with their creation. The use of greenstone and jadeite in Preclassic caches convey the spiritual significance of maize in various forms, including smaller pebbles, broken and complete beads, jade spoons, celts, figurines, and various personal body adornments (Taube 2005, 2000). The five sites in the

Preclassic cache dataset all possess jade or a combination of jade and some other greenstone in at least one cache.

Ceramic vessels are the only other common item across the sites. Vessels are often arranged in specific patterns, or are deposited in particular numbers, to symbolize cosmological models, thus providing excellent examples of elaborating symbols (Ortner 1973). For example, the use of lip-to-lip ceramic vessels and associated artifacts in Preclassic caches at Cahal Pech illustrate a virtual reconstruction of the cosmological model, which is seen continuing into the Late Classic period (Lucero 2010). Reinforcing the emphasis of the vessels as cosmograms, the caches in front of Structure B1 (Caches 2017-1 and 2017-2) were composed of 13 and 26 vessels, where 13 is the number of levels in the celestial realm (Schele and Freidel 1990:67). The use of 13 reinforces the importance of cosmological models and the celestial realm in a significantly smaller example compared to the quadripartite layout of Plaza B. The layering of the cosmological model literally stacks the significance from a small-modeled quadripartite cosmogram placed below the Plaza floor, dedicating Structure B1, the largest and tallest ceremonial structure of Plaza B. The sites of K'axob, Cival, and Ceibal also have examples of ancient Maya cosmology represented by combinations of ceramics and greenstone celts. The use of greenstone celts to create cruciform layers, further connect the quadripartite nature of cosmology to a milpa. The quadripartite plazas at Cahal Pech, K'axob, Cival, and Ceibal, in combination with the caches deposited within them, therefore reflect excellent examples of ancient Maya cosmology.

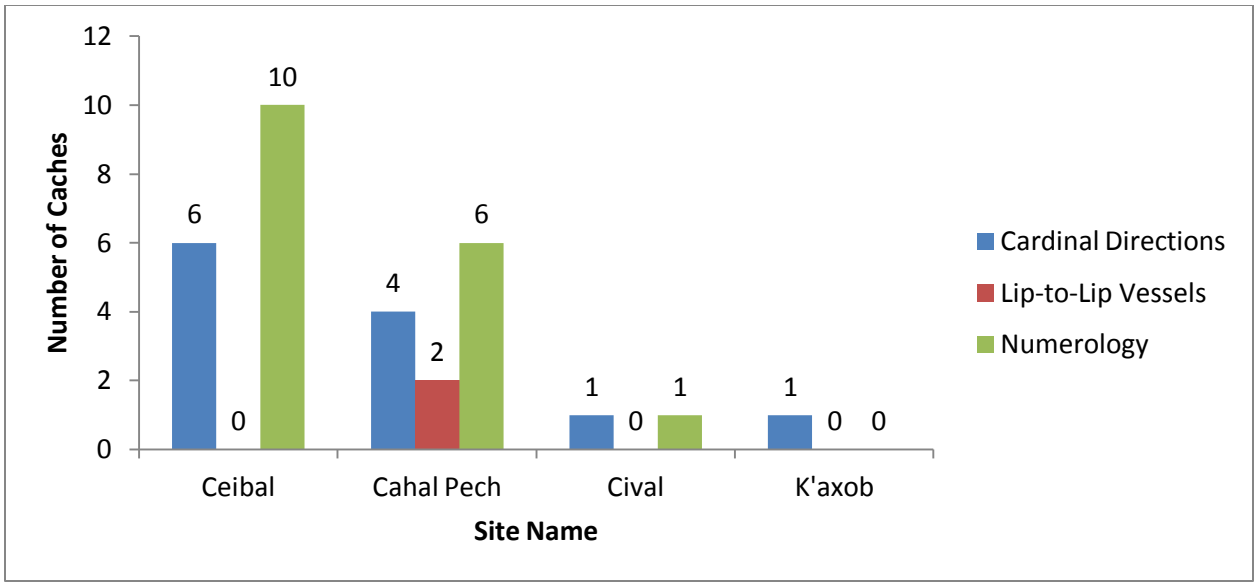

Figure 31: Frequency of symbolic configurations represented by different artifact assemblages in Preclassic caches from the Maya lowlands.

The creation of ritual caches that incorporate various ideological concepts, such as cosmology and mythology, clearly reflect the manner by which the Maya used ideological symbols to reinforce their political and religious beliefs. The common use of ritual caches to represent the importance of maize and ancient Maya cosmology is what Ortner (1973) calls a key scenario that can promote harmony within a society through culturally significant rituals. For example, dedication caches, as mentioned above not only imbue a structure with a spiritual force, but they also emphasize the importance of maize. Caches also express the ordering of reality along cosmological representations that are literally layered on top of each other from caches, to structures, and plazas that have quadripartite configurations.

Bourdieu's Practice theory would see these key symbols as principles meant to mirror the objective natural world. The arbitrary principles of maize summarizing the world of the ancient Maya through agriculture, creation narratives, artistic expression, and ritual acts, creates an analog between humans and maize, in that the former only exists because of the latter, and thus

any literal or stylistic expression of maize is sacred. Practice theory then gives further context to the importance of maize, the staple crop of Maya civilization, as a way to blend the natural world and the social world (Bourdieu 1977:164). The key scenario of caching (i.e., the act of placing objects in specific locations) reinforces the principles of the social world as the natural world in a way that further engages the emotional and physical states of the participants (Bourdieu 1977:167). The placement of caches along centerlines of structures and plazas, on or under floors, or at the corners of platforms show purposefulness to the act, based on several prescriptive acts given the particular scenario. The act of digging into the ground and, in the case of some caches, sometimes digging out a particular shape, for example, the Cival multi-tiered cruciform, engages a physical awareness and investment in the ritual. The items deposited in the cache, from the common use ware ceramics, to imported objects, for example, jade and marine shells are both economical and spiritual offerings invested.

To the aggrandizer, or emergent elite, the offering of highly prized objects in a ritual setting served to maintain harmony is a culturally acceptable way, but also was a form of publicly displaying competitive generosity (Clark and Blake 1994). Whether objects are given to living people, venerated ancestors, or to gods, those objects are conspicuously consumed. Bourdieu calls this consumption a form of cultural or spiritual capital, which has the ability to generate and maintain the reputation of an individual or family as adhering to cultural values with grander gestures and contributions than non-aggrandizers. Ancient Maya ritual caches were placed in public and private spaces among commoners and elite alike (Lucero 2010), which means the dedication of public structures like temples, for example, would likely have beneficial effects for an entire community, and any grand contribution from an aggrandizer would create a reciprocal obligation for the community on a spiritual level. On a smaller scale, aggrandizers

might have provided generous cache offerings to more important members of factional enclaves as social inequality grew over time. Hereditary structures that grew out of aggrandization (Clark and Blake 1994:23) are likely the reason for the growth of private ritual expression. Aggrandizer families would likely practice private ritual to maintain (or at least provide the appearance of maintaining) the increased spiritual capital gained through elaborate sacrificial offerings that increase a family's spiritual power and prestige, and to formalize the transfer of power through the generations (McAnany 2013:15, 104).

While more data is required for systematic comparisons between elite spaces and commoner spaces during the Preclassic as signs of social inequality increased, the data from the caches discussed here demonstrate ritual caching as an excellent venue for examining competitive generosity. Even though ritual caches show various objects deposited as offerings, the use of both local and imported goods shows a continual practice of reinforcing cultural values through ideological and spiritual symbolism. The benefit of an aggrandizer seeking to increase their power and prestige within socially acceptable venues would seize upon the opportunity to contribute most if not all the items to a ritual cache as way to gain cultural and spiritual capital.

Chapter 6: Conclusions and Future Research

This study examined three Preclassic dedicatory caches in Plaza B at the site of Cahal Pech, Belize. Comparisons to patterns of artifact use and cache context at Cahal Pech and between other sites indicated that caches were used as a venue for competitive generosity by emergent elite to increase their power and prestige. Clark and Blake (1994) originally outlined the use of competitive generosity as a way for these individuals, called aggrandizers, to gain power and prestige in relatively egalitarian communities.

The advantage of examining dedicatory caches from Cahal Pech is because of the site's longevity of occupation, and because several caches dating from the Preclassic through the Classic period have been found there. The first settlers of the site were organized within a relatively egalitarian social structure, eventually transforming into a highly socially stratified society characterized by dynastic rule typical of the Classic period (Awe 2013). The processes underwriting the development of social complexity have long been of interest in archaeology (Kintigh et al. 2014:8). Where Clark and Blake's (1994) aggrandizer scenario departs from convention is the seemingly undramatic catalyst that ignited the engine of progressively increasing social inequality. They suggest that the existence of individuals in relatively egalitarian communities seek to increase their power and prestige with generosity carried out in culturally acceptable ways, beginning with a competitive atmosphere among and between aggrandizers (Clark and Blake 1994). Over time, competitive generosity allows these individuals to form allied factions in a network of regional aggrandizers to create a system of hierarchy built upon reciprocity that can mobilize social resources (Clark and Blake 1994:21).

While Clark and Blake (1994) discuss various forms of competitive generosity including feasting, and gift giving, this study examined the placement of ritual caches as another venue for conspicuous consumption. Caches are common features in the Maya lowlands, and examples of purposely buried objects commonly used for acts of dedication or termination of structures are numerous (Mock 1998b). Specifically, this study examined caches that were typologically consistent with dedication caches, which contain objects typically deposited intact, buried, and meant to impart a living essence to a structure to start a particular life cycle (Monaghan 1998:47). The relationship between ritual caches containing symbolic expressions of ancient Maya ideology provides insight on the role ideology plays in economic, political, and ritual systems (Kintigh et al. 2014:12).

The explanation of competitive generosity as a catalyst that creates the factors for the rise of inequality would likely have a continuing expression in contemporary Mesoamerica societies. The cargo systems (civil-religious hierarchies) involve the members of a community volunteering to serve, without a form of financial compensation, in local government or church offices known as cargos (Dewalt 1975:90). The rotation of the cargos are throughout a predetermined timeframe that cycles in other members of the community (Dewalt 1975:90). Communities with cargo systems place social pressure on members who are not keen to participate in the hierarchical structure that expects all men to hold at least one of the cargos at some point (Cancian 1965:284). Another interesting aspect of the cargo system in relation to the practice of competitive generosity is that "in religious cargos, may involve substantial expenditures by the incumbent" (Cancian 1965:284). Both systems demonstrate a process of wealth distribution and the gaining of prestige through hierarchical progression through successive levels of civil and religious stages within a society.

To examine the role dedication caches may play in the development of social complexity and inequality, I asked the following questions:

1. ***Do caches examined from Cahal Pech and other Maya lowland sites contain artifacts that have ideological symbolism and/or were they arranged in a manner to symbolically represent ideological concepts?***

It is clear that artifacts deposited in caches at Cahal Pech and other lowland Maya sites function to display ideologically charged symbols and contain artifacts that were arranged in a manner to represent ideological concepts. The use of jade and other greenstone as a symbol for maize is present in jade bead fragments in Cache 2017-1 and Cache 2017-2 at Cahal Pech. Additionally, these items were encased in lip-to-lip ceramic vessel cosmograms (Awe 2020). Similarly, the greenstone celts cached at other Maya sites like Ceibal and Cival likely represent stylized ears of maize (Taube 2000). The interpretation of ceramic figurines as symbols of venerated ancestors acts not only to honor ancestors, but is a form of lineage recording, and is used in rituals of hereditary power transfer (McAnany 2013:15, 104). Ceramic vessels, specifically plain use ware vessels were used to construct cosmological models (Awe 2020), often arranged to represent the four cardinal directions (Estrada-Belli 2006), and with numerological significance (Ebert et al. 2018).

2. ***Are the artifacts in caches examples of prestigious items in Maya society?***

This cannot be fully answered by this study due to the lack of information about caches in both elite and non-elite spaces during the Preclassic period. To gain a significant interpretation of any of the objects found in the caches from Cahal Pech and the other Maya lowland sites, a

statistical comparison between commoner spaces and elite spaces needs to be made in order to see if exotic and affluent objects occur in significantly higher frequency in elite contexts over commoner contexts. The data for Preclassic caches, however, in addition to being sparse compared to Classic period caches, were in elite spaces, with commoner space caches not apparent. The only element of artifacts in the data were imported objects, for example, jade, obsidian, and marine shell. Neither, jade, obsidian, or marine shell are sourced near any of the sites in the data set and had to be exchanged through the elaborate network that is vital for a thriving aggrandizer system to increase power and prestige for individuals and kin based factions.

3. Are artifacts classified as prestigious found in only certain spaces, for example, ceremonial or elite contexts?

The same problem that question 2 suffers from, also, affects question 3, because adequate data on caches in non-elite spaces either does not exist in sufficient quantities, and/or has not been published. Future research into this topic will need to conduct more excavations in ancient Maya lowland sites, with an emphasis on non-elite spaces, residential and ceremonial. In addition, researchers need to record detailed information on caching behavior when happening upon a likely cache during excavations, even if their particular research topics and questions do not pertain to ritual caching practices. More data that is adequately detailed will enable future research to conduct thorough statistical analysis to determine the differences in artifact densities between elite and commoner caches.

From the previous research conducted to construct interpretations of caching behavior and symbolic interpretations of jade, shell, ceramic figurine fragments, ceramic vessel

configurations (especially associated with the aforementioned artifacts) demonstrates a rich source of symbolically expressed ancient Maya ideology. The symbolism represented in these caches summarizes the ancient Maya cultures intricate and essential relationship with maize. At the same time, they also elaborate on the root metaphor (Ortner 1973) of the quadripartite cosmology of the ancient Maya which further emphasized the importance of maize and agriculture. Ritual caching provides the key scenario (Ortner 1973) that physically and emotionally engages participants in an activity that reinforces an ideology, and which places the need for reciprocity as a requirement for harmony and stability in ancient Maya society.

These symbols and rituals maintain a social world conflated into the natural world and creates a reproducing mindset among the ancient Maya that creates an opportunity for agents of change to exploit caching as a venue for competitive generosity. This generosity not only has the ability to produce cultural and spiritual capital for aggrandizers by conspicuously consuming prestigious and non-prestigious objects as offerings to benefit a whole community, but also can create exclusive ritual spaces for increasingly elite and small enclaves of aggrandizer factions and kin groups, all of which are fed by a trade network and social mobilization, slowly built over generations by aggrandizers influencing and augmenting social structures in Preclassic Maya society. Ritual caching practices also informs upon the need for comparative lines of study to answer the questions: "how do social inequalities emerge, grow, persist, and diminish, and with what consequences" (Kintigh et al. 2014:8) and "how does ideology structure economic, political, and ritual systems" (Kintigh et al. 2014:12)?

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Appendix A: Ceramic Analysis from Cache 2017-3

Sherd ID	Vessel #	Level	Lot #	Context	Sherd Type	Complex	Type	Variety
Cache 2017-3-1		17	PLB-2017-17-18	Below Floor 15	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-2		17	PLB-2017-17-18	Below Floor 15	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-3		17	PLB-2017-17-18	Below Floor 15	Rim/Wall/Base	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-4		17	PLB-2017-17-18	Below Floor 15	Rim	Jenny Creek	Jocote Orange-Brown	Savanna
Cache 2017-3-5		17	PLB-2017-17-18	Below Floor 15	Body	Jenny Creek	Jocote Orange-Brown	Savanna
Cache 2017-3-6		17	PLB-2017-17-18	Below Floor 15	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-7		17	PLB-2017-17-18	Below Floor 15		Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-8		17	PLB-2017-17-18	Below Floor 15	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-9		17	PLB-2017-17-18	Below Floor 15	Rim	Barton Creek	Jocote Orange-Brown	Rockondo
Cache 2017-3-10		17	PLB-2017-17-18	Below Floor 15	Unk	Cunil	Ardagh Orange	
Cache 2017-3-11		17	PLB-2017-17-18	Below Floor 15	Unk	Cunil	Ardagh Orange	
Cache 2017-3-12		19	PLB-2017-17-21	Below Floor 17	Base	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-13		19	PLB-2017-17-21	Below Floor 17	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-14		19	PLB-2017-17-21	Below Floor 17	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-15		19	PLB-2017-17-21	Below Floor 17	Rim	Jenny Creek	Jocote Orange-Brown	Rejolla
Cache 2017-3-16		19	PLB-2017-17-21	Below Floor 17	Rim	Jenny Creek	Jocote Orange-Brown	Savanna
Cache 2017-3-17		21	PLB-2017-17-23	Below Floor 19	rim	Jenny Creek	Jocote Orange-Brown	Rejolla
Cache 2017-3-18		21	PLB-2017-17-23	Below Floor 19	Rim	Jenny Creek	Jocote Orange-Brown	Mucnal
Cache 2017-3-19		21	PLB-2017-17-23	Below Floor 19	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-20		21	PLB-2017-17-23	Below Floor 19	Rim	Cunil	Jocote Orange-Brown	Uck Red
Cache 2017-3-21	**5**	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-22	**8a**	21	PLB-2017-17-24	Feature 3: Cache 2017-4	Rim	Jenny Creek	Jocote Orange-Brown	Rejolla
Cache 2017-3-23	**7**	21	PLB-2017-17-24	Feature 3: Cache 2017-5	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-24	**6**	21	PLB-2017-17-24	Feature 3: Cache 2017-6	Body/Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-25	**10**	21	PLB-2017-17-24	Feature 3: Cache 2017-7	Neck/Rim	Jenny Creek	Jocote Orange-Brown	Jocote

Sherd ID	Vessel #	Level	Lot #	Context	Sherd Type	Complex	Type	Variety
Cache 2017-3-26	**12**	21	PLB-2017-17-24	Feature 3: Cache 2017-8	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-27	**14**	21	PLB-2017-17-24	Feature 3: Cache 2017-9	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-28	**14 Handle**	21	PLB-2017-17-24	Feature 3: Cache 2017-10	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-29	**3**	21	PLB-2017-17-24	Feature 3: Cache 2017-11	Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-30	**1**	21	PLB-2017-17-24	Feature 3: Cache 2017-12	Body	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-31	**1a**	21	PLB-2017-17-24	Feature 3: Cache 2017-13	Rim	Jenny Creek	Jocote Orange-Brown	
Cache 2017-3-32	**2**	21	PLB-2017-17-24	Feature 3: Cache 2017-14	Body/Rim	Jenny Creek	Jocote Orange-Brown	Jocote
Cache 2017-3-33	**Misc.**	21	PLB-2017-17-24	Feature 3: Cache 2017-15	Rim	Jenny Creek	Reforma Incised	Jocote
Cache 2017-3-34	**Misc.**	21	PLB-2017-17-24	Feature 3: Cache 2017-16	Rim	Jenny Creek	Savanna Orange	Jocote
Cache 2017-3-35	**Misc.**	21	PLB-2017-17-24	Feature 3: Cache 2017-17	Body	Jenny Creek	Savanna Orange	Jocote
Cache 2017-3-36	**15**	21	PLB-2017-17-24	Feature 3: Cache 2017-18	Rim	Jenny Creek	Savanna Orange	Jocote
Cache 2017-3-37	**15a**	21	PLB-2017-17-24	Feature 3: Cache 2017-19	Rim	Jenny Creek	Savanna Orange	Jocote
Cache 2017-3-38	**15 Rims**	21	PLB-2017-17-24	Feature 3: Cache 2017-20	Rim	Jenny Creek	Savanna Orange	Rejolla
Cache 2017-3-39	**15b**	21	PLB-2017-17-24	Feature 3: Cache 2017-21	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-40	**11**	21	PLB-2017-17-24	Feature 3: Cache 2017-22	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-41	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-23	Rim	Jenny Creek	Savanna Orange	Jocote
Cache 2017-3-42	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-24	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-43	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-25	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-44	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-26	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-45	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-27	Rim	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-46	**Misc. 1**	21	PLB-2017-17-24	Feature 3: Cache 2017-28	Rim/Body/Base	Jenny Creek	Savanna Orange	Savanna
Cache 2017-3-47	**8**	21	PLB-2017-17-24	Feature 3: Cache 2017-29	Wall and Rim	Jenny Creek	Savanna Orange	Ambergris
Cache 2017-3-48	**10a**	21	PLB-2017-17-24	Feature 3: Cache 2017-30	Rim	Unk	Unk	Unk
Cache 2017-3-49	**12a**	21	PLB-2017-17-24	Feature 3: Cache 2017-31	Body	Unk	Unk	Unk

Sherd ID	Vessel #	Level	Lot #	Context	Sherd Type	Complex	Type	Variety
Cache 2017-3-50	**12b**	21	PLB-2017-17-24	Feature 3: Cache 2017-32	Rim	Unk	Unk	Unk
Cache 2017-3-51	**3a**	21	PLB-2017-17-24	Feature 3: Cache 2017-33	Rim	Barton Creek	Hillbank Red	Hillbank

Sherd ID	Vessel #	Form	Appendages	Decoration	Diameter (cm)	Body Thickness (cm)	Rim Thickness (cm)
Cache 2017-3-1		Jar			12	1.53	1.74
Cache 2017-3-2		Jar			17	0.65	0.96
Cache 2017-3-3		Plate			6	0.98	1.5
Cache 2017-3-4		Bowl			12		1.14
Cache 2017-3-5		Unk		Incised		0.56	
Cache 2017-3-6		Unk	Handle	Fillet		0.48	
Cache 2017-3-7		Unk	Handle			2.37	
Cache 2017-3-8		Bowl	Handle		7	0.42	0.84
Cache 2017-3-9		Plate		Black Stripes	10		1.16
Cache 2017-3-10		Unk				0.97	
Cache 2017-3-11		Unk				0.89	
Cache 2017-3-12		Jar	Handle	Fillet		0.4	
Cache 2017-3-13		Plate				0.69	
Cache 2017-3-14		Bowl			9		0.95
Cache 2017-3-15		Plate			14	0.87	1.06
Cache 2017-3-16		Bowl			8		1.14
Cache 2017-3-17		Jar			9.5		0.68
Cache 2017-3-18		Jar			8		0.94
Cache 2017-3-19		Jar			9		1.21
Cache 2017-3-20		Unk			7.5		0.95
Cache 2017-3-21	**5**	Bowl			18	0.66	0.98
Cache 2017-3-22	**8a**	Bowl			11.5		0.8
Cache 2017-3-23	**7**	Jar	Handle	Fillet		0.4	
Cache 2017-3-24	**6**	Jar		Fillet	9.5	0.4	0.9
Cache 2017-3-25	**10**	Jar	Handle	Fillet	13	0.4	1
Cache 2017-3-26	**12**	Jar		Fillet		0.49	
Cache 2017-3-27	**14**	Jar		Fillet	10	0.53	1.5
Cache 2017-3-28	**14 Handle**	Jar	Handle	Fillet		0.3	
Cache 2017-3-29	**3**	Jar			9	0.38	1.1

Sherd ID	Vessel #	Form	Appendages	Decoration	Diameter (cm)	Body Thickness (cm)	Rim Thickness (cm)
Cache 2017-3-30	**1**	Jar	Handle			0.62	
Cache 2017-3-31	**1a**	Plate			9.5	0.42	0.58
Cache 2017-3-32	**2**	Jar	Handle	Fillet	12	0.45	1.17
Cache 2017-3-33	**Misc.**	Jar			5.5	0.37	1.05
Cache 2017-3-34	**Misc.**	Jar			7.5	0.8	0.66
Cache 2017-3-35	**Misc.**	Jar		Fillet		0.52	
Cache 2017-3-36	**15**	Jar	Handle	Fillet	9	0.367	1.26
Cache 2017-3-37	**15a**	Bowl			11	0.96	0.11
Cache 2017-3-38	**15 Rims**	Jar			10	0.69	1.3
Cache 2017-3-39	**15b**	Bowl			12.5	0.97	0.87
Cache 2017-3-40	**11**	Bowl			8	0.71	0.59
Cache 2017-3-41	**Misc. 1**	Bowl			9	0.43	0.72
Cache 2017-3-42	**Misc. 1**	Plate		Fillet	9	0.62	0.41
Cache 2017-3-43	**Misc. 1**	Plate			10	0.63	0.89
Cache 2017-3-44	**Misc. 1**	Bowl			12	0.99	0.91
Cache 2017-3-45	**Misc. 1**	Bowl		Incised Rim	9.5	0.48	0.8
Cache 2017-3-46	**Misc. 1**	Plate		Incised Wall	9.5	0.49	0.65
Cache 2017-3-47	**8**	Jar			0.4	0.4	
Cache 2017-3-48	**10a**	Jar			7.5	0.58	
Cache 2017-3-49	**12a**	Jar	Handle				
Cache 2017-3-50	**12b**	Jar			7	1	
Cache 2017-3-51	**3a**	Jar		indented groove	19	0.93	1.1

Sherd ID	Vessel #	Paste Munsell	Slip Munsell	Fire clouding	Notes
Cache 2017-3-1		10 R 5/8 red		Y	Red Color exterior rim sherd with fireclouding interior.
Cache 2017-3-2		2.5 YR 6/8 light red	10 R 4/8 red	N	Large Jar with long neck.
Cache 2017-3-3		2.5 YR 6/8 light red		Y	Plate with high walls or low wall bowl
Cache 2017-3-4		5 YR 6/8 reddish Yellow		N	Possible bowl or Jar, angle of rim flat suggests the former.
Cache 2017-3-5		5 YR 7/8 yellow reddish	10 R 4/8 red	N	Parallel incised lines with red slip inside them.
Cache 2017-3-6		2.5 YR 3/6 dark red		Y	5 sherds: four are body with applique and on body with applique and spot with handle broke off.
Cache 2017-3-7		2.5 YR 6/8 light red		Y	Think portion of handle alone.
Cache 2017-3-8		2.5 YR 4/6 red		Y	Rim not far from broken handle.
Cache 2017-3-9		2.5 YR 6/8 light red		Y	Rim with a 0.25 cm over the wall of the vessel sherd.
Cache 2017-3-10		10 YR 8/2 white		N	Ash temper; black color between white interior and exterior.
Cache 2017-3-11		10 YR 8/2 white		N	Ash temper; black color interior and thin white exterior.
Cache 2017-3-12		5 YR 7/8 yellow reddish		Y	
Cache 2017-3-13		5 YR 6/8 reddish Yellow		Y	Base with part of a vessel wall rising up.
Cache 2017-3-14		5 YR 6/8 reddish Yellow		Y	
Cache 2017-3-15		2.5 6/8 light red	10R 4/8 red	Y	
Cache 2017-3-16		2.5 YR 6/8 light red	10 R 4/8 red	N	
Cache 2017-3-17				N	
Cache 2017-3-18		10 R 3/6 dark red		N	
Cache 2017-3-19		10 R 6/8 light red		Y	
Cache 2017-3-20		10 YR 8/2 white	7.5 R 5/6 strong brown	N	Ash temper with Quartz inclusions.
Cache 2017-3-21	**5**	7.5 YR 6/4 light brown		Y	Specks of what looks like faded orange-brown on some of the parts of the sherds. Dark temper.
Cache 2017-3-22	**8a**	2.5 YR 6/8 light red	10R, 5/8, Red	N	Had mismatched ceramic vessel in Bag
Cache 2017-3-23	**7**	5 Y 7/6 reddish Yellow		Y	Lack of Rims, but handle and Fillet Applique
Cache 2017-3-24	**6**	5 YR 6/8 reddish Yellow		Y	
Cache 2017-3-25	**10**	5 YR 6/8 reddish Yellow		Y	One Mismatched Rim piece, and nearly complete jar rim, non-diganostic in other bag

Sherd ID	Vessel #	Paste Munsell	Slip Munsell	Fire clouding	Notes
Cache 2017-3-26	**12**	2.5 YR 5/8 red		Y	The majority sherds from a bag with likely mismatched shreds.
Cache 2017-3-27	**14**	5 YR 7/4 pink	5 YR 6/3 light redish brown	Y	Sherds appear to be all a part of the same vessel, another sherd will be entered with handle
Cache 2017-3-28	**14 Handle**	5 YR 7/4 pink	5 YR 6/3 light redish brown	Y	Handle sherd of vessel 14
Cache 2017-3-29	**3**	5YR 7/6 reddish yellow		Y	Most sherds in bag appear to belong to this vessel, with some body sherds with handle.
Cache 2017-3-30	**1**	5YR 6/8 reddish yellow		Y	Handle of body from majority sherds likely the same vessel, fire clouding interior.
Cache 2017-3-31	**1a**	2.5YR 5/8 red		N	Unknown Sherd like Savana Orange with random incised patterns.
Cache 2017-3-32	**2**	5 YR 6/6 reddish yellow		Y	Large section of a Jocote Body sherd with Rim and Handle. Interior has no fire clouding.
Cache 2017-3-33	**Misc.**	5 YR 7/8 yellow reddish		Y	Complete rim of a Jar.
Cache 2017-3-34	**Misc.**	5 YR 7/4 pink		Y	Partial Rim. Sparse amount of fire clouding.
Cache 2017-3-35	**Misc.**	2.5 YR 4/6 red		N	Partial Body with Fillet, deeper red color than most sherds, likely due to firing.
Cache 2017-3-36	**15**	5 YR 7/4 pink		Y	Majority of sherds belong to this vessel
Cache 2017-3-37	**15a**	5 YR 6/8 reddish Yellow		Y	One Rim Shred that is different from the Jocote Majority with thicker walls.
Cache 2017-3-38	**15 Rims**	5 YR 7/8 yellow reddish	10 R 4/8 red	N	One of two rims with Jocote Orange-Brown vessel
Cache 2017-3-39	**15b**	5 YR 6/8 reddish Yellow	10 R 4/8 red	N	Rim pieces with unknown base pieces.
Cache 2017-3-40	**11**	2.5 YR 6/8 red		N	Appears to be shreds from only one vessel in this bag.
Cache 2017-3-41	**Misc. 1**	2.5 YR 5/8 red		Y	Minority shreds bagged separately
Cache 2017-3-42	**Misc. 1**	2.5 YR 6/8 light red	10 R 4/8 red	N	Plate has Fillet, but another part of a nub protruding from the exterior of the plate rim, without fillet.
Cache 2017-3-43	**Misc. 1**	2.5 YR 6/8 light red	10 R 5/8 red	N	Single Plate with rim like none of the others from the rest of the rim sherds.
Cache 2017-3-44	**Misc. 1**	2.5 YR 6/6 light red	10 R 4/8 red	N	Rim piece with part of the base.
Cache 2017-3-45	**Misc. 1**	2.5 YR 6/8 light red	10 R 4/8 red	N	Rim Piece with incised grooves running along the rim. 1 of 4 rime pieces.
Cache 2017-3-46	**Misc. 1**	5 YR 7/6 reddish yellow	10 R 5/8 red	N	Sherd with rim, wall, base, and the base is sloping downward, when placed upside down, base is concave. Exterior wall incised parallel to base.

Sherd ID	Vessel #	Paste Munsell	Slip Munsell	Fire clouding	Notes
Cache 2017-3-47	**8**	2.5 YR, 6/6, light red		Y	The mismatched N-D Sherds
Cache 2017-3-48	**10a**	5 Y, 6/6 reddish yellow	5 Y, 4/6 yellowish red	Y	Mismatched, appears to be a wash finish instead of slip.
Cache 2017-3-49	**12a**	2.5 Y 3/0 black	2.5 Y 3/0 black	Y	Part of a vessel that doesn't quite seem to match the majority sherd vessel.
Cache 2017-3-50	**12b**			Y	
Cache 2017-3-51	**3a**	5 YR 5/8 yellowish red	10 R 4/8 red	Y	One rim sherd from a mismatch in a bag of Jocote Orange-Brown

Appendix B: Jade and Greenstone Artifacts from 2017 Cahal Pech Caches

Artifact	E.U.	Lvl	Lot	Provenience	Special Find #	Length (cm)	Width (cm)	Thickness (cm)	Munsell Color
Bead fragment	PLB-2017-1B	7	PLB-2017-1-14	Below Floor 6	PLB-2017-SF-27	1.15	0.95	0.56	5 G 6/2 pale green, 5 F 6/1 greenish gray; 5 G 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.16	0.93		5G 4/1 dark greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.12	0.88		5G 7/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.97	0.5		5G 5/2 grayish green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.84	0.85		5Y 7/1 light gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.97	0.47		5G 4/1 dark greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	1.01	0.95		5G 4/1 dark greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	1.09	0.68		5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	1.44	0.84		5G 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	1.07	0.64		5G 6/1 greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.74	0.71		5G 6/1 greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.8	0.98		5GY 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.86	0.71		5G 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feature 2: Cache 2017-1, In fill	PLB-2017-SF-12	0.79	0.69		5BG 7/1light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #16	PLB-2017-SF-32	0.59	0.45	0.36	5G 6/2 pale green

Artifact	E.U.	Lvl	Lot	Provenience	Special Find #	Length (cm)	Width (cm)	Thickness (cm)	Munsell Color
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #3	PLB-2017-SF-31	0.99	0.65	0.42	5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #3	PLB-2017-SF-31	0.63	0.2	0.36	5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #19	PLB-2017-SF-35	0.12	0.89	0.59	5GY 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #19	PLB-2017-SF-35	0.63	0.57	0.35	5G 6/2
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside vessel 1 and 2 (lip-to-lip)	PLB-2017-SF-33	0.74	0.4	0.26	5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside vessel 1 and 2 (lip-to-lip)	PLB-2017-SF-33	0.69	0.39	0.32	5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside vessel 1 and 2 (lip-to-lip)	PLB-2017-SF-33	0.33	0.19	0.19	5G 6/2 pale green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #6	PLB-2017-SF-29	0.52	0.33	0.39	5G 5/2 grayish green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #6	PLB-2017-SF-29	0.29	0.23	0.31	5G 5/2 grayish green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #11	PLB-2017-SF-34	0.66	0.35	0.42	5GY 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #11	PLB-2017-SF-34	0.55	0.52	0.31	5BG 7/1 light greenish gray
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #11	PLB-2017-SF-34	0.26	0.15	0.28	5G 5/2 grayish green
Bead fragment	PLB-2017-1B	7	PLB-2017-1-15	Feat. 2: Cache 2017-1, Inside Vessel #15	PLB-2017-SF-37	0.56	0.49	0.47	5 GY 6/1 Greenish gray; 5 BG 4/1 dark greenish gray
Polished stone	PLB-2017-1B	6	PLB-2017-1-3	In Floor 5 Cut	PLB-2017-SF-23	3.25	1.7	0.89	5G 4/1 dark greenish gray; 5B 4/1 dk. Bl. Gray inclusions
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.1	0.98	0.6	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.86	0.91	0.32	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;

Artifact	E.U.	Lvl	Lot	Provenience	Special Find #	Length (cm)	Width (cm)	Thickness (cm)	Munsell Color
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.89	0.53	0.16	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.62	0.5	0.42	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.65	0.41	0.17	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;
Bead fragment	PLB-2017-1	7	PLB-2017-1-8	Below Floor 6	PLB-2017-SF-27	0.38	0.35	0.24	5 G 6/1 greenish gray; 5GY 4/1 dark greenish gray;
Polished stone	PLB-2017-17	13	PLB-2017-17-13	Below Floor 11	PLB-2017-SF-48	6.41	4.44	2.02	5G 7/1 light greenish gray

Appendix C: Special Finds from 2017 Cahal Pech Caches

E.U.	Lvl.	Lot	Provenience	Class	Special Find No.	Freq.	Description	Additional Notes
PLB-2017-1	2	PLB-2017-1-2	Below Floor 1	Chert	PLB-2017-SF-01	1	Chalcedony arrow point	
PLB-2017-1	6	PLB-2017-1-13	Feature 1: Floor 5 Cut	Ceramic	PLB-2017-SF-18	1	Figurine head (mouth)	
PLB-2017-1	6	PLB-2017-1-13	Feature 1: Floor 5 Cut	Ceramic	PLB-2017-SF-19	1	Figurine head	Figurine head, small face with eyes and mouth as slit
PLB-2017-1	7	PLB-2017-1-7	Feature 2: Cache 2017-1	Chert	PLB-2017-SF-09	16	Chert microdrills	Includes bipolared tools
PLB-2017-1	7	PLB-2017-1-7	Feature 2: Cache 2017-1	Ceramic	PLB-2017-SF-10	1	Figurine body	Savana Orange paste, right leg and arm with arm resting on knee
PLB-2017-1B	7	PLB-2017-1-14	Below Floor 4	Ceramic	PLB-2017-SF-20	1	Figurine foot	Jocote paste, with fine calcite inclusions
PLB-2017-1B	7	PLB-2017-1-14	Below Floor 6	Ceramic	PLB-2017-SF-21	1	Figurine frag (foot/leg)	
PLB-2017-1B	7	PLB-2017-1-14	Below Floor 6	Chert	PLB-2017-SF-24	5	Chert microdrills	Includes bipolared tools
PLB-2017-1B	7	PLB-2017-1-14	Below Floor 6	Chert	PLB-2017-SF-28	16	Chert microdrills	Includes bipolared tools
PLB-2017-1B	7	PLB-2017-1-15	Feature 3: Cache 2017-2	Chert	PLB-2017-SF-36	1	Shell pendant fragment	
PLB-2017-1B	8	PLB-2017-1-16	Below platform	Ceramic	PLB-2017-SF-40	1	Figurine head	Savana Orange paste, some slip remaining; figure has headdress and earspool on right
PLB-2017-1B	8	PLB-2017-1-16	Below platform	Chert	PLB-2017-SF-41	2	Chert microdrills	Includes bipolared tools
PLB-2017-17	3	PLB-2017-17-3	Below Floor 2	Obsidian	PLB-2017-SF-88	1	Obsidian arrow point	
PLB-2017-17	13	PLB-2017-17-13	West Profile	Chert	PLB-2017-SF-46	1	Chert microdrills	Includes bipolared tools
PLB-2017-17	13	PLB-2017-17-13	Below Floor 11	Chert	PLB-2017-SF-47	1	Biface	

E.U.	Lvl.	Lot	Provenience	Class	Special Find No.	Freq.	Description	Additional Notes
PLB-2017-17	14	PLB-2017-17-14	Below Floor 12	Ceramic	PLB-2017-SF-49	1	Figurine fragment	Unknown portion; Savana with red slip
PLB-2017-17	16	PLB-2017-17-16	Below Floor 14	Ceramic	PLB-2017-SF-52	1	Mini ocarina	Possible zoomoprhic (snail?); savana oragne
PLB-2017-17	16	PLB-2017-17-16	Below Floor 14	Ceramic	PLB-2017-SF-53	1	Figurine head	Ash temper with red paste (probably Uck Red)
PLB-2017-17	16	PLB-2017-17-16	Below Floor 14	Ceramic	PLB-2017-SF-54	1	Figurine frag - arm	Savana orange
PLB-2017-17	17	PLB-2017-17-18	Below Floor 15	Ceramic	PLB-2017-SF-30	8	Figurine (in pieces)	Ash temper; complete head with upper body (including right arm); head dress and earspools
PLB-2017-17	17	PLB-2017-17-18	Below Floor 15	Ceramic	PLB-2017-SF-55	3	Unknown portion of figurine	Ash temper
PLB-2017-17	17	PLB-2017-17-18	Below Floor 15	Ceramic	PLB-2017-SF-56	1	Figurine body	Ash temper; seated position
PLB-2017-17	17	PLB-2017-17-18	Below Floor 15	Ceramic	PLB-2017-SF-57	1	Figurine foot	Savana orange paste
PLB-2017-17	17	PLB-2017-17-18	Below Floor 15	Ceramic	PLB-2017-SF-62	1	Figurine head	Ash temper
PLB-2017-17	18	PLB-2017-17-20	Below Floor 16	Ceramic	PLB-2017-SF-63	2	Figurine fragments	Jocote paste with fine calcite inclusions; left leg dangling with hand resting on knee
PLB-2017-17	18	PLB-2017-17-20	Below Floor 16	Ceramic	PLB-2017-SF-64	1	Figurine head	Savana paste; highly weathered but can make out head dress
PLB-2017-17	19	PLB-2017-17-21	Below Floor 17	Ceramic	PLB-2017-SF-72	1	Figurine foot	Savana paste
PLB-2017-17	19	PLB-2017-17-21	Below Floor 17	Ceramic	PLB-2017-SF-75	1	Figurine body	Head and left arm; possibly was part of ocarina
PLB-2017-17	19	PLB-2017-17-21	Below Floor 17	Ceramic	PLB-2017-SF-76	1	Ceramic ring	Brown glossy slip; incised on the inside
PLB-2017-17	19	PLB-2017-17-21	Below Floor 17	Chert	PLB-2017-SF-77	1	Chert microdrills	
PLB-2017-17	20	PLB-2017-17-22	Below Floor 18	Ceramic	PLB-2017-SF-78	1	Figurine body	Seated position, Jocote paste

E.U.	Lvl.	Lot	Provenience	Class	Special Find No.	Freq.	Description	Additional Notes
PLB-2017-17	20	PLB-2017-17-22	Below Floor 18	Ceramic	PLB-2017-SF-79	1	Ocarina	Bird shape, Savana paste (but redder) with brown slip
PLB-2017-17	20	PLB-2017-17-22	Below Floor 18	Ceramic	PLB-2017-SF-80	1	Mini pot	Jocote style, with holes on either side to hang
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Ceramic	PLB-2017-SF-81	1	Applique ceramic	
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Ceramic	PLB-2017-SF-82	1	Figurine body	Ash temper
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Ceramic	PLB-2017-SF-83	1	Figurine body	Seated position, with legs extended
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Ceramic	PLB-2017-SF-84	1	Figurine hand	Possibly zoomorphic; Savana paste
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Ceramic	PLB-2017-SF-85	1	Figurine head	Flat face/head; Savana paste
PLB-2017-17	21	PLB-2017-17-24	Feature 3: Cache 2017-3	Unknown	PLB-2017-SF-86	1	Celt	

Appendix D: Lowland Maya Cache Database

This dataset is an attempt to classify and synthesize a large set of information regarding reported Preclassic caches from the Maya lowlands. The variables presented below address contextual information, temporal classifications, and different configurations of caches. This dataset also provides a detailed description of all associated artifacts as well as presence/absence categories and frequencies for ceramics, figurines, faunal remains, human remains, freshwater shell, marine shell, lithics (chert), obsidian, jade, and serpentine (i.e., greenstone). The input, "Mix," in the Jade column denotes a combination of jade and other greenstone raw materials. These categories were intended as a reference to compare and contrast Preclassic caching practices across the lowlands. When data was not reported, this category was left blank.

Dataset Variable	Description/Comments
Site	Name of site where cache is located
Reference	List of all references for cache
Area	Part of site in which the cache was discovered (e.g., Plaza B)
Structure	Structure designation burial was discovered in (e.g. Structure B1)
Context	Where within the structure is the cache located? (e.g. summit, within temple, within platform, resting on floor)
Relative Time Period	Middle Preclassic, Late Preclassic (and transitions); ceramic phase is also listed when reported
Ceramic	Yes designates presence in cache; No designates absence in cache
Vessel Freq.	Number of whole or partially reconstructibile vessels in cache
Vessel Form(s)	Form of whole or partially reconstructibile vessels in cache (e.g., bowl, jar, plate).
Sherd Freq.	Number of sherds from incomplete vessels
Figurines	Yes designates presence in cache; No designates absence in cache
Figurine Freq.	Number of complete or partial figurines and figurine fragments
Faunal Remains	Yes designates presence in cache; No designates absence in cache
Human Remains	Yes designates presence in cache; No designates absence in cache
Freshwater Shell	Yes designates presence in cache; No designates absence in cache
Freshwater Shell Freq.	Number of freshwater shell remains
Marine Shell	Yes designates presence in cache; No designates absence in cache
Marine Shell Freq.	Number of marine shell remains
Lithics	Yes designates presence in cache; No designates absence in cache
Lithic Type	Type of artifact (e.g., axe, celt, spoon, bead)
Lithic Freq.	Number of lithic artifacts (excluded obsidian and greenstone)
Obsidian	Yes designates presence in cache; No designates absence in cache

Dataset Variable	Description/Comments
Obsidian Freq.	Number of obsidian artifacts in cache
Greenstone	Yes designates presence in cache; No designates absence in cache
Jade	Yes designates presence in cache; No designates absence in cache
Jade Freq.	Number of jade artifacts in cache
Jade Form	Type of artifact (e.g., axe, celt, spoon, bead)
Serpentine	Yes designates presence in cache; No designates absence in cache
Cardinal Direction/Cosmogram	Yes designates presence in cache; No designates absence in cache
Cardinal Direction Color	Yes designates presence in cache; No designates absence in cache
Lip-to-Lip	Yes designates presence in cache; No designates absence in cache
Numerology	Yes designates presence in cache; No designates absence in cache

Site	Assigned Cache ID	References	Area	Structure	Context	Relative Time Period
Cahal Pech	**Cache 2017-1**	Ebert 2018	Plaza B	In front of B1	Along centerline of B1 stairs	Late Preclassic
Cahal Pech	**Cache 2017-2**	Ebert 2018	Plaza B	In front of B1	Along centerline of B1 stairs	Late Preclassic
Cahal Pech	**Cache 2017-3**	Ebert 2018	Plaza B	In front of B7	Along centerline of B7 stairs	Middle Preclassic
Cahal Pech	**Platform B SE**	Zweig 2010	Plaza B	Platform B	Southeast corner of Platform B	Middle Preclassic
Cahal Pech	**Platform B NE**	Zweig 2010	Plaza B	Platform B	Northeast corner of Platform B	Middle Preclassic
Cahal Pech	**Platform B NW**	Zweig 2010	Plaza B	Platform B	Northwest corner of Platform B	Middle Preclassic
Cahal Pech	**C-9 Stair**	Iannone 1995	Zubin Group	C-9	In stair fill near each other	Middle Preclassic
Cahal Pech	**C-9 6th**	Iannone 1995	Zubin Group	C-9	In C9-6th fill, directly in front of the earlier C9-7th building platform retaining wall.	Middle Preclassic
Cahal Pech	**B4 Cache 1**	Awe 1992	B Group	B4	4th Floor	Early Middle Preclassic
Cahal Pech	**B4 Cache 2**	Awe 1992	B Group	B4	Beneath Floor 9C	Middle Preclassic
Cahal Pech	**B4 Cache 3**	Awe 2020	B Group	B4	Below summit floor of Str. B4-10th	Late Preclassic
Ceibal	**157**	MacLellan 2016	Karinel Group	Tz'unun	On floor of Str. Tz'unun	Late Middle Preclassic; Escoba 2
Ceibal	**159**	MacLellan 2016; Burham and MacLellan 2014	Karinel Group	47	deposited on bedrock in front of structure 47.	Late Preclassic; Xate 1 or 2 phase
Ceibal	**168**	MacLellan 2016	Karinel Group	211B	Intrusion in Floor 1	Late Preclassic to Proto Classic

Site	Assigned Cache ID	References	Area	Structure	Context	Relative Time Period
Ceibal	**175**	MacLellan 2016; Burham and MacLellan 2014	Karinel Group	211C	Intrusion in Floor 5	Middle to Late Preclassic Transition
Ceibal	**179**	MacLellan 2016	Karinel Group	211G	"left on bedrock of southern slope of basal platform" in Floor 3	Late Preclassic to Proto Classic
Ceibal	**Cache 105**	Inomata and Triadan 2015	Group A	Plaza	Fill of Floor 10 directly about Floor 11; directly below Cache 106	Middle Preclassic; Escoba 2
Ceibal	**Cache 106**	Inomata and Triadan 2015	Group A	Plaza	Fill of Floor 11	Middle Preclassic; Escoba 2
Ceibal	**Cache 108**	Inomata and Triadan 2015	Group A	Plaza	Placed under Floor 13 of E-Group plaza, likely placed at time of construction of floor.	Middle Preclassic; Real 3
Ceibal	**Cache 109**	Inomata and Triadan 2015	Group A	Plaza	In fill of Floor 14 E-Group plaza, that slightly cut into Floor 15	Middle Preclassic; Real 2?
Ceibal	**Cache 118**	Inomata and Triadan 2015	Group A		"Deposited in natural marl layer near center of the original E-Group plaza"	Middle Preclassic; Real 1
Ceibal	**Cache 123**	Inomata and Triadan 2015	Group A	A-15 Sub-4	large platform	Middle Preclassic; Escoba 3
Ceibal	**Cache 125**	Inomata and Triadan 2015	Group A	A-24 Platform	Stone fill near the eastern edge of the A-24 platform	Late Preclassic; Xate 1 or 2 Phase
Ceibal	**Cache 127**	Inomata and Triadan 2015	Group A	Ch'och	In platform, under Floor 7a1, slightly later than cache 131	Middle Preclassic; Real 2
Ceibal	**Cache 129**	Inomata and Triadan 2015	Group A	K'at Platform	Triangular formation on Floor 12 and covered by Floor 11	Middle Preclassic; likely Escoba 1
Ceibal	**Cache 131**	Inomata and Triadan 2015	Group A	Katal 1st	Placed under Floor 8 of Str. Katal 1st, that was built on Platform Ch'och' (early A-24 Platform)	Middle Preclassic; Real 2

Site	Assigned Cache ID	References	Area	Structure	Context	Relative Time Period
Ceibal	**Cache 132**	Inomata and Triadan 2015	Group A	Xa'an	E-W axis of E-Group; 1.7 m to W of Cache 160; may have been cut from Floors 7, 8, or 8b	Middle Preclassic; Real 3
Ceibal	**Cache 133**	Inomata and Triadan 2015	Group A	Platfrom K'at	Under Floor 20 of Operation 201A	Middle Preclassic; Real 3
Ceibal	**Cache 134**	Inomata and Triadan 2015	Group A	Tunnel toward A-20	2.0 west of Cache 118; pit dug into Fl. 18 beginning of Real 1; natural marl layer	Middle Preclassic; Real 1
Ceibal	**Cache 135**	Inomata and Triadan 2015	Group A	Between E Court & Str. A-18	Pit dug into Floor 7	Middle Preclassic; Escoba 2 or 3
Ceibal	**Cache 136**	Inomata and Triadan 2015	Group A	bBetweenw E Court & Str. A-18	Intrusive to Floor 9	Middle Preclassic; likely Escoba 1
Ceibal	**Cache 137**	Inomata and Triadan 2015	Group A	W of E-Group Ass	Cut slightly into Floor 6; probably made when Floor 5 was constructed	Middle Preclassic; Escoba 2
Ceibal	**Cache 138**	Inomata and Triadan 2015	Group A	Floor 17b	Dug into second floor of E-Group plaza (Floor 17b)	Middle Preclassic; Real 1
Ceibal	**Cache 143**	Inomata and Triadan 2015	Group A	A-20	"In ceiling of the tunnel excavation in A-20 at 11.0 m from beginning of the tunnel"	Middle Preclassic; Real 2-3
Ceibal	**Cache 145**	Inomata and Triadan 2015	Group A	B'ehom	Intrusive pit cut from above Floor Hillary in the lower part of the ramp or stair of Structure B'ehom or the subsequent building.	Middle Preclassic; Real 2
Ceibal	**Cache 146**	Inomata and Triadan 2015	Group A	Plaza	In fill of Floor 14;	Middle Preclassic; Real 2?
Ceibal	**Cache 149**	Inomata and Triadan 2015	Group A	Saqpusin	"Cut slightly into Floor 8 and covered by Floor 7	Middle Preclassic; likely Escoba 1

Site	Assigned Cache ID	References	Area	Structure	Context	Relative Time Period
Ceibal	**Cache 151**	Inomata and Triadan 2015	Group A	Xa'an	Four small pits close to each other, appearing to be cut from Floor 10a in Str. Xa'an;	Middle Preclassic; Real 3 or Escoba 1
Ceibal	**Cache 152**	Inomata and Triadan 2015	Group A	Xa'an	Pit was 18 cm diameter and 50 cm from Cache 160; may have been intrusive into Floor 10a.	Middle Preclassic; Real 3 - Escoba 1
Ceibal	**Cache 153**	Inomata and Triadan 2015	Group A	Plaza	E-W axis of E-Group;30 cm N of Caches: 154, 155; under Floor 12b	Middle Preclassic; Real 3 or Escoba 1
Ceibal	**Cache 154**	Inomata and Triadan 2015	Group A	Plaza	Pit cut from Floor 12b in front of str. Saqpusin	Middle Preclassic; likely Escoba 1
Ceibal	**Cache 155**	Inomata and Triadan 2015	Group A	Plaza	Pit cut from Floor 12b in front of str. Saqpusin	Middle Preclassic; likely Escoba 1
Ceibal	**Cache 156**	Inomata and Triadan 2015	Group A	Fernando	On Floor 29 nest to str. Fernando; str. Carved out of natural marl layer;	Middle Preclassic; Real 3
Ceibal	**Cache 160**	Inomata and Triadan 2015	Group A	Xa'an	In "earliest version of the eastern platform; pit appears cut from Floor 13, sealed by Floor 12a fill.	Middle Preclassic; Real 3
Ceibal	**Cache 161**	Inomata and Triadan 2015	Group A	Monument 1, Xa'an	Placed under Floor 11 in front of (west) of Monument 1, which was placed to the east of Str. Xa'an	Middle Preclassic; End of Real 2 - begin of Real 3
Ceibal	**Cache 183**	Aoyama 2017	Group A	Plaza	Center line E of A-20, W of Xa'an	Middle Preclassic; Real 1
Cival	**Cache 4**	Estrada-Belli 2006	Plaza Floor	7	Plaza between Str. 7 and 9; Cruciform pit axis: E-W 2.48, N-S 2.48	Middle Preclassic
K'axob	**K'axob Burial**	McAnany 1995			Burial of Shrine	Terminal Preclassic
K'axob	**K'axob Shrine**	Mathes and Garber 2004			Below ancestor shrine	Late Preclassic

Site	Assigned Cache ID	References	Area	Structure	Context	Relative Time Period
Uaxactun	**Cache A16**	Maxwell 1996	Group A	A-1	Exterior staircase; centerline	Late Preclassic

Site	Assigned Cache ID	Ceramic	Vessel Freq.	Vessel Forms	Sherd Freq.	Figurines	Figurine Freq.	Faunal Remains	Human Remains
Cahal Pech	**Cache 2017-1**	Yes	13	Bowls		Yes	1	Yes	No
Cahal Pech	**Cache 2017-2**	Yes	26	Bowls		No	0	Yes	No
Cahal Pech	**Cache 2017-3**	Yes	31	Bowls, Jars, Plates		Yes	5	Yes	No
Cahal Pech	**Platform B SE**	Yes	1			No	0	No	Yes
Cahal Pech	**Platform B NE**	No	0		0	Yes	1	No	No
Cahal Pech	**Platform B NW**	No	0		0	Yes	1	No	No
Cahal Pech	**C-9 Stair**	No	0	0	0	No	0	No	No
Cahal Pech	**C-9 6th**	No	0	0	0	Yes	2	No	No
Cahal Pech	**B4 Cache 1**	Yes	1			No	0	Yes	No
Cahal Pech	**B4 Cache 2**	No	0		0	No	0	No	No
Cache Pech	**B4 Cache 3**	Yes	2	Bowls		Yes	1	Yes	Yes
Ceibal	**157**	Yes	1	Plate		No	0	No	No
Ceibal	**159**	Yes		Plate	18	No	0	No	Yes
Ceibal	**168**	No	0		0	No	0	Yes	No
Ceibal	**175**	Yes	1	Bowl		No	0	No	Yes
Ceibal	**179**	Yes	1			No	0	No	No
Ceibal	**Cache 105**	No	0		0	No	0	No	No
Ceibal	**Cache 106**	No	0		0	No	0	No	No
Ceibal	**Cache 108**	No	0		0	No	0	No	No
Ceibal	**Cache 109**	No	0		0	No	0	No	No
Ceibal	**Cache 118**	No	0		0	No	0	No	No
Ceibal	**Cache 123**	No	0		0	No	0	No	No
Ceibal	**Cache 125**	Yes	0		0	Yes	1	No	No
Ceibal	**Cache 127**	No	0		0	No	0	No	No
Ceibal	**Cache 129**	No	0		0	No	0	No	No
Ceibal	**Cache 131**	No	0		0	No	0	No	No
Ceibal	**Cache 132**	No	0		0	No	0	No	No
Ceibal	**Cache 133**	Yes	1	Plate		No	0	No	No
Ceibal	**Cache 134**	No	0		0	No	0	No	No

Site	Assigned Cache ID	Ceramic	Vessel Freq.	Vessel Forms	Sherd Freq.	Figurines	Figurine Freq.	Faunal Remains	Human Remains
Ceibal	**Cache 135**	Yes	1	Bowl		No	0	No	No
Ceibal	**Cache 136**	Yes	1	Jars and Bowls		No	0	No	No
Ceibal	**Cache 137**	Yes	1	Bowl		No	0	No	No
Ceibal	**Cache 138**	No	0		0	No	0	No	No
Ceibal	**Cache 143**	No	0		0	No	0	No	No
Ceibal	**Cache 145**	Yes	1	Vase		No	0	No	No
Ceibal	**Cache 146**	No	0		0	No	0	No	No
Ceibal	**Cache 149**	No	0		0	No	0	No	No
Ceibal	**Cache 151**	No	0		0	No	0	No	No
Ceibal	**Cache 152**	No	0		0	No	0	No	No
Ceibal	**Cache 153**	No	0		0	No	0	No	No
Ceibal	**Cache 154**	No	0		0	No	0	Yes	No
Ceibal	**Cache 155**	No	0		0	No	0	No	No
Ceibal	**Cache 156**	Yes	1	Plate		No	0	No	No
Ceibal	**Cache 160**	No	0		0	No	0	No	No
Ceibal	**Cache 161**	No	0		0	No	0	No	No
Ceibal	**Cache 183**	No	0		0	No	0	No	No
Cival	**Cache 4**	Yes	5	Jars		No	0	No	No
K'axob	**K’axob Burial**	Yes				No	0	No	No
K'axob	**K’axob Shrine**	Yes	4	Bowls		No	0	Yes	No
Uaxactun	**Cache A16**	Yes				No	0	No	No

Site	Assigned Cache ID	Freshwater Shell	Freshwater Shell Freq.	Marine Shell	Marine Shell Freq.	Lithics	Lithic Type	Lithic Freq.	Obsidian	Obsidian Freq.
Cahal Pech	**Cache 2017-1**	Yes	684	Yes	104	Yes	Bead Frag	1	No	0
Cahal Pech	**Cache 2017-2**	Yes	1		1	Yes	Bead/Frag ; Blade; Drill	57	Yes	1
Cahal Pech	**Cache 2017-3**	No	0	Yes	2	Yes	Cobble	1	No	0
Cahal Pech	**Platform B SE**	No	0	No	0	Yes	Bead	6	No	0
Cahal Pech	**Platform B NE**	No	0	No	0	Yes		16	No	0
Cahal Pech	**Platform B NW**	No	0	No	0	Yes	Chips	16	Yes	13
Cahal Pech	**C-9 Stair**	No	0	No	0	Yes	Bead	2	No	0
Cahal Pech	**C-9 6th**	No	0	No	0	No		0	No	0
Cahal Pech	**Cache 1**	No	0	Yes	20	Yes	Flakes; fragments; plaque; flakes	109	Yes	27
Cahal Pech	**Cache 2**	No	0	Yes	9	No		0	No	0
Cahal Pech	**Cache 3**	No	0	Yes	1	Yes	Beads	2	No	0
Ceibal	**157**	No	0	No	0	No		0	No	0
Ceibal	**159**	No	0	No	0	Yes			Yes	1
Ceibal	**168**	No	0	No	0	Yes	Riverston e	20	No	0
Ceibal	**175**	No	0	No	0	No		0	No	0
Ceibal	**179**	No	0	No	0	No		0	No	0
Ceibal	**Cache 105**	No	0	No	0	Yes	Axe	2	No	0
Ceibal	**Cache 106**	No	0	No	0	Yes	Axe	1	No	0
Ceibal	**Cache 108**	No	0	Yes	1	No		0	No	0
Ceibal	**Cache 109**	No	0	No	0	Yes	Axes/Celt s	6	No	0
Ceibal	**Cache 118**	No	0	No	0	Yes	Axes/Celt s	12	No	0
Ceibal	**Cache 123**	No	0	No	0	Yes	blade	10	Yes	10
Ceibal	**Cache 125**	No	0	No	0	No		0	No	0
Ceibal	**Cache 127**	No	0	No	0	Yes	Axes/Celt s	3	No	0
Ceibal	**Cache 129**	No	0	No	0	No		0	No	n

Site	Assigned Cache ID	Freshwater Shell	Freshwater Shell Freq.	Marine Shell	Marine Shell Freq.	Lithics	Lithic Type	Lithic Freq.	Obsidian	Obsidian Freq.
Ceibal	**Cache 131**	No	0	No	0	Yes	Pseudo-axe/celt	1	No	0
Ceibal	**Cache 132**	No	0	No	0	Yes	Axes/Celts	5	No	0
Ceibal	**Cache 133**	No	0	No	0	No		0	No	0
Ceibal	**Cache 134**	No	0	No	0	Yes	Axes/Celts	1	No	0
Ceibal	**Cache 135**	No	0	No	0	No		0	No	0
Ceibal	**Cache 136**	No	0	No	0	No		0	No	0
Ceibal	**Cache 137**	No	0	No	0	No		0	No	0
Ceibal	**Cache 138**	No	0	No	0	Yes	Axes/Celts	4	No	0
Ceibal	**Cache 143**	No	0	No	0	Yes	Axes/Celts	8	No	0
Ceibal	**Cache 145**	Yes	1	No	0	Yes	Olmec tadpole spoon	1	No	0
Ceibal	**Cache 146**	No	0	No	0	Yes	Axes/Celts, pseudo-axe/celt	7	No	0
Ceibal	**Cache 149**		0		0	No		0	No	0
Ceibal	**Cache 151**	No	0	No	0	No		0	No	0
Ceibal	**Cache 152**	No	0	No	0	Yes	pseudo-axe/celt	1	No	0
Ceibal	**Cache 153**	No	0	No	0	Yes	Axe	1	No	0
Ceibal	**Cache 154**	No	0	No	0	No		0	No	0
Ceibal	**Cache 155**	No	0	No	0	Yes	modified oval spoon	1	No	0
Ceibal	**Cache 156**	No	0	No	0	No		0	No	0
Ceibal	**Cache 160**	No	0	No	0	Yes	Axes/Celts	5	No	0
Ceibal	**Cache 161**	Yes	1	No	0	No		0	No	0
Ceibal	**Cache 183**	No	0	No	0	Yes	Axe/Celt	2	No	0
Cival	**Cache 4**	No	0	No	0	Yes	Celts	119	No	0
K'axob	**K'axob Burial**	No	0	No	0	Yes	Carvings		No	0

Site	Assigned Cache ID	Freshwater Shell	Freshwater Shell Freq.	Marine Shell	Marine Shell Freq.	Lithics	Lithic Type	Lithic Freq.	Obsidian	Obsidian Freq.
K'axob	**K’axob Shrine**	No	0	No	0	No		0	No	0
Uaxactun	**Cache A16**	No	0	No	0	Yes	Bead	1	No	0

Site	Assigned Cache ID	Greenstone	Jade	Jade Freq.	Jade Form	Serpentine	Other Items
Cahal Pech	**Cache 2017-1**	Yes	Yes	6 Fragments	Bead	No	Bead
Cahal Pech	**Cache 2017-2**	Yes	Yes	26	Bead	No	Bead
Cahal Pech	**Cache 2017-3**	No	No	0		No	
Cahal Pech	**Platform B SE**	Yes	Yes	6	Bead	No	Beads
Cahal Pech	**Platform B NE**	Yes				No	
Cahal Pech	**Platform B NW**	No	No	0		No	
Cahal Pech	**C-9 Stair**	Yes	Yes	2	Bread	No	Bead; resemble teeth
Cahal Pech	**C-9 6th**	No	No	0		No	
Cahal Pech	**B4 Cache 1**	Yes	Yes				
Cahal Pech	**B4Cache 2**	No	No	0		No	
Cahal Pech	**B4 Cache 3**	Yes	Yes	2	Beads	No	Ceramic Spouts
Ceibal	**157**	No	No	0		No	
Ceibal	**159**	No	No	0		No	Limestone disc
Ceibal	**168**	No	No	0		No	Limestone sphere
Ceibal	**175**	No	No	0		No	
Ceibal	**179**	No	No	0		No	
Ceibal	**Cache 105**	Yes	Yes	1	Axes/Celts	Maybe	
Ceibal	**Cache 106**	Yes	Yes?	1	Axes/Celts	Maybe	
Ceibal	**Cache 108**	No	No	0		No	Carved shell
Ceibal	**Cache 109**	Yes	Mix		Axes/Celtss/Celts	Maybe	
Ceibal	**Cache 118**	Yes	Mix	11	Axes/Celts	Yes	
Ceibal	**Cache 123**	No	No	0		No	
Ceibal	**Cache 125**	No	No	0		No	
Ceibal	**Cache 127**	Yes	Mix		Axes/Celtss/Celts	Maybe	
Ceibal	**Cache 129**	No	No	0		No	Limestone sphere
Ceibal	**Cache 131**	Yes	Mix	0		Maybe	
Ceibal	**Cache 132**	Yes			Axes/Celtss/Celts		
Ceibal	**Cache 133**	No	No	0		No	
Ceibal	**Cache 134**	Yes	Mix	1	Axes/Celts	No	

Site	Assigned Cache ID	Greenstone	Jade	Jade Freq.	Jade Form	Serpentine	Other Items
Ceibal	**Cache 135**	No	No	0		No	
Ceibal	**Cache 136**	No	No	0		No	
Ceibal	**Cache 137**	No	No	0		No	
Ceibal	**Cache 138**	Yes	Mix		Axes/Celts	No	
Ceibal	**Cache 143**	Yes	Mix		Axes/Celts	Maybe	
Ceibal	**Cache 145**	Yes	Yes	1		No	Olmec tadpole spoon, probable river-clam shell tadpole-like spoon shape
Ceibal	**Cache 146**	Yes	Mix		Axes/Celts	Maybe	
Ceibal	**Cache 149**	No	No	0		No	
Ceibal	**Cache 151**	No	No	0		No	
Ceibal	**Cache 152**	Yes	Yes?		Pseudo-Axes/Celts	Maybe	
Ceibal	**Cache 153**	Yes	No	0		Maybe	
Ceibal	**Cache 154**	No	No	0		No	
Ceibal	**Cache 155**	Yes	Yes	1	Reworked Spoon	No	
Ceibal	**Cache 156**	No	No	0		No	
Ceibal	**Cache 160**	Yes	Mix		Axes/Celts	Maybe	Quartz Sphere
Ceibal	**Cache 161**	No	No	0		No	
Ceibal	**Cache 183**	Yes	Yes	2	Celt, spoon	No	
Cival	**Cache 4**	Yes	Yes	119	Celts, pebbles	No	
K'axob	**K'axob Burial**		Yes		Carvings	No	7 Limestone spheres
K'axob	**K'axob Shrine**	No	No	0		No	
Uaxactun	**Cache A16**	Yes	Yes	1	Bead	No	

Site	Assigned Cache ID	Cardinal Direction/ Cosmogram	Cardinal Direction Color	Lip-to-Lip	Numerology
Cahal Pech	**Cache 2017-1**	Yes	No	Yes	Yes
Cahal Pech	**Cache 2017-2**	Yes	No	Yes	Yes
Cahal Pech	**Cache 2017-3**	No	No	No	Yes
Cahal Pech	**Platform B SE**	Yes		No	Yes?
Cahal Pech	**Platform B NE**	Yes			Yes
Cahal Pech	**Platform B NW**	No	No	No	Yes
Cahal Pech	**Cache1**				Yes
Cahal Pech	**Cache 2**				Yes
Cahal Pech	**Cache 3**	Yes		Yes	Yes
Cahal Pech	**C-9 Stair**	No	No		No
Cahal Pech	**C-9 6th**	No	No		No
Ceibal	**157**	No			No
Ceibal	**159**	No			No
Ceibal	**168**	No			20 for Calendar
Ceibal	**175**	No			No
Ceibal	**179**	No			No
Ceibal	**Cache 105**	No	Yes		No
Ceibal	**Cache 106**	No	Yes		No
Ceibal	**Cache 108**	No	No		No
Ceibal	**Cache 109**	Yes?	Yes		No
Ceibal	**Cache 118**	No	Yes		Yes?
Ceibal	**Cache 123**	No	No		No
Ceibal	**Cache 125**	No	No		No
Ceibal	**Cache 127**	No	Yes		Yes
Ceibal	**Cache 129**	No	No		Yes
Ceibal	**Cache 131**	No	Yes		No
Ceibal	**Cache 132**	No	No		Yes
Ceibal	**Cache 133**	No	No		No
Ceibal	**Cache 134**	No	Yes		No

Site	Assigned Cache ID	Cardinal Direction/ Cosmogram	Cardinal Direction Color	Lip-to-Lip	Numerology
Ceibal	**Cache 135**	No	No		No
Ceibal	**Cache 136**	No	No		No
Ceibal	**Cache 137**	No	No		No
Ceibal	**Cache 138**	Yes	Yes		Yes
Ceibal	**Cache 143**	No	Yes		No
Ceibal	**Cache 145**	No	No	No	No
Ceibal	**Cache 146**	Yes?	Yes		Yes?
Ceibal	**Cache 149**	No	No		No
Ceibal	**Cache 151**	No	Yes		No
Ceibal	**Cache 152**	No	Yes		No
Ceibal	**Cache 153**	No	Yes		No
Ceibal	**Cache 154**	No	No		No
Ceibal	**Cache 155**	No	No		No
Ceibal	**Cache 156**	No	No		No
Ceibal	**Cache 160**	Yes	Yes		Yes
Ceibal	**Cache 161**	No	No		No
Ceibal	**Cache 183**	Yes	Yes		Yes
Cival	**Cache 4**	Yes	Yes	No	Yes
K'axob	**K'axob Burial**	No	No	No	No
K'axob	**K'axob Shrine**	Yes	No	No	No
Uaxactun	**Cache A16**	No	No	No	No