

SCATTERED, SMOTHERED, AND COVERED:
THE CULTURAL SIGNIFICANCE OF TERMINAL CLASSIC DEPOSITS
AT BAKING POT, BELIZE

By Jeffrey Britt Davis

A Thesis
Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts
in Anthropology

Northern Arizona University
May 2018

Approved
Jaime J. Awe, Ph.D., Chair
Chrissina C. Burke, Ph.D.
Frederick P. Lampe, Ph.D.

ABSTRACT

SCATTERED, SMOTHERED, AND COVERED: THE CULTURAL SIGNIFICANCE OF TERMINAL CLASSIC DEPOSITS AT BAKING POT, BELIZE

JEFFREY BRITT DAVIS

Throughout the Maya lowlands, archaeologists have identified deposits associated with the final activities in ceremonial and domestic spaces that date to the Terminal Classic period (AD 700-1000). These features include concentrations of cultural material deposited in the corners of plazas and courtyards. At the site of Baking Pot, Belize, the Belize Valley Archaeological Reconnaissance (BVAR) project has identified several of these peri-abandonment deposits. This thesis will shed light on the types of artifacts that were deposited during these final events to answer questions related to the nature of abandonment activities. I also employ these data to identify the cultural significance of ritual deposition of cultural materials to ascertain how distinct combinations of artifact classes can yield information on human behavior, and to demonstrate how the peri-abandonment deposits at Baking Pot offer additional information about abandonment activity in the Maya lowlands.

© 2018

Jeffrey Britt Davis

ALL RIGHTS RESERVED

ACKNOWLEDGEMENTS

There are many people who deserve thanks for getting me to where I am today. I would like to first thank the staff and students of the Belize Valley Archaeological Reconnaissance (BVAR) project for allowing and assisting me in my research endeavors. I would like to thank Dr. Jaime Awe for his trust, guidance, and for planting the idea of this research project into my head. Dr. Julie Hoggarth has been instrumental to my research from helping me understand the statistics involved to providing new ideas and avenues of study. I am indebted to Dr. Chrissina Burke, Gavin Wisner, Katie Tappan, and various other students for their faunal analyses and for helping me understand what the fauna tells us about the nature of ritual activities. I am also thankful to Dr. Frederick Lampe for helping me tumble around theoretical ideas and for providing insights into ritual activities.

I would like to take a moment to say thank you to some specific members of the BVAR team in no particular order: Keith Solmo (you will always be remembered), Sydney Lonaker, Hannah Zanotto, Kelsey Sullivan, Renee Collins, John Walden, Tia Watkins, Rosamund Fitzmaurice, Mark Porter, Edlin de Santiago, Gavin Wisner, Diane Slocum, Yasmini Manzanero, and Mike Biggie. All of you kept me sane at one point or another, even if you didn't know about it. I would have gone crazy trying to analyze pottery and do refits alone, so here is a huge shout out to Steve Fox and Qiu Yijia for your help and patience. My work never even would have begun if not for the experience and hard work of Antonio Itza, Manuel Itza, Orvin Martinez, and Edgar Penados.

I would also like to thank Dr. Terry Powis for getting me involved in Maya archaeology and taking me to Belize in the Summer of 2014, I had no idea how much I would fall in love

with the work, the people, and the food of Belize. I cannot forget the support, friendship, and all together good times with George Micheletti, Andrew Vaughn, Shane Montgomery, Kaitlin Crow, Dr. Sheldon Skaggs, Duncan Balinger, Nicaela Cartagena, and various others affiliated with PRAP.

Finally, I would like to thank my friends Rolando Fernandez and April Tolley who for the past several years have supported my academic endeavors. I could not have gotten this far without Rolando's insightful conversations and April's proofreading.

TABLE OF CONTENTS

Abstract.....	ii
Copyright Page.....	iii
Acknowledgements.....	iv
List of Tables	viii
List of Figures	ix
Dedication	xi
Chapter 1: Introduction and Background.....	1
Characteristics of the Terminal Classic	7
Peri-Abandonment Deposits	8
Abandonment and Societal Collapse	10
Research Questions and Organization of Thesis	11
Chapter 2: Theoretical Perspectives.....	14
Abandonment Theory	14
Behavioral Perspectives	16
The Longue Durée	17
Conclusion	21
Chapter 3: Field and Laboratory Methods	22
Archaeological Correlates.....	22
Feasting.....	22
Primary Middens and Squatter Trash.	25
Transposed Middens.	26
De Facto Refuse.....	27
Termination Rituals.	28
Peri-Abandonment Rituals.....	29
Excavation Methods.....	31
Laboratory Methods.....	34
Chapter 4: Results	37
Description of Findings.....	37
B17-1.....	37
B2-2.....	39
B7-100.....	39

B6-6.....	42
B7-102.....	43
Pottery Analysis Results	45
Type/Variety Analysis Results.	45
Form Analysis Results.	51
Iconographic and Epigraphic Analysis Results.	53
Lithic Analysis Results	57
Faunal Analysis Results	57
Framing the Artifact Analysis Chronologically.....	61
Chapter 5: Discussion	63
Previous Hypotheses	63
Feasting	63
De Facto Refuse.....	66
Squatter Refuse.	69
Primary and Transposed Middens.	71
Termination Rituals.	73
Peri-Abandonment Rituals.....	76
Conclusion	80
Chapter 6: Conclusions	82
Future Research and Conclusion	84
References Cited	86

LIST OF TABLES

Table 3.1. Archaeological Correlates for Peri-Abandonment Deposit Hypotheses.....	23
Table 4.1. Proportional Breakdown of all Non-Decorated Pottery Analyzed from Peri- Abandonment Deposits at Baking Pot	47
Table 4.2. Proportional Breakdown of all Decorated Pottery Analyzed from Peri-Abandonment Deposits at Baking Pot	48
Table 4.3. Polychrome Ceramic Vessel Totals for Units B6-6, B7-100, and B7-102	50
Table 4.4. The Proportional Breakdown of all Diagnostic Pottery by Form	52
Table 4.5. Lithic Totals from Deposits B6-6 and B7-102	58
Table 4.6. Faunal Remains from Deposits	59
Table 5.1. Feasting Correlates vs. Baking Pot Deposits	65
Table 5.2. <i>De Facto</i> Refuse Correlates vs. Baking Pot Deposits	69
Table 5.3. Squatter Refuse Correlates vs. Baking Pot Deposits	71
Table 5.4. Primary and Transposed Midden Correlates vs. Baking Pot Deposits	72
Table 5.5. Reverential Termination Ritual Correlates vs. Baking Pot Deposits	75
Table 5.6. Desecratory Termination Ritual Correlates vs. Baking Pot Deposits.....	76
Table 5.7. Peri-Abandonment Ritual Correlates vs. Baking Pot Deposits.....	79

LIST OF FIGURES

Figure 1.1. The location of Baking Pot	2
Figure 1.2. The site core of Baking Pot	3
Figure 1.3. 2013, 2015, and 2016 excavations in Baking Pot’s Group B	6
Figure 2.1. The <i>chaîne-opératoire</i>	16
Figure 2.2. The <i>longue durée</i>	18
Figure 3.1. Locations of units containing peri-abandonment deposits in the Southern Ceremonial Group, Group B, at Baking Pot	32
Figure 3.2. The sub-lot system as it applies to Unit B6-6	33
Figure 4.1. Unit B17-1	38
Figure 4.2. Burial in Unit B2-2	40
Figure 4.3. Unit B7-100 Burial 4-3	40
Figure 4.4. The Komkom Vase	41
Figure 4.5. Closeup of the peri-abandonment deposit in unit B6-6	42
Figure 4.6. Deposit B7-102	44
Figure 4.7. Cabrito Cream oddities from Unit B7-102	45
Figure 4.8. A platformed pyroform vessel from the deposit in Unit B6-6	53
Figure 4.9. Cabrito Cream vase sherds with Holmul Dancer iconography	54
Figure 4.10. Cabrito Cream vase sherds with cormorant iconography	55
Figure 4.11. Cabrito Cream vase with <i>mijin</i> iconography	55
Figure 4.12. Well preserved Cabrito Cream vase with Maize god iconography	56

Figure 4.13. The proportional distribution of artifacts from peri-abandonment deposits at Baking

Pot 62

DEDICATION

This thesis is dedicated to my parents Jeff and Bessie Davis and to my sister Jackie Davis. Thanks for supporting my travels and research. I love y'all!

Chapter 1: Introduction and Background

Archaeologists in the Maya lowlands encounter problematical artifact deposits dating to the Terminal Classic period (AD 700-1000) in ceremonial site cores. These deposits are coeval with the societal and demographic collapse that swept through the lowlands, which some researchers attribute to the effects of long term and large-scale drought (Brenner et al. 2002; Dahlin 2002; Hoggarth et al. 2017; Moyes et al. 2009). This research focuses on the human behavior that is evidenced by these deposits and explores the nature of the activities exhibited by the actors involved in the final decades of the Terminal Classic within the site core of Baking Pot, Belize.

Research during the 2016 and 2017 field seasons was conducted by the Belize Valley Archaeological Reconnaissance (BVAR) Project at the site of Baking Pot in western Belize. Baking Pot is geographically situated roughly 15 km east of the Guatemalan border in the Belize Valley, and located in the southern Maya lowlands (Figures 1.1. and 1.2.). The overarching purpose of excavations was to continue research developing high-precision radiocarbon chronologies to understand the collapse of political systems within the Belize Valley, and document deposits related to the abandonment of sites in the Terminal Classic period. The research further seeks to link to the broader regional study of the Belize Valley.

During the 1950s and 1960s, Gordon Willey conducted the first regional settlement study of the ancient Maya of the Belize Valley. Willey's primary goal was to explore settlement patterns, and he concluded the valley consisted of agricultural zones controlled by major centers (Willey et al. 1965). During the survey, Willey et al. (1965:304) refer to Baking Pot as a *major*



Figure 1.1. The location of Baking Pot. Baking Pot is outlined here in red, and the modern Guatemalan border is the vertical white line in the left 1/5 of the Belize Valley blow-up. Modified 5% from Hoggarth et al. 2014a: Figure 1.

rather than *minor* center, noting the site core contained several ballcourts, large pyramidal structures, and several palatial buildings. One of Willey's lasting contributions to the archaeology of the Belize Valley was his work at the site of Barton Ramie. Ceramic materials recovered at Barton Ramie were analyzed by James Gifford, who established the ceramic chronology still widely used today, and informed the current study (Gifford 1976).

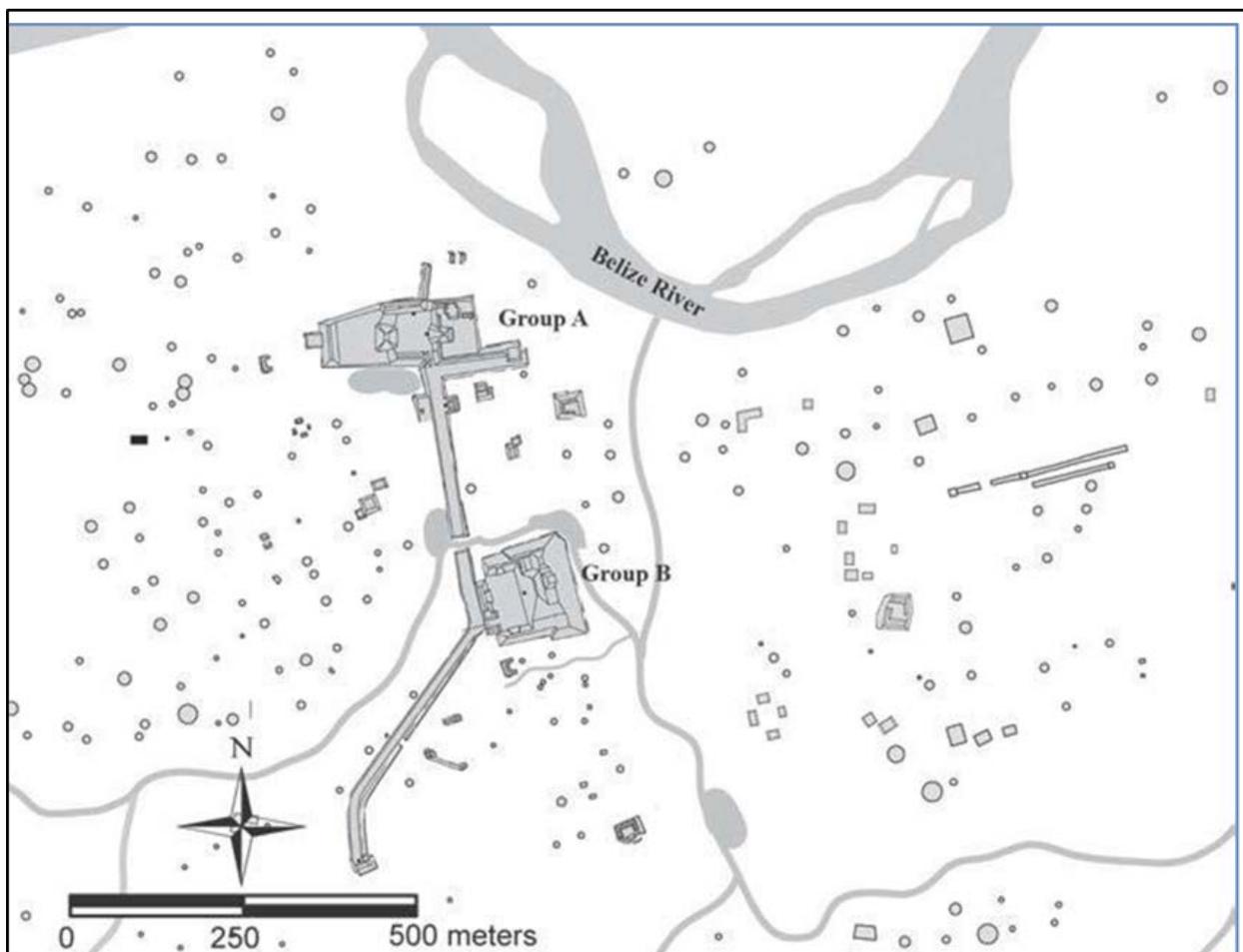


Figure 1.2. The site core of Baking Pot. This figure shows the two groups of the epicenter and some surrounding settlements. This research is situated in Group B. Map by Hoggarth et al 2014b: Figure 1.

In 1929, A.H. Anderson began small scale excavations in Group B at Baking Pot following the discovery that monumental architecture was destroyed to use as fill for the Western Highway. Later in 1965, formal excavations of Structure B1, the central structure of the eastern triadic shrine occurred by William R. Bullard Jr. and Mary Ricketson Bullard (1965). After a long break, work was renewed at the site in the 1990s when BVAR began excavations under the direction of Jaime Awe. The early BVAR excavations at Baking Pot were mostly focused in the settlement (Conlon 1993; Powis 1993) and eventually moved into Group B of the site core (Conlon 1996; Aimers 1997). Extensive settlement excavations continued through the 2000s and early 2010s (Conlon and Ehret 2000; Piehl 2005; Hoggarth 2012). In 2005, Carolyn Audet focused excavations in both Groups A and B of the site core to examine socio-political organization at Baking Pot, and other sites (Audet 2005, 2006). Christophe Helmke (2008) continued excavations in Group B on Structure B1 to identify construction phases of the eastern triadic shrine and on Structure B7 to uncover the terminal (i.e. final) architecture and to assess the function of the structure. In 2013, Julie Hoggarth began research to establish a high precision AMS ¹⁴C chronology of the site. Her research focused on both the epicenter and surrounding settlements of Baking Pot and sought to establish the timing of political and demographic collapse at the site and the Belize Valley region in general (Hoggarth et al. 2014a; Hoggarth and Sullivan 2015; Kennett et al. 2015).

Researchers during the early 2000s argued for the continuation of occupation and monumental renovation in the epicenter of Baking Pot into the Early Postclassic (1000 – 1200 AD) period (Aimers 2003; Audet 2005). Radiocarbon dates from site core burials, however, do not support this argument (Hoggarth et al. 2014a:1063). Hoggarth and colleagues noted a lack of radiocarbon dates from Baking Pot that fell into the traditionally accepted time frame for the

Terminal Classic. Additionally, Postclassic dates appeared to cluster during the Late Postclassic (after cal AD 1280), suggestive of an occupational hiatus at the site. At the time of Hoggarth and colleague's (2014a) study, the sample size was still relatively small (n=12) and the project continued to focus on building a more robust dataset to ascertain the timing and nature of political disintegration and demographic decline at the site. One main issue raised in their study was the use of some ceramic types as temporal markers for the Terminal Classic period. Hoggarth and colleagues (2014a:1063) noted that one primary burial thought to date to the Terminal Classic period, because of associated Daylight Orange: Darknight variety vessels, actually dates to the Late Classic period between cal AD 660-700. The results of this research negate previous assumptions and provide a caveat that the use of relative dating based on ceramic seriation alone can skew the understanding of cultural change over time. It also suggests the date range for the Terminal Classic period needs to be reexamined.

Hoggarth et al. (2014b) continued excavations in Group B of the ceremonial site core and located a large artifact deposit in the southwest corner of Courtyard 4 in the palace complex (Figure 1.3.). The feature was identified as a peri-abandonment deposit because of the variety of materials it contained and its location on the terminal courtyard floor, suggesting it may be associated with the final activities carried out in the site core. The deposit contained anthropomorphic and zoomorphic ocarinas, faunal remains, and a dense concentration of Terminal Classic ceramic vessels, including polychrome pottery. At the middle of the feature a concentration of daub and burnt limestone was observed, which Hoggarth et al. (2014b) suggests is a spatially restricted burning event.

Upon finding the peri-abandonment deposit in Group B, BVAR put into place a multi-year excavation plan to search for and investigate similar deposits in the site core. Based on

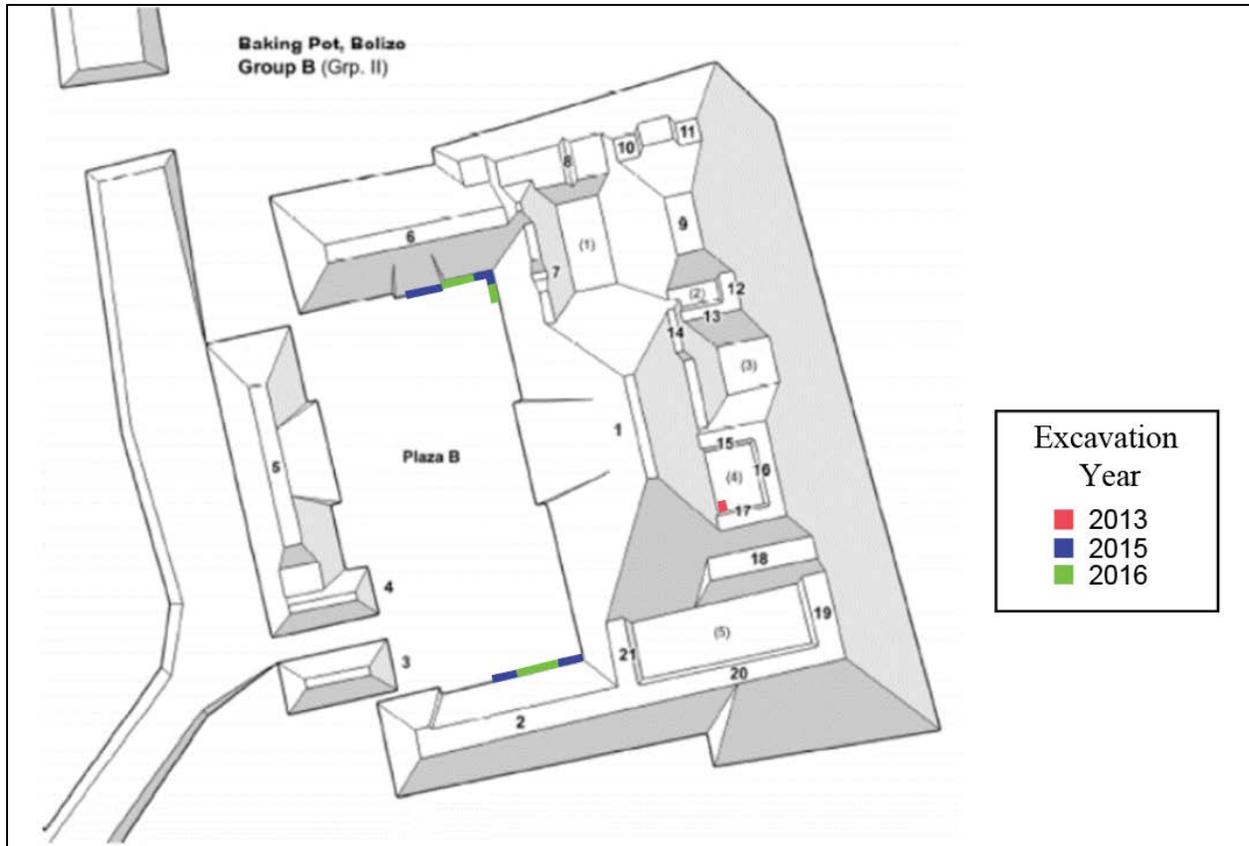


Figure 1.3. 2013, 2015, and 2016 excavations in Baking Pot’s Group B. This figure only shows the excavations of peri-abandonment deposits. Modified from Helmke (2008).

research throughout western Belize, Awe (2012) and Awe et al. (2017) note the presence of similar deposits that were uncovered in the corners of plazas and courtyards, flanking stairways, and/or lining alleyways at the sites of Altun Ha, Cahal Pech, Caracol, Pooks Hill, and Xunantunich to name a few. Given this spatial pattern, Hoggarth et al. (2016) decided to place excavation units in the northeast and southeast corners of Group B to search for similar deposits and to locate the stairways of structures B2 and B6. The excavations successfully located peri-abandonment deposits in both corner units in Plaza B, therefore, research continuing in 2016, expanded excavations in the northeast corner both west and south to fully uncover the deposit and to investigate the structure B6 stairway (Davis et al. 2017; Lonaker et al. 2017a). An

excavation unit was also placed along the northern façade of structure B2 to connect the excavation unit in the southeast corner of Group B to the B2 stairway unit. This excavation revealed the peri-abandonment deposit previously discovered at the juncture of B1 and B2 did not extend all the way to the B2 stairway (Davis et al. 2017; Lonaker et al. 2017a).

Characteristics of the Terminal Classic

The Terminal Classic period in the Belize Valley is identified by a distinct set of traits. Awe et al. (2017) note a decline in the production of polychrome ceramic vessels at this time, with an increase in the production of modeled censers and hollow, mold-made figurines (see also Awe and Helmke 2007). Additionally, the emergence of fine orange wares, imitation fine orange wares, and slate wares characterize this period (Rice and Forsyth 2004). Awe et al. (2017) also list various other diagnostic traits indicative of the Terminal Classic period. These include the introduction of the bow and arrow and the appearance of various sizes of stone spheres, the function of which is unknown. Monumental architecture also begins to take on a Yucatecan style, but the construction of ceremonial centers tapers off or stops completely. Evidence further shows inhabitants scavenging cut stones from structures to construct low walls, or *albaradas*, and what little construction was being conducted usually consisted of low platforms that supported perishable architecture. Finally, there is a lack of inscribed monuments, the movement or repositioning of previous monuments, an increased use of pseudo-glyphic inscriptions, plus an overall decline in writing across all mediums. Ideologically, there is also evidence for a decline in elite activities, but an increase in community and cave rituals (Awe 2012; Awe and Helmke 2007; Awe et al. 2017).

Peri-Abandonment Deposits

In the past 30 years, many researchers have suggested a myriad of interpretations to explain the context of peri-abandonment deposits. Researchers have referred to them as *de facto* refuse associated with rapid abandonment (Chase and Chase 2004), termination rituals (Garber et al. 1998; Guderjan 2004; Stanton et al. 2008), garbage associated with feasting events (Sagebiel and Haines 2017), squatter trash (Harrison 1999; O'Mansky and Dunning 2004; Pendergast 1979, 1982, 1990; Thompson 1954), or primary or transposed middens (Clayton et al. 2005). More recently, Awe (2012) and Awe et al. (2017) suggest the assemblage of artifacts in the deposits, and the fact that the archaeological record indicates that the deposits were placed in their contexts after the sites had started falling into disrepair, provide compelling evidence that these deposits are the result of Terminal Classic populations returning to the ceremonial centers of sites after the site cores had begun falling into disrepair. Awe (2012) and Awe et al. (2017) refer to these deposits as “post-abandonment” deposits, but, recently, BVAR has adopted the term “peri-abandonment” deposits in order to not force any functional or temporal interpretation (Davis 2018; Hoggarth et al. 2018).

Schiffer (1976) was the first to thoroughly describe the concept of *de facto* refuse in an archaeological setting, defining the phenomena as any cultural material that is left *in situ* while a site is in the process of abandonment. Chase and Chase (2000, 2004) make the argument that the “on-floor deposits” excavated in the epicenter of Caracol are evidence for *de facto* refuse left behind due to the rapid abandonment of the site, which was likely caused by warfare. Evidence offered for this interpretation is the presence of reconstructable vessels, projectile points, warfare iconography, and other ceramic sherds. Anything left behind is attributed to a sudden breakdown in garbage collection, or provisional refuse. Awe (2012) and Awe et al. (2017) assert the concept

of *de facto* refuse brought on by warfare is much too simplistic for the types of activities uncovered, because their study of these deposits demonstrates there is a definite pattern to the location of peri-abandonment deposition events. They also note the cultural assemblages associated with these deposits generally include remains that are linked with ritual activity, and mundane objects whose significance is symbolically transformed in ritual contexts. Stanton et al (2008) caution that some deposits may represent a mixture of termination and refuse, so scrutiny of the contexts and assemblages is required to differentiate between the two.

Termination rituals are one of the most common hypotheses for peri-abandonment deposits, and they are generally classified as either reverential termination rituals (Mock 1998a, Garber et al. 1998; Piehl 2005) or desecratory termination rituals (Inomata 2003; Stanton et al. 2008). A reverential termination ritual is usually conducted for a new construction phase that covers an earlier building, or in the case of intentional site abandonment. A desecratory termination ritual is usually attributed to raiding parties or revolting non-elites destroying and burning goods and architecture, and desecrating burials by disarticulating remains (Pagliaro et al. 2003; Stanton et al. 2008; Yaeger 2010). It is, however, difficult to distinguish between the two (Ambrosino 2007; Duncan 2005; Navarro-Farr 2009; Mock 1998a; Pagliaro et al. 2003). The termination hypothesis has spread through the realm of Maya research largely due to the efforts of David Freidel and his students stemming from their work in Cerros, Belize (Garber 1989; Freidel 1986; Robertson and Freidel 1986).

Some researchers suggest that the presence of human remains in these deposits may also be associated with termination rituals (Piehl 2005; Harrison-Buck 2016). Piehl (2005), for example, notes that the presence of infant and child remains in peripheral buildings at Baking Pot, which she interpreted as sacrificial victims, seem to indicate reverential termination events.

At Caracol, in contrast, Chase and Chase (2004) report an unburied child found in an interior doorway of the palace complex, yet they consider this to be an example of *de facto* refuse associated with the rapid abandonment of the site. Navarro-Farr (2009) questions the validity of the *de facto* refuse hypothesis at Caracol, offering instead the interpretation of a desecratory termination ritual. Sagebiel and Haines (2017) argue if these deposits represent termination events they would be located close to structures, associated with burial or caching rituals, tied to the destruction of a structure, or overlapping with feasting events.

Abandonment and Societal Collapse

The notion of the Classic Maya collapse recalls images of warfare, famine, drought, and massive loss of life. Prior to the 1990s, it was also assumed the Classic Maya collapse was a pan-Maya event taking effect by AD 900, and characterized by a decrease in polychrome production, the lack of calendrical long count dates, and the abandonment of ceremonial centers (Culbert 1973). While it is now generally agreed that the decline of the Classic Maya socio-political systems did occur, the extent to which the decline happened, when exactly it happened, why it happened, and what the aftermath was, are debated. Aimers (2007) even calls into question the use of the term “collapse,” and suggests other options such as “decline” or “crumble.” He further argues the decline of the Classic Maya occurred between AD 750-1050 and at different rates in different areas. For example, in areas, such as the Yucatán, researchers argue no Terminal Classic decline occurred (Rice et al. 2004). Generally though, it is argued that regions with more evidence of decline are those in the Southern Maya lowlands, specifically in the Petén region of Guatemala, and areas of western Belize (Aimers 2007; Rice et al. 2004).

As for Baking Pot, Aimers (2003) suggests a continuation of architectural maintenance, ceramic continuity, and burials, leading to a lack of abandonment - though it may have been depopulated somewhat during the Terminal Classic period. He further suggests, populations may have migrated from the Petén region, influenced by the Putun Maya, a trading group that had ties with Mexican groups and groups from the gulf coast, bringing new artifact traditions into the Belize Valley (Aimers 2003). Notably, the introduction of the comal, a new subsistence technology is continually used well into the Postclassic (AD 1000-1500) period.

Building on Aimers's previous work, the use of radiocarbon data helps to further define the Terminal Classic occupation at Baking Pot. The problem with Aimers's argument was he only incorporated relative dates based on Gifford's (1976) ceramic seriation. As noted above, more recent radiocarbon data, associated with ceramic materials such as the aforementioned Daylight Orange: Darknight variety ceramic vessels, have allowed more precise chronological interpretations. Insuring the accuracy of the site's chronology is an important part of this research because one of the primary questions of this thesis is to determine whether the deposits of cultural remains in the corner of the courtyards at Baking Pot were associated with pre-abandonment or peri-abandonment activities at the site.

Research Questions and Organization of Thesis

The purpose of this thesis is to investigate the cultural significance and timing of peri-abandonment deposits at the site of Baking Pot. Presently, little is known about the nature of these events even though researchers across the Maya lowlands have proposed many hypotheses to explain their purpose. Additionally, the timing of these events can clarify site abandonment at Baking Pot, and demographic collapse in the Belize Valley as a whole. These questions are

important because they add to the growing corpus of research detailing human behaviors and adaptations when encountering environmental and societal stress. Considering the above information, research questions include:

1. What do the broad patterns of activity at Baking Pot tell us about the behavior of the Terminal Classic Maya during a period of site abandonment and societal collapse?
2. How do the artifact assemblages and contexts of each deposit at Baking Pot compare with archaeological expectations for hypotheses presented for peri-abandonment deposits?
3. What was the nature of change in occupational activity and ceremonial/political use of space in the site core of Baking Pot at the end of the Classic period? How do these activities compare within societal changes identified within the Belize Valley and beyond?

To explore these questions, this thesis is organized into six chapters. Chapter two discusses the theoretical framework, which developed and frames the methods and interpretations provided herein, including abandonment theory (Ascher 1968), behavioral archaeology (Schiffer 1976), and the *longue durée* (Braudel 1972). Chapter three examines the field methods used to collect data and provides a description of the results of excavation. Chapter four presents laboratory methods and the analyses of ceramic and lithic materials, human and faunal remains, and radiocarbon data. Chapter five, explores the results of the analyses and the extent to which these results resolve the research questions. Finally, Chapter six, concludes by discussing how the results are interpreted given the theoretical framework outlined in Chapter

two, how this research contributes to peri-abandonment deposition studies, and what recommendations for future research are needed.

Chapter 2: Theoretical Perspectives

A central theme to understanding culture change archaeologically is evaluating abandonment practices in the past. The concept itself, varies spatially and temporally in archaeological contexts, leading to disagreement on how and why abandonment occurred. Given past populations vary culturally, archaeologists such as Aimers (2007), Schiffer (1976, 1987), and Willey et al. (1965) have debated the changes in site structure and the length of occupation in the site periphery or site core. For this research, Schiffer's (1987) research on site abandonment and deposition processes, along with the behavioral archaeology concept of *chaîne-opératoire* and Braudel's (1972) *longue durée* are employed to investigate the events and behaviors surrounding abandonment in the past.

Abandonment Theory

Abandonment theory has played a key role in archaeological research since the 1960s. As noted by Ascher (1968), all archaeological sites go through phases of habitation, abandonment, and archaeological decline. Noting a lack of attention given to post-depositional processes, Schiffer (1987) documents the differing affects that time and the environment have on site formation, and further states that these processes happen before, during, and after site abandonment.

Cameron (1991, 1993) furthers the discussion on abandonment by asserting several scales of abandonment, those being the regional, site, and intra-site scales. Using ethnographic data, Cameron (1991) notes that the regional and intra-site scales of abandonment tend to follow a gradual pattern, while site abandonment is more likely to show evidence for rapid abandonment.

Evidence for gradual abandonment on a regional scale is apparent within the Belize Valley. Yaeger (2010) provides evidence that the Callar Creek and San Lorenzo, sites around Xunantunich, were slowly abandoned over time. Yaeger continues to argue the Belize valley was almost completely abandoned by the end of the Terminal Classic period (see also Ashmore et al. 2004), that the abandonment occurred gradually beginning before the Terminal Classic (see also LeCount et al. 2002), and that the processes of abandonment affected the poor first.

Using abandonment theory, Aimers (2003) examines a site-specific example of Terminal Classic (AD 700-1000) decline in western Belize. Using his research at Baking Pot, Aimers claims architectural and ceramic data reflect continuity suggesting the site never experienced abandonment during the Terminal Classic period. Aimers (2003) further argues that while a full abandonment never occurred at Baking Pot, the center was heavily depopulated during the Terminal Classic period. Using Schiffer's (1972) theory on rapid versus gradual abandonment, Aimers (2007) argues population decline at Baking Pot was gradual and caused by external influences from Mexicanized Putun Maya, and migrants moving in from the Petén.

Unfortunately, Aimers's (2003, 2007) argument primarily relies on ceramic seriation established in the 1970s by Gifford (1976). Based on the ceramics in the Belize Valley, Gifford previously suggested sites in the regions continued well into the Early Postclassic period (1000 – 1200 AD). This chronological sequence, however, was recently challenged by Hoggarth et al. (2014a) who used AMS ^{14}C dates of burials associated with the ceramics types Gifford previously dated to the Postclassic period. In actuality, Hoggarth and Awe (2015) show the burials dated to the Terminal Classic period instead, and that the long-held notion Baking Pot was continuously inhabited into the Early Postclassic period was not supported by chronometric data.

Behavioral Perspectives

The 1970s initiated the rise of behavioral archaeology, with seminal works by Schiffer (1972, 1976) and Reid et al. (1975). Behavioral archaeology investigates human behavior through the analyses of material objects and the linkages between those objects and behavior. The core of behavioral theory and methodology lies in the concept of *chaîne-opératoire*, or the use life of an individual artifact or structure (Lamotta and Schiffer 2001). The stages of this life history are resource procurement, manufacture/recycling, use/reuse/reclamation, discard, and decay (Figure 2.1.). The stage at which an artifact is recovered can inform on the use of an artifact and associated post-depositional events and provide clues for the manner of discard or deposit. If change in material culture is detected, through the behavioral archaeology framework, archaeologists may begin to look for linkages to explain the reasons for the change, such as environmental conditions, diffusion, or changes in subsistence patterns.

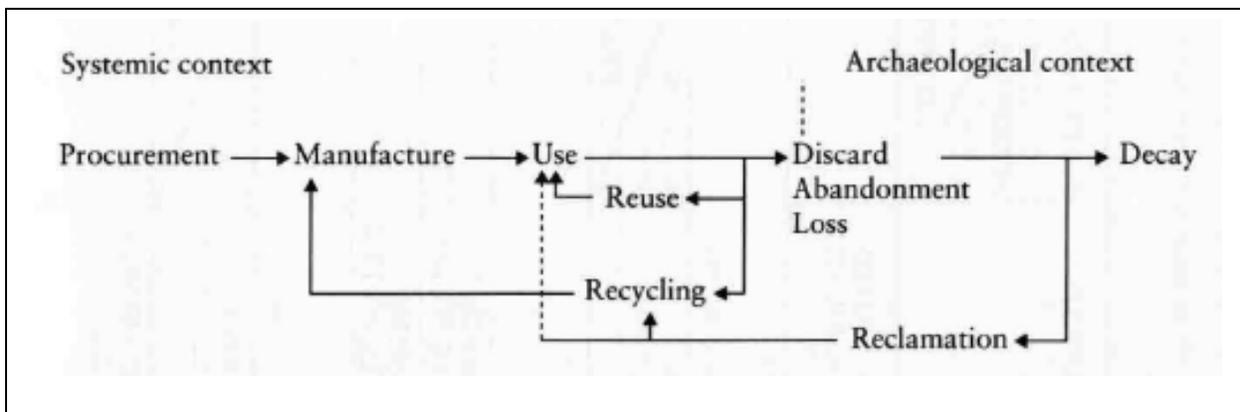


Figure 2.1. The *chaîne-opératoire*. This figure illustrates the various paths that cultural materials go through before ending up in the archaeological record. From Lamotta and Schiffer 2001: Figure 2.2.

This theoretical perspective allows the archaeologist to glean information regarding material acquisition, potential ritual uses of artifacts, and the final deposition of those artifacts. With this information, linkages may be made between behavior concerning material culture and the degrading conditions leading to the social, environmental, and demographic collapse in the Maya lowlands.

To illustrate the utility of identifying and using artifact life histories, Walker and Lucero (2000) examine ritual artifacts from both Ancestral Puebloan and ancient Maya sites. By using well known legacy data, they examine the depositional histories of ritual artifacts by stratigraphic contexts, and with these data they are able to compare and contrast the usage of ritual paraphernalia amongst household and elite contexts. For the Maya, they recognize the appropriation of household rituals by the elites to gain and maintain their control over the masses, and effectively show how stratigraphic contexts can also be used to study agential behaviors which I will soon turn to.

The Longue Durée

The concept of the *longue durée*, or long duration, is traced back to Fernand Braudel, who belongs to the French *Annales* school and is generally called the father of world-systems theory, which is a macro-scale analysis of history and social change. The academic field of history usually utilizes Braudel's ideas, but he wished for his perspective to be incorporated by all the social sciences (Braudel and Wallerstein 2009). Researchers generally refer to the *longue durée* as geological time, i.e., hundreds or thousands of years, or "history whose passage is almost imperceptible" (Braudel 1972:20). For the purposes of this thesis, the *longue durée* can be used as an analogy for the cosmology of the Maya, which accumulates over the course of

thousands of years, offering a world view that influences the behaviors of the ancient Maya, and to some extent dictates how they might handle the collapse of the ninth century (Figure 2.2.). Viewing both the agential and social constraints of culture as part of the *longue durée* is not unprecedented, as Braudel and Wallerstein (2009:179) have referred to humanity as a “prisoner for entire centuries of climates, vegetation, animal populations, cultures; in other words, a slowly constructed equilibrium that one cannot challenge without threatening everything.”

Evidence from the archaeological record shows another temporality at work during the ongoing process of the *longue durée*. Braudel and Wallerstein (2009) refer to these time periods as conjunctures, and they are similar to Durkheim’s (1964) notion of social currents. These social currents generally take the form of economic and political cycles, and, through a synchronic analysis, a great deal about social trends is teased out of the archaeological evidence. For this

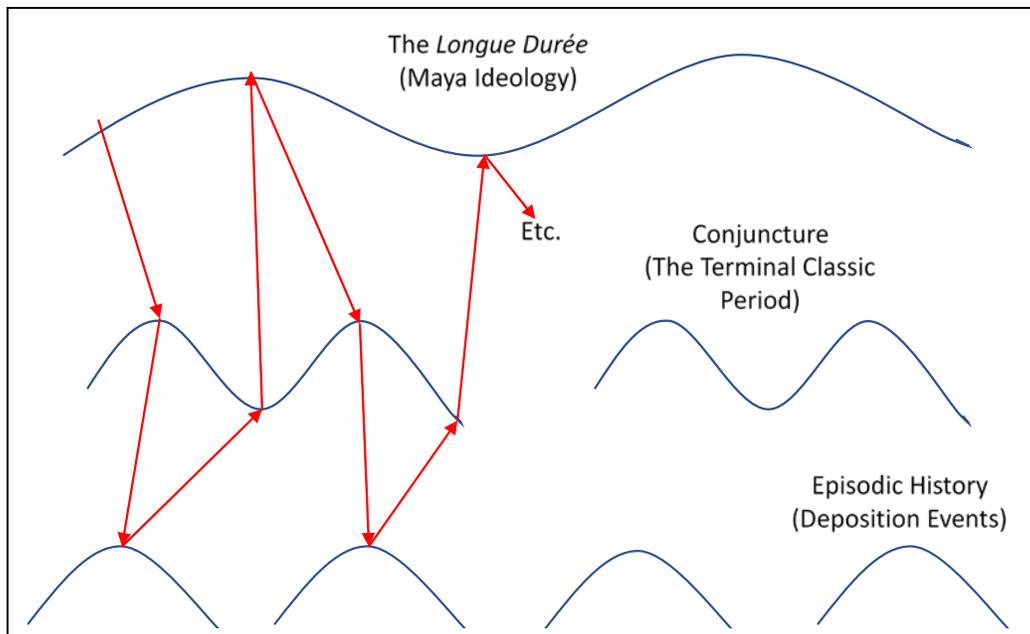


Figure 2.2. The *longue durée*. This figure shows how ideology influences shorter time periods, how the trends of those time periods influence individual events, and how those trends can affect both shorter time periods and eventually ideology. The red arrows indicate cultural ideas.

analysis, mid-level temporal events are seen as the social currents, or the overarching cultural behaviors during the extended drought of the ninth century. These mid-level temporal periods appear primarily in the archaeological record as technological phases, such as architectural styles, pottery types and varieties, and lithic complexes. Researchers infer economic cycles from studies dealing with trade good routes (e.g. obsidian and pottery trade routes). Political cycles appear in the record as the rise and decline of cities, are pronounced on inscribed stelae, and are found in the gifting of ceramic vessels between polity leaders.

Evidence for ritual deposition, caching, and termination exhibit further evidence for conjunctures. From these lines of evidence, it is possible to make inferences about human behavior, or social currents, during smaller periods of time. While it is possible to study conjunctures only within the synchronic framework, many of the motivations for these social trends are lost. The mid-level temporality as a subject of research should not, and with regard to an ethical academic study, cannot be removed from the *longue durée*, as the narrative will become skewed (Sawyer 2015). The underlying cosmology of a people, the *longue durée*, is essential to understanding the social currents of a specific time period, because the behaviors of a people during a cultural phase mediate their belief system.

The final layer to Braudel's system is the short term, or what Lee (2012:3) calls "episodic history." For this analysis, the short-term deals with individual events, such as the ritual deposition of cultural materials, feasts, or transposing middens. These depositional events, whether a joyful public ceremony attended by hundreds, a solemn ritual performed by just a handful of people, or perhaps something entirely different, mark individual events in history. Researchers study these events in a synchronic manner by dissecting them with different forms of archaeological analyses. The importance of these events, however, like the underlying

influence of cosmology on social trends, lies in the ability to perform diachronic analyses by looking at the cultural trends and behaviors that led to the events in question.

Braudel first broaches the idea of the *longue durée* in *La Méditerranée* (1972), or The Mediterranean, so it is appropriate to use the metaphor of a sea. If the *longue durée* is set as the bottom of the sea, it forms the foundation upon which the remainder of the sea, or cultural time, rests. The mid-level time period, Braudel's "conjunctures", form the currents meandering through the depths of the sea, just as social trends snake their way through time. Finally, the individual events are set as the wave crests, the peaks of which individually rise from the sea floor, through the depths and shallows, and breach the surface episodically. The sea is interconnected from the bottom to the wave crests, and the influence from the bottom and flux of the currents impact the behavior of the peaks. Similarly, culture and individual events are interconnected with a foundational cosmology informing social trends, which continue to influence individual events. This is not to say that cultural trends are predetermined or unilineally based on the foundational cosmology of a people, but, like sea currents, there is an ebb and flow to cultural ideas, traditions, and adaptations.

As previously stated, the concept of the *longue durée* does not necessarily determine the actions taken by individual agents, rather it strongly influences the actors by socially constraining their acceptable actions when facing a predicament such as the Classic Maya collapse. To bring the individual back into the discussion, Walker and Lucero (2000) invoke Bourdieu's concepts of *habitus*, or cultural dispositions that are dictated by an actor's life experience, by arguing that the agential behavior of ritual deposition events can be examined by following the pathways, or depositional histories, of artifacts. Researchers can grasp the agential behavior evidenced by these peri-abandonment deposits by using the analytical approach of the

chaîne-opératoire, sensu Schiffer (1972). The notion of agency can fit into the structured concept of the *longue durée* just as agency can be expressed despite, or in accordance with, an individual's *habitus*. Individuals adapting their behavior to fit the needs of the moment, thus restructuring their *habitus* and potentially changing the social trends, or conjunctures, provides evidence for this concept.

Conclusion

By utilizing abandonment studies, behavioral archaeology, and the *longue durée* archaeologists can begin to connect the abandonment of sites in the Maya lowlands during the Terminal Classic period with human behavior through the linkages between changes in material culture and politics, societal interactions, and the environment. Using these linkages, archaeologists make inferences about human behavior during times of abandonment at regional, site, and intra-site scales. The *longue durée* provides an overarching framework, and a new perspective, for viewing the episodic events of the Classic Maya collapse. The underlying cosmology of the Maya influence how they would react when faced with an extended drought, site abandonment, and societal and demographic collapse. These factors, leading up to, during, and after the collapse within this system are viewed as conjunctures, and as a whole, the Terminal Classic period. By viewing the Terminal Classic as a system of social currents that thousands of years of cosmology inform upon, we can start to place the individual depositional events into a new perspective. These episodic events were influenced not only by the social currents of the Terminal Classic, but also by the deeper foundation of cosmology.

Chapter 3: Field and Laboratory Methods

To investigate the cultural significance and timing of the depositional events in question, variables are defined as hypothetical correlates. For example, and as noted in Chapter One, previous researchers suggested peri-abandonment deposits represent cultural remains associated with feasting events, squatter trash, transposed middens, *de facto* refuse, termination rituals, and peri-abandonment rituals. To test these various hypotheses, I established artifact correlates expected for each different activity proposed above (Table 3.1). Following the explanation of the hypothetical correlates, the chapter describes the techniques used to gather and analyze data both in the field and in the laboratory.

Archaeological Correlates

Feasting. Feasting behavior is often inferred by the analyses of ceramic materials, iconography, lithics, and fauna (Hayden and Villeneuve 2011). The analyses should not, however, be limited to only food and food-related items, as Brown (2001) and Hayden (2001) argue can also be evidence for associated rituals such as ceremonial jewelry and clothing, animal sacrifices, bloodletters, and ideologically charged icons. Hayden (2001) provides a list of material correlates associated with ritualistic feasting that would appear in the archaeological record. If food remains are present they would include uncommon plant and animal species as well as domesticated animals,

Table 3.1. Archaeological Correlates for Peri-Abandonment Deposit Hypotheses

Feasting

- Rare or Labor-Intensive Plant or Animal Species
- Articulated Joints and Unprocessed Bone
- Recreational Food Vessels
- Unusual Number and Size of Bowls and Jars
- Highly Decorated Serving Vessels
- Presence of Food Disposal Features
- Presence of Feasting Facilities
- Special Location
- Prestige Items for Entertainment
- Associated Ritual Materials

De Facto Refuse

- Artifacts Left in Context of Use
- Many Objects in Expected Clean Areas
- Mostly Refittable Ceramic Vessels
- Elite Debris

Squatter Trash

- Evidence for Abandonment
- Post-Abandonment Structures
- Abundance of Domestic Materials

Primary and Transposed Middens

- Abundance of Domestic Materials
- Large Number of Artifacts
- Weathering Present on Pottery
- Mostly Non-Reconstructable Pottery

Reverential Termination Rituals

- Smashed and Scattered Artifacts
- Large Number of Artifacts
- Many Refittable Ceramic Vessels
- Killholes Present with Ceramic Vessels
- Important Location
- Ritual Artifacts
- Burials
- Abundance of High-Status Materials
- Concentrated Burning

Desecratory Termination Rituals

- Extensive Structural Damage
- Intensive Burning
- Cut Floors
- Looted Burials
- Evidence of Violence
- Scattering of Artifacts
- Refittable Vessels
- High-Status Objects

Peri-Abandonment Rituals

- Soil Between Deposit and Terminal Floor
- Ritual Artifacts Present
- Burials Present
- Important Location

special foods such as cacao, a large quantity of food, and waste such as unarticulated joints and unprocessed bone. The presence of unprocessed bone is debated as some researchers believe that feasting behavior would exhibit animal bones with cut marks and high utility meat cuts (Burke et al. 2018). Regardless, a high quantity of faunal remains will be present if feasting has occurred (Koenig 2014), and the majority of the remains would likely be larger mammals or larger portions of meat (Chrissina Burke, personal communication 2018). Freshwater shells, especially jute (*Pachychilus sp.*), would be present in large quantities and would have the base of the shell broken off, which is indicative of food use (Healy et al. 1990:179; Solis 2010).

Feasting behavior would also be evidenced by food disposal features such as bone dumps and feasting middens, and these may be near the feasting location which Hayden (2001) argues could be in residential households or central community spaces such as site cores. LeCount (2001), however, argues that feasts should be more prevalent in private contexts, but she does not discount that the feasts could be more inclusive if evidence is widespread around the site. Additionally, Hayden (2001), also advances that wealthy burials of aggrandizers may be present as a material correlate of a ritual feast.

With regards to ceramics, unusual types and large sizes and quantities of preparation and serving vessels and high quality serving vessels, such as polychromes would be present. LeCount (2001) argues, however, that preparation vessels are less of an indicator of feasting than serving vessels because the process of cooking for any meal would have been similar. The function of vessels for either preparation or serving can generally be evidenced by vessel form (LeCount 2001), and further evidence for vessel function is found in epigraphic statements and iconography on polychrome pottery (Reents-Budet 1994; Taube 1989) and is corroborated with ethnographic data (Houston et al. 1989). Brown (2001) argues that a high quantity of

groundstone (i.e. *manos* and *metates*) in a deposit is an indication of high quantity food preparation.

Primary Middens and Squatter Trash. Primary middens and squatter trash have been combined because the material correlates are essentially the same, the difference between the two is contextual. Squatter trash is associated with clear signs of abandonment prior to the artifact deposition. Middens, on the other hand, have been argued by Stanton et al. (2008) as a catch-all for many artifact deposits with no clear definitions or expected material correlates identified. For example, Haviland (1985:100) suggests a midden consists of animal bones, charcoal, ashes, sherds, and other artifacts, and Schortman (1993:64) defines a midden as the intentional disposal of cultural materials.

Given the ambiguities in defining a midden, including ethnographic research can illustrate midden creation practices. For example, Hayden and Cannon (1984) suggest there are three principles governing discard behavior among the modern Highland Maya including the economy of dumping effort, the consideration of value of the refuse, and the consideration of individual hindrance by the refuse. Using these principles, Deal (1985) proposes three types of refuse behavior: (1) provisional discard, (2) maintenance disposal, and (3) dumping disposal. Provisional discard entails items that can no longer serve their original purpose but may be reused at a later date for a new purpose or may slip into the archaeological record. This type of disposal behavior would be apparent near habitation zones. Maintenance disposal involves the removal of accumulated refuse, generally from patios and plazas but also from hard to reach areas. Dumping disposal refers to moving unusable refuse away from inhabited areas.

Using Deal's (1985) types of discard behavior, I infer that provisional discard and maintenance disposal would likely result in smaller deposits of artifacts, however, dumping disposal would result in larger deposits. The problematic deposits found throughout the Maya lowlands tend to be large, so if these deposits represent either primary middens or post-abandonment squatter middens they would fall into the latter category of dumping disposal. From this I will build a list of expected material correlates. In refuse middens, archaeologists would expect to find no complete objects. Ceramic vessels, figurines, and instruments would be broken and would show signs of weathering with almost no possibility of refitting. Obsidian blade fragments would likely be present. Faunal remains with signs of butchery and/or burning would be present in high quantities.

To provide an example of squatter refuse, Child and Golden (2008) propose that after the Terminal Classic abandonment of Piedras Negras, people with no connection to the previous royal occupants constructed new structures in the midst of the unfinished palace complex. Associated with these structures was a thick midden with ceramics, ground stone artifacts, faunal remains, and human burials. Within some of the midden burials at Piedras Negras, fragments of jade, a shell plaque, and shell ear spools indicates that the "squatters" may have had access to scavenged royal goods for a short while (Golden and Child 2008:83; Golden 2002:303). This evidence does not rule out the possibility of finding elite items in post-abandonment midden contexts in royal palaces. It is unlikely, however, that primary middens in a pre-abandonment context would be found in royal spaces.

Transposed Middens. A transposed midden, also called a secondary deposit (Clayton et al. 2005), refers to an assemblage of artifacts moved from one location to another. These

middens could have been created from various other middens or from a single midden and could be from different temporal and spatial contexts. Transposed middens are often identified by a comingled stratigraphy within the deposit. Clayton et al. (2005), for example, discusses a deposit found at the site of Blue Creek, Belize in which a single accumulation of artifacts is found against Structure 3, containing pottery spanning roughly 1000 years. Additionally, these ceramic materials were comingled with a lack of reconstructable whole vessels. Although the deposit found at Blue Creek was likely created from transposed feasting event (Clayton et al. 2005), in other cases the contents of a transposed midden would completely depend on the content and context of the borrow middens. Garber et al. (1998) describe a transposed ritual midden at the site of Blackman Eddy where the ceramic feature had been burned in place, but none of the burned pottery sherds within a close proximity were similar shades of black. This led the researchers to assume the burned feature had been comingled (i.e. a form of transposition) after the burning. Given the possible artifacts present in transposed middens their archaeological correlates will rely more on contextual information. If a deposit is to be identified as a transposed midden the artifacts will be comingled with little prospect of refit and display weathering from their original deposition, inconsistent with their new location.

De Facto Refuse. Schiffer (1972) assigns the designation of *de facto* refuse to usable artifacts that are left behind at an abandoned site, and notes that this type of deposition is key to understanding the processes of site abandonment. This led some researchers to argue for *de facto* refuse as a hypothesis for peri-abandonment deposits in the Maya lowlands (Chase and Chase 2000, 2004; Inomata et al. 2002). If the deposits at Baking Pot represent *de facto* refuse from pre-abandonment populations, which could possibly indicate either rapid abandonment or the

inhabitants were planning to return, then whole, usable artifacts would have been left in place. Since the deposits in question are located within the elite site core there would be a higher chance of finding high status goods such as polychrome vessels. The pottery would be mostly intact and able to refit. Chert and obsidian artifacts would be present in the form of complete tools. Faunal remains may be present in small quantities if some form of food preparation was occurring in these locations during a time of rapid abandonment. Granite artifacts, such as whole manos and metates, would be present as people would not want to carry heavy items if they were running away or if they had intentions of returning. Daub is likely to be present if the deposit is near a structure. Unless the deposit is near a workshop, researchers would not expect to find jade, freshwater shell, quartzite, pyrite, or marine shell. Human remains would be unlikely in these contexts.

Termination Rituals. Identifying the type of ritual performed is often difficult for researchers given the limited ideological knowledge archaeologists have for artifacts, and in many cases the same types of artifacts are used in various ritual contexts (Morton 2015). Researchers have, however, been able to tease out a few different types of ritual activities dealing with the ritual termination of a structure. In most cases when a structure is terminated reverentially (i.e. in a respectful way) the ritual remains are found along the axes of the structure beneath a new façade for the building. Reverential termination rituals often appear in the archaeological record as a spatially restricted burning events, often leading to architectural damage and extensive ceramic destruction (Pagliaro et al. 2003). Other artifacts are often found in reverential termination deposits such as broken jade, earflares, and beads (Garber 1983) as well as *incensarios* (i.e. censers), bloodletting implements, and ritually broken groundstone tools.

Faunal remains showing signs of butchery and burning are not likely to be present. Human remains may be present in the form of intentional burials with the possibility of evidence of sacrifice.

Alternatively, Pagliaro et al. (2003) argue desecratory (i.e. in a disrespectful way) termination rituals, often linked to warfare, exhibit similar material correlates as reverential termination rituals, but with increased destruction to material culture, specifically architecture and ceramic materials (see also Stanton et al. 2008). Additionally, desecratory termination rituals lead to wide-spread burning coupled with deliberate architectural damage evidenced by broken floors, destroyed stone vaults, and the destruction of building façades. These deposits may also include layers of white marl and smashed or scattered pottery sherds. Refitting the sherds is possible, but these sherds will be found within a large spatial area and from various levels due to the scattering. Finally, increased quantities of high status artifacts and primary or secondary burials may be present in these contexts as a means to desecrate the royal burials of a site (Ambrosino 2007; Mock 1998b).

Peri-Abandonment Rituals. For archaeologists, peri-abandonment rituals include pilgrimage, ancestor veneration, and petitioning the gods. The primary archaeological correlates for peri-abandonment rituals include evidence for abandonment such as crumbling architecture, soil buildup between the final occupational level and artifact deposits, and ritual materials (e.g. censers, instruments, and jade). Palka (2014) asserts that Maya pilgrimages were usually in accordance with ritual calendars, but were also carried out during times of crisis (e.g. droughts and conflict). Additionally, Palka (2014:5) suggests that Maya pilgrimages were important to the maintenance of “cosmic order and the collective good”. Ancestor veneration was a common

practice among the Maya as the deceased can act as intermediaries between the living and the gods. Evidence for the exaltation of the dead is witnessed in the elaborate tombs and structures created for the deceased (Chase and Chase 1994; Zrařka et al. 2017). There is also evidence that the Maya left offerings to the gods, likely as a petition for rain, wealth, and fertility, without the presence of the deceased. These rituals may reflect patterns similar to that of the Lacandon Maya who continue to conduct post-abandonment rituals today at surface and cave sites (Palka 2014). It is possible that the peri-abandonment deposits in the Maya lowlands represent any combination of pilgrimage, ancestor veneration, or petitions to the gods.

Palka (2014) suggests that in the case of pilgrimages the material remains would not likely be everyday items such as preparation vessels or utensils, and normal burial patterns would not be evident. He adds evidence for sacrificial human offerings may be present along with ritual paraphernalia such as jewelry and clothing items. According to Palka (2014:53), one of the most telling material correlates associated with pilgrimage is the presence of exotic items. If these deposits represent pilgrimage rituals then researchers would expect to find non-local ceramic materials, lithic materials, and perhaps non-local faunal remains.

Ancestor veneration and petition rituals would likely consist of similar materials as pilgrimage rituals without the presence of exotics. Ethnographic data suggests that the Lacandon Maya conduct ancestor veneration rituals by leaving complete and fragmented incense burners and burnt offerings (Palka 2014:169). Archaeological evidence from Caracol suggests most of the ancestral veneration offerings found consist of special ceramic vessels, *incensarios*, stalactites, and obsidian eccentrics (Chase and Chase 1994). The majority of the special vessels found in these contexts are unslipped and were found lip-to-lip. Similar material evidence for ancestor veneration rituals has been recorded at many sites across the Maya lowlands such as

Cahal Pech (Powis 1993), Chan (Novotny and Kosakowsky 2009), and Nakum (Zrařka et al. 2017), just to name a few. Awe (1992) also suggests that the presence of figurines at Cahal Pech may be associated with ancestral veneration practices.

Excavation Methods

The field methods used in the excavations at Baking Pot in the summer of 2016 were conducted in accordance with BVAR excavation strategies and guidelines. Based on previous excavations at Baking Pot and other sites in the Belize Valley, Awe (2012) and Awe et al. (2017) recognized spatial patterning in peri-abandonment deposits; typically located in the corners of plazas and courtyards, flanking stairways, and in alleyways. Following this spatial pattern, excavation units were placed adjacent to the west and south of the 2015 northeastern excavation unit (Figure 3.1.). These units were designated B6-6 and B7-102, the western and southern units respectively.

The BVAR Project's protocols for excavating peri-abandonment deposits are outlined in Lonaker et al. (2017b) and are the standard operating procedure for investigating all identified peri-abandonment deposits at the sites under investigation by the project. In accordance with these protocols, the humus layer and structural collapse are excavated as one lot in all units, and once the remainder of the peri-abandonment deposit is identified a new lot is started. All excavated matrix is sifted through ¼ inch screens. A deposit is identified by fully exposing ceramic and other materials until the extent of the deposit is determined. The peri-abandonment deposit is then divided into 1m x 1m sub-lots in order to identify more precise provenience information.

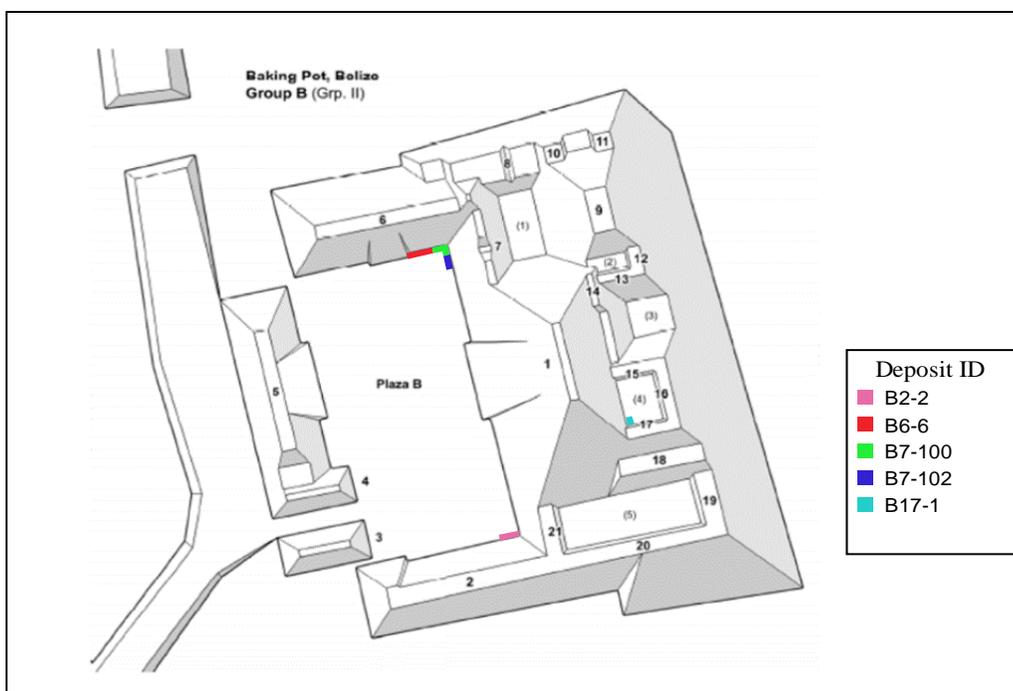


Figure 3.1. Locations of units containing peri-abandonment deposits in the Southern Ceremonial Group, Group B, at Baking Pot. Unit B17-1 was excavated in 2013, Units B2-2 and B7-100 were excavated in 2015, and Units B6-6 and B7-102 were excavated in 2016.

Each sub-lot is designated a sequential letter a, b, c, d, etc., for example, lot B6-6-3a refers to unit B6-6, level 3, sub-lot a (see Figure 3.2. for example). Excavations were conducted using a microstratigraphic system, each layer of artifacts is then exposed, mapped, provenienced, and removed. These methods allow for the precise spatial plotting of artifacts in three dimensions, which is then combined with AMS ^{14}C dating and vessel refitting to assess both the timing and nature of the depositional event. All polychrome vessels, both faunal and human remains, and ^{14}C samples are point provenienced, meaning they are measured horizontally on a planar axis within the corresponding sub-lot, and are measured vertically for depth from the unit datum. After the artifact layer is removed, a new layer of artifacts is exposed. This method is continued until the deposit is fully removed and the terminal floor of the plaza reached.

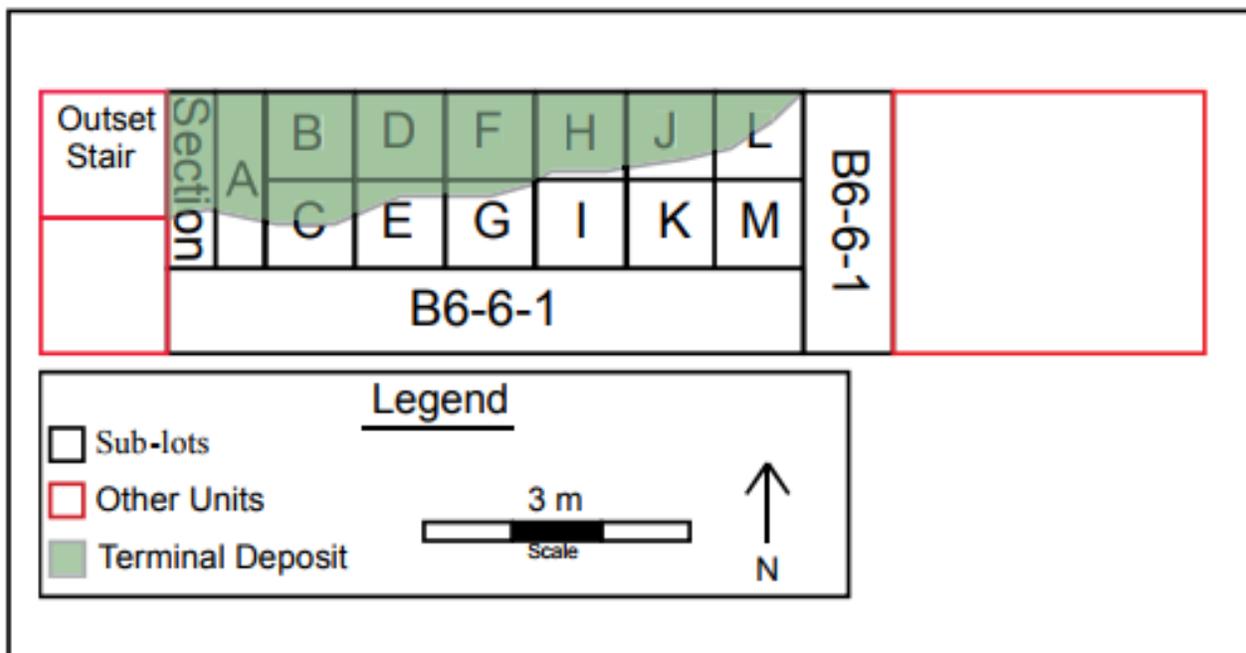


Figure 3.2. The sub-lot system as it applies to Unit B6-6. Notice how the unit is divided into 1m by 1m sub-lots over the extent of the peri-abandonment deposit. A section was left standing for profiling.

These methods provide for more contextual information allowing patterns in ceramic breakage to emerge, which is essential to determining if pottery was smashed, scattered, or placed whole in the deposit (Pagliaro et al. 2003; Stanton et al. 2008). Although the radiocarbon data is not presented here, the point provenience method also allows for stratigraphic information to be used to create a Bayesian model for the ^{14}C dates that helps to constrain the timing of the events associated with deposition.

Every layer of artifacts was plan mapped, allowing for an in-depth spatial analysis for comparing with other deposits. These analyses include an exploration of the artifact proportions, which helps to determine if certain directions may have discreet artifact compositions, which would likely have implications for Maya cosmology. Temporal analyses, both ceramic seriation and radiocarbon dating, helps to determine if these events are synchronic or diachronic and can

possibly inform the temporal connection between the depositional events, which has implications for both the timing of Baking Pot's abandonment and the demographic collapse of the Belize Valley.

Laboratory Methods

To identify if patterns in artifactual materials recovered from deposits at Baking Pot align with the material correlates for presented hypotheses, laboratory work focused on inventorying all artifacts, to calculate the proportional distribution of artifacts recovered within and between deposits. In addition, ceramic analysis focused on vessel type and form and additional analyses were completed on lithic material, and faunal material.

Gifford's (1976) seriation on the ceramics of Barton Ramie was used for a type/variety analysis of ceramics in the deposit. As the site of Barton Ramie is roughly 6km east of Baking Pot, the ceramics from Baking Pot are very similar to those at Barton Ramie and therefore, the typology is relevant to the materials recovered. The type/variety method provides a relative chronology that can be used in conjunction with radiocarbon dates to constrain the date range for the deposits. Additionally, this method of analysis provides information on vessel function, which ultimately informs upon the interpretation of the deposit.

Ceramics were recorded including context (i.e. lot information), vessel form, and ceramic type/variety. From this information, vessel functions and their associated time periods were also ascertained. The polychrome, bichrome, and composite ceramics were separated from the rest of the ceramic assemblage and lot information was preserved. By separating these high-status ceramic types, many sherds were refit, and in a few cases roughly 95% of a vessel was reconstructed. By doing these refits, it was possible to identify whether the ceramics were placed

whole, smashed against a small area, or shattered and scattered throughout the associated deposit.

To determine a relative chronology for the deposits and to assess the function and origin of the ceramics in the assemblages, all pottery was sorted into diagnostic and undiagnostic groups. The term 'diagnostic' in this instance refers to any rim sherd, a decorated sherd with flutes, punctations, or any additions, and all polychrome sherds. This method of sorting pottery has the inherent bias of misrepresenting the number of polychrome and decorated vessels, so to compensate for this, a proportional analysis for both decorated and non-decorated diagnostic sherds was included.

Finally, pottery analysis included identification of iconography, examination of the images of the polychrome vessels, and epigraphic analysis, looking at hieroglyphic texts painted on the vessels, was conducted. This information provides evidence for symbolic meanings attached to the vessels and the deposits, and the epigraphic data helps to provide historical context and constrain the timing of the events.

Lithic analysis was conducted on all lithic materials from the deposits in units B6-6 and B7-102, keeping everything separated by lot, and then by designating tool or debitage type. All lithic data regarding the deposit in unit B17-1 is taken from the special finds identified in Hoggarth et al. (2014b), and no lithic analyses were completed for deposits in units B7-100 or B2-2 due to time constraints.

A typology allows for a functional analysis of the lithic materials. The typology consists of bifacial tools, unifacial tools, primary, secondary, and tertiary flakes or fragments, shatter, blades, and unknown. Primary flakes display 100% cortex on the dorsal surface of the flake, while secondary has 1%-99% cortex on the dorsal surface of the flake, and tertiary exhibits 0%

cortex. For this research, a blade is any tertiary flake that is twice as long as its maximum width. Several of the bifaces were examined by BVAR lithic specialist, James Stemp, who was able to determine the tool type, generalized cultural period, and context based on the lithic assemblage.

BVAR zooarchaeologist, Chrissina Burke and students (2017, 2018) conducted the faunal analyses for the peri-abandonment deposits at Baking Pot. Their (2017, 2018) analyses examines the diversity in taxa, worked bone, and skeletal elements represented in the deposit assemblages. These data help to identify aspects of feasting or ritual and allow researchers to make inferences about the types of activities represented by the deposits.

Chapter 4: Results

Following the completion of the analyses, it is apparent the peri-abandonment deposits are mainly composed of Terminal Classic jars, non-food related faunal remains, and lithic flakes. Human remains, ritual artifacts (e.g. censers and instruments), freshwater shell, and prestige items (e.g. polychrome ceramics, jade, and pyrite) are also found in most of the deposits. Mortuary analysis identified four burials in the Plaza B deposits that likely belong to three individuals, and one individual likely has a connection to the Komkom Vase, the only example of formal hieroglyphic writing present in the assemblages. Using the relative chronology and epigraphic data provided by the ceramic analysis in conjunction with radiocarbon data constrains the timing of the depositional events to AD 750-900. The remainder of this chapter will discuss the composition of the artifact assemblages by deposit, the results of the ceramic analyses including type/variety, form, and iconographic and epigraphic analyses, the lithic and faunal analyses, and the preliminary radiocarbon analysis.

Description of Findings

B17-1. In the summer of 2013, using the previously noted pattern of peri-abandonment deposition (Awe 2012; Awe et al. 2017), Hoggarth and colleagues (2014b) excavated in Baking Pot's Courtyard 4, one of the most secluded and socially restricted areas of the site, and found what was referred to as Feature 1. For the purposes of this thesis, I will refer to this feature as a peri-abandonment deposit found in unit B17-1. This was the first peri-abandonment deposit to be identified in Baking Pot's Group B (Figure 4.1).

Once the humus and collapsed architecture was removed, excavations in Courtyard 4 revealed a large concentration of pottery, some of which were polychrome types, more than 20 ceramic ocarinas in the shape of men, women, and animals, and a large amount of faunal remains (Hoggarth et al. 2014b). As researchers continued excavating into the middle of the deposit larger amounts of daub and burnt limestone were discovered leading them to believe that organic remains were likely burnt during the event associated with the deposit. When the deposit was completely removed a measurement was taken showing that the deposit was over one meter thick.

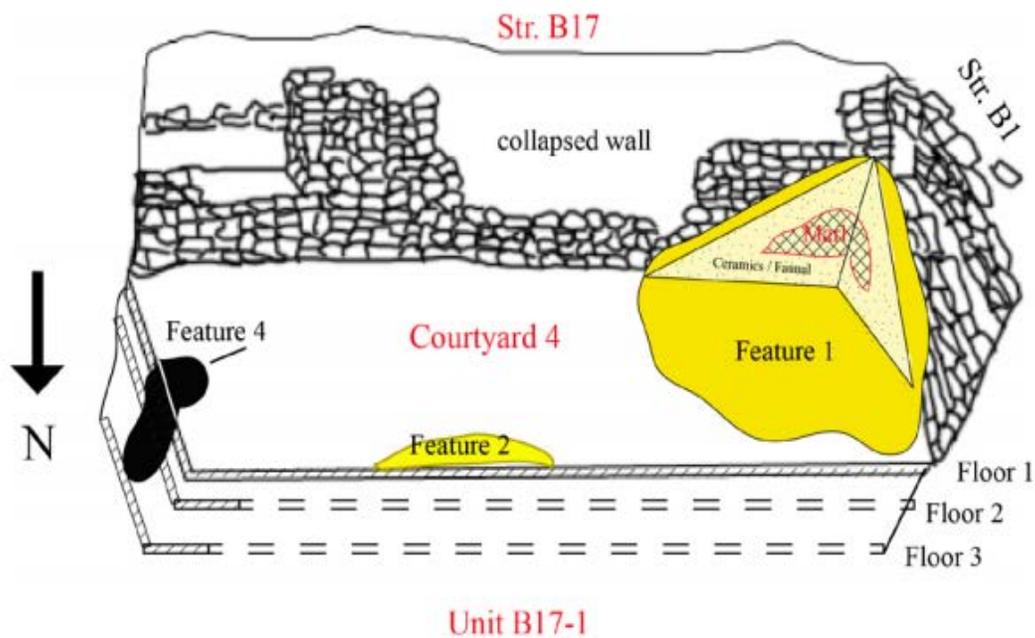


Figure 4.1. Unit B17-1. Feature 1 is the peri-abandonment deposit being analyzed in this study. Drawing by J.A. Hoggarth (Hoggarth et al. 2014b: Figure 5)

B2-2. During the summer of 2015, excavations in the southeastern corner of Plaza B revealed a peri-abandonment deposit. Researchers noted a similarity in the artifact assemblage to that of unit B17-1. Archaeologists discovered many ceramic vessels, including polychrome types, lithic tools and debitage including projectile points, freshwater shell, granite, slate, and daub. Below the deposit, researchers documented a 2-6cm buildup of sediment between the deposit and the terminal floor. Within this sediment they discovered the burial of a child (2-3 years) of indeterminate sex that was placed in a flexed position with the head oriented to the west facing south (Figure 4.2.). No grave goods were associated with the burial (Hoggarth et al. 2016).

B7-100. During the summer of 2015, excavations in the northeastern corner of Plaza B revealed multiple peri-abandonment deposits, one primarily in unit B7-100 and another that was further exposed in unit B7-102 in 2016 (Lonaker et al 2017a). The artifact assemblage of unit B7-100 was composed of dense ceramic remains, including a large amount of polychrome pottery, ceramic ocarina fragments, chert projectile points, faunal remains, shell beads, mano and metate fragments, obsidian blade fragments, spindle whorls, and three human burials. One nearly complete primary burial, with the exception of the cranium, designated Plaza B Burial 4-1, was discovered along the southern façade of Structure B6 with the superior portion of the body oriented towards the east. A preliminary assessment of the skeletal remains reveals that the individual was male and between the ages of 15-18. A secondary burial, designated Plaza B Burial 4-2, composed of a cranium, a right distal fibula, a right tibia, a right radius, and likely femoral shaft elements was discovered 110 cm south of Plaza B Burial 4-1, and due to the



Figure 4.2. Burial in Unit B2-2. On the terminal floor of Plaza B and beneath the peri-abandonment deposit, researchers found the burial of a child. Photograph by Julie Hoggarth (Hoggarth et al. 2016: Figure 16).



Figure 4.3. Unit B7-100 Burial 4-3. Below a large portion of the deposit a burial was recovered. Above the burial excavators discovered the Komkom Vase. Photograph by Erin Ray (Hoggarth et al. 2016: Figure 13).

findings of the dentition analysis of the cranium the osteologists believe that it likely belongs to the primary burial (Hoggarth et al. 2016). Further excavations along the western façade of structure B7 revealed another primary burial of an adult, designated Plaza B Burial 4-3, which was fully articulated and oriented with its head to the south facing east (Figure 4.3.). This burial was near the bottom of the peri-abandonment deposit identified in unit B7-100. Just above this burial, researchers found parts of an olla with digits, primarily metatarsals, inside (Hoggarth et al. 2016).

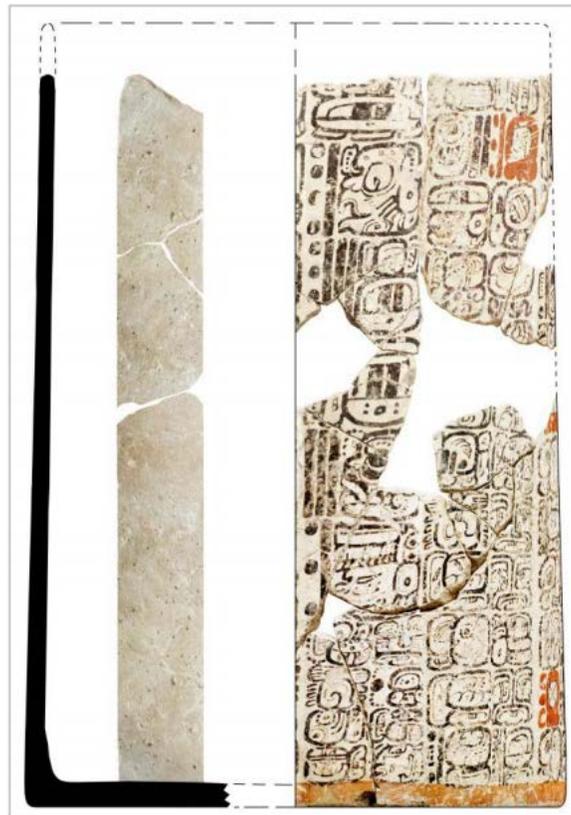


Figure 4.4. The Komkom Vase. The vase contains a long count date of AD 812 and also features the longest text found on a vase in the Maya world to date. Graphic and composite photograph by Christophe Helmke (Helmke et al. 2017: Figure 1)

Of particular significance, researchers discovered in the midst of the deposit what has become known as the Komkom Vase, which is a ceramic vessel with the longest hieroglyphic inscription ever found on a vessel in Belize to date (Figure 4.4.; Helmke et al. 2017). The significance of the Komkom Vase will be discussed in chapter five.

B6-6. During the summer of 2016, BVAR continued excavations in the northeastern corner of Plaza B by placing an 8 m (E/W) x 3m (N/S) unit with the intent of expanding unit B7-100 to the west and to locate the eastern extent of the stairs for structure B6. After the removal of the humus and architectural fill, excavators identified an artifact deposit that was concentrated in the corner where the eastern portion of the structures' stairs meets the structure. The deposit extended from the corner of the stairside outset and fanned 1 ½ m to the south and 6 m to the east (Figure 4.5.).



Figure 4.5. Closeup of the peri-abandonment deposit in unit B6-6. Photograph by Britt Davis.

The majority of the artifact assemblage is pottery, with the highest proportions being jars and dishes of the Cayo Unslipped: Cayo Variety and Belize Red types respectively. A large proportion of the ceramic materials recovered from the deposit were also polychrome or composite vessels, primarily Terminal Classic Cabrito Cream, Palmar Orange, and Puhui-Zibal types. Significantly, excavators also recovered roughly half of a Belize Molded-Carved vessel, which also helps date the deposit to the Terminal Classic period. One vessel of interest recovered from the deposit is a platformed pyroform (James Aimers, personal communication 2017) with four plates in the middle of the vessel with rotating black and red panels which will be fully discussed in chapter four. Additionally, excavations uncovered several anthropomorphic and zoomorphic ceramic figurines and ocarinas. The lithic materials recovered from B6-6 are predominantly shatter, tertiary flakes, and secondary flakes. One blade, two bifaces, five biface fragments, and two unifacial tools were also recovered. The third most prevalent artifact type found in this deposit were faunal remains. Over 60% of the faunal remains are mammals, but the deposit also contained primate, crocodile, frog, bird, and various other remains. Several tools and ornamental items made from faunal remains such as awls, tinklers, and pendants were also recovered. Large amounts of freshwater shell, largely jute, were also recovered.

B7-102. During the summer of 2016, BVAR also extended excavations south of unit B7-100 with a 3m (N/S) x 5.5m (E/W) unit. The purpose of this extension was to uncover more of the peri-abandonment deposit and to find the location of the outset stair of structure B7. After the removal of the humus and collapsed architecture, the excavation did expose more of the peri-abandonment deposit (Figure 4.6.). The deposit in this extension of the excavation unit was compositionally similar to deposits B6-6 and B7-100, with similar ceramic materials and artifact

concentrations. Notable artifacts include two sherds from the Komkom Vase, a jade pendent engraved with the image of the Maize God that was face down just above the terminal floor, a ceramic ink pot, two anthropomorphic figurines, and several beads made from freshwater shell (Lonaker et al. 2017a). Some human remains were recovered, but those remains are still being analyzed. The vast majority of the ceramic vessels recovered from the deposit in unit B7-102 are Cayo Unslipped: Cayo Variety jars. Notably, two Cabrito Cream type vessels, one in the form of a jar and the other in the form of a rectangular vase were recovered from this deposit (Figure 4.7.). The jar is unique because no other Cabrito Cream jars were recovered from any other peri-abandonment deposit context at Baking pot. The Rectangular vessel is unique because the linework, the way the character is facing, and the nearest analog vessel suggests that this vessel came from Naranjo (Reents-Budet 1994; Reents-Budet et al. 2000).



Figure 4.6. Deposit B7-102. This photograph shows the extent of the deposit after the humus and architectural collapse were removed. Photograph by Sydney Lonaker (Lonaker et al. 2017a: Figure 10).



Figure 4.7. Cabrito Cream oddities from Unit B7-102. The one on the left is a jar, the two on the right are from a rectangular vase likely from Naranjo. Photograph by Britt Davis

Pottery Analysis Results

Type/Variety Analysis Results. The type/variety analysis focuses on style and form attributes and helps to determine the date and function of these deposits. For instance, if a large proportion of the ceramic assemblage contains elite associated polychrome vessels, or non-locally made vessels, archaeologists can infer the deposits were likely associated with special events ritualistic in nature. Alternatively, if more common types of vessels are prevalent then the deposits more likely reflect non-ritual events and possibly represent *de facto* or squatter refuse.

The ceramic analysis of the five peri-abandonment deposits confirmed pottery sherds are predominantly Late Classic period vessel types, representative of the Spanish Lookout ceramic

phase (AD 680-880), with a few from the Tiger Run ceramic phase (AD 580-680) (Gifford 1976). One vessel type, Daylight Orange: Darknight Variety, is classified as representative of the Postclassic period New Town ceramic phase (AD 880-Historic) by Gifford (1976:301), but recent radiocarbon dating argues this ceramic type dates to the Late Classic period (Hoggarth et al. 2014a).

Given the type/variety analytical method used in this study, there is an over-representation of polychrome, composite, and decorated sherds. To compensate for this bias, a proportional breakdown of both non-decorated and decorated sherds in the assemblage was recorded (Tables 4.1. and 4.2. respectively). Using Gifford's (1976) type/variety system and the distributions of non-decorated pottery, it was determined that the majority of the ceramic vessels in all depositional contexts are Cayo Unslipped: Cayo Variety jars. Due to the prevalent nature of Belize Red ceramic vessels at the site of Baking Pot, it is unusual that two of the depositional events in the northeast corner of the plaza, B7-100 and B7-102, contain less than 4% of this vessel type, while directly west of unit B7-100, unit B6-6 contains 10.17%. Deposit B2-2 contains a slightly lower proportion of Belize Red with 8.82% of the pottery composition. Notably, the Belize Red pottery proportion for deposit B17-1, being in a different courtyard, yielded an 18.65% compositional makeup, rivaling Cayo Unslipped: Cayo Variety's proportion of 18.90%.

Due to time and preservation issues, only the polychrome and composite vessels from deposits B6-6, B7-100, and B7-102 were refitted. The most prevalent type of polychrome pottery shared by all the depositional contexts is Cabrito Cream polychrome, with 15 vessels coming from B6-6, 8 from B7-100, and 6 from B7-102. The breakdown of polychrome and composite ceramic types is shown in Table 4.3. Deposit B6-6 has the largest number of polychrome and

Table 4.1. Proportional Breakdown of all Non-Decorated Pottery Analyzed from Peri-Abandonment Deposits at Baking Pot (Davis 2018: Table 1).

<i>Deposit</i>	<i>Type/Variety</i>	<i>Proportion of Undecorated Ceramic Sherds</i>	<i>Artifact Frequency</i>
<i>B6-6</i>	Unknown	26.71%	226
	Achote Black	0.83%	7
	Alexanders Unslipped: Alexanders Variety	2.01%	17
	Alexanders Unslipped: Croja Variety	1.06%	9
	Belize Red	10.17%	86
	Cayo Unslipped: Buff Variety	0.12%	1
	Cayo Unslipped: Cayo Variety	25.89%	219
	Chunhuitz Orange	0.24%	2
	Daylight Orange: Darknight Variety	1.89%	16
	Dolphin Head Red	5.20%	44
	Garbutt Creek: Garbutt Creek Variety	9.10%	77
	Garbutt Creek: Paslow Variety	0.59%	5
	Macal Orange Red	0.35%	3
	Meditation Black	0.24%	2
	Molino Black	0.12%	1
	Mount Maloney Black	6.38%	54
	Mountain Pine Red	0.83%	7
	Roaring Creek Red	2.01%	17
	Rubber Camp Brown	1.18%	10
	Vaca Falls Red	4.96%	42
Yalbac Smudged-Brown	0.12%	1	
<i>B7-100</i>	Unknown	10.14%	37
	Alexanders Unslipped: Alexanders Variety	3.84%	14
	Alexanders Unslipped: Croja Variety	2.19%	8
	Belize Red	3.84%	14
	Cayo Unslipped: Cayo Variety	48.77%	178
	Chunhuitz Orange	1.10%	4
	Dolphin Head Red	8.49%	31
	Garbutt Creek: Garbutt Creek Variety	4.11%	15
	Garbutt Creek: Paslow Variety	0.55%	2
	Mount Maloney Black	10.96%	40
	Mountain Pine Red	0.82%	3
	Rubber Camp Brown	1.10%	4
	Vaca Falls Red	2.74%	10
	Yalbac Smudged-Brown	1.37%	5
	<i>B7-102</i>	Unknown	14.45%
Belize Red		3.47%	6
Cayo Unslipped: Cayo Variety		42.77%	74
Dolphin Head Red		8.67%	15
Garbutt Creek: Garbutt Creek Variety		16.76%	29

	Mount Maloney Black	7.51%	13
	Mountain Pine Red	3.47%	6
	Rubber Camp Brown	0.58%	1
	Vaca Falls Red	2.31%	4
<i>B2-2</i>	Unknown	0.98%	1
	Alexanders Unslipped: Alexanders Variety	3.92%	4
	Alexanders Unslipped: Croja Variety	0.98%	1
	Belize Red	8.82%	9
	Cayo Unslipped: Cayo Variety	46.08%	47
	Dolphin Head Red	3.92%	4
	Garbutt Creek: Garbutt Creek Variety	16.67%	17
	Mount Maloney Black	8.82%	9
	Vaca Falls Red	7.84%	8
	Yalbac Smudged-Brown	1.96%	2
<i>B17-1</i>	Unknown	32.15%	262
	Achote Black	0.12%	1
	Alexanders Unslipped: Alexanders Variety	3.68%	30
	Alexanders Unslipped: Croja Variety	1.60%	13
	Belize Red	18.65%	152
	Cayo Unslipped: Cayo Variety	18.90%	154
	Daylight Orange: Darknight Variety	0.12%	1
	Dolphin Head Red	5.40%	44
	Garbutt Creek: Garbutt Creek Variety	7.48%	61
	Garbutt Creek: Unspecified Variety	0.12%	1
	Meditation Black	0.12%	1
	Mount Maloney Black	5.77%	47
	Mountain Pine Red	0.25%	2
	Roaring Creek Red	0.98%	8
	Rubber Camp Brown	2.45%	20
	Vaca Falls Red	2.09%	17
	Yalbac Smudged-Brown	0.12%	1

Table 4.2. Proportional Breakdown of all Decorated Pottery Analyzed from Peri-Abandonment Deposits at Baking Pot. (Davis 2018: Table 2).

<i>Deposit</i>	<i>Type/Variety</i>	<i>Proportion of Decorated Sherds</i>	<i>Artifact Frequency</i>
<i>B6-6</i>	**"Squash Pot"	0.44%	3
	Belize Molded-Carved	0.15%	1
	Benque Viejo Polychrome	7.96%	54
	Cabrillo Cream Polychrome	40.71%	276
	Cubeta Incised	0.15%	1
	Duck Run Incised	1.77%	12
	Martins Incised	0.29%	2

	McRae Impressed	0.74%	5
	Palmar Orange Polychrome	13.86%	94
	Platon Punctated-Incised	3.98%	27
	Puhui-Zibal Composite	25.66%	174
	Silkgrass Fluted	0.15%	1
	Silver Creek Impressed	0.15%	1
	Tutu Camp Striated	0.29%	2
	Xunantunich Black-on-Orange	3.83%	26
<i>B7-100</i>	**"Squash Pot"	0.47%	1
	Benque Viejo Polychrome	2.80%	6
	Cabrigo Cream Polychrome	66.05%	142
	Canoa Incised	0.47%	1
	Chinos Black-on-Cream	0.93%	2
	Cubeta Incised	0.93%	2
	McRae Impressed	0.93%	2
	Palmar Orange Polychrome	2.80%	6
	Platon Punctated-Incised	2.80%	6
	Puhui-Zibal Composite	9.30%	20
	Torres Incised	1.40%	3
	Xunantunich Black-on-Orange	11.16%	24
<i>B7-102</i>	Benque Viejo Polychrome	3.21%	5
	Cabrigo Cream Polychrome	44.87%	70
	Chinos Black-on-Cream	1.28%	2
	McRae Impressed	0.64%	1
	Palmar Orange Polychrome	33.33%	52
	Platon Punctated-Incised	0.64%	1
	Puhui-Zibal Composite	8.97%	14
	Xunantunich Black-on-Orange	7.05%	11
<i>B2-2</i>	Duck Run Incised	11.11%	1
	Platon Punctated-Incised	33.33%	3
	Puhui-Zibal Composite	55.56%	5
<i>B17-1</i>	Benque Viejo Polychrome	4.52%	7
	Cabrigo Cream Polychrome	60.65%	94
	McRae Impressed	1.29%	2
	Palmar Orange Polychrome	8.39%	13
	Platon Punctated-Incised	5.16%	8
	Puhui-Zibal Composite	19.35%	30
	White Cliff Striated	0.65%	1

**"Squash Pot" refers to a gourd shaped pot that is analogous with Pendergast (1990: Figure 106n)

Table 4.3. Polychrome Ceramic Vessel Totals for Units B6-6, B7-100, and B7-102.

<i>Polychrome Ceramic Type</i>	<i>Excavation Unit</i>	<i>Count</i>
Cabrito Cream Polychrome	B6-6	15
	B7-100	8
	B7-102	6
Palmar Orange Polychrome	B6-6	2
	B7-100	1
	B7-102	5
Benque Viejo Polychrome	B6-6	10
	B7-100	6
	B7-102	2
Xunantunich Black-on-Orange	B6-6	4
	B7-100	6
	B7-102	0
Chinos Black-on-Cream	B6-6	0
	B7-100	2
	B7-102	0
Puhui-Zibal Composite	B6-6	2
	B7-100	3
	B7-102	2
Unknown	B6-6	4
	B7-100	0
	B7-102	0

composite vessels with 38 in total, followed by B7-100 with 24 and B7-102 with 15. Two ceramic oddities were found in deposit B7-100, a single Chinos Black-on-Cream bowl rim sherd, and the Chinos Black-on-Cream vessel that is now called the “Komkom Vase” (Helmke et al. 2017). The Komkom Vase provides a long count date of AD 812, giving researchers a time ceiling to work with, and is also the eighth longest hieroglyphic inscription ever found in the Maya region (Helmke et al. 2017). Considering the Komkom Vase was found throughout the middle of the deposit, it is suggested that the date range for the upper half of the deposit is after AD 812.

Form Analysis Results. While conducting analysis, the form of the vessel was also recorded to ascertain possible vessel function and to determine the proportion of utilitarian and high-status vessels. For instance, if these deposits were associated with feasting events it would be expected to find a high proportion of plates, bowls, and jars. On the other hand, if the deposits were associated with termination rituals, more polychrome vases and censers are likely to be present.

In describing the ceramic assemblage by form it is possible to tease ascertain functional properties of the pottery makeup by deposit, which in turn will allow the researcher to look for linkages between vessel form and activity. A proportional breakdown of vessel form is presented in Table 4.4. If the 'unknown' category is set aside, jars are the dominant vessel type in all depositional contexts. Interestingly, as the previously mentioned, Cayo Unslipped: Cayo Variety vessel type is primarily found in jar form. Deposits B6-6, B7-100, and B7-102 are composed of between 32-61% jar forms. Deposit B2-2 consists of 50% jar forms. Once again, the deposit in another courtyard, B17-1, is only 23.81% jar forms and is closely followed by bowl forms at 23.30% of the ceramic makeup. In the depositional contexts in the plaza, bowl forms are between 20-25% of the ceramic content. Dish forms vary between the depositional contexts between 8-20% of the ceramic composition. Vase forms vary between 3-11% in all depositional contexts. Pyroforms, spouts, and censers make up less than 1% of each depositional context.

One vessel from the deposit in Unit B6-6 is a platformed pyroform. Given its rare form, it was difficult to assign type to this vessel, but stylistically, it shares many attributes with the non-local Cabrito Cream ceramic group (Christophe Helmke, personal communication 2017). The vessel exhibits a round base, which goes up and then projects out into four panels of alternating black and red motifs and comes back together to form a round rim (Figure 4.8.).

Table 4.4. The Proportional Breakdown of all Diagnostic Pottery by Form (Davis 2018: Table 3).

<i>Deposit</i>	<i>Form</i>	<i>Proportion of Form</i>	<i>Artifact Frequency</i>
<i>B6-6</i>	Unknown	17.79%	156
	Bowl	25.09%	220
	Dish	15.28%	134
	Drum	0.34%	3
	Jar	34.55%	303
	Plate	0.11%	1
	Pyroform	1.14%	10
	Spout	0.11%	1
	Vase	5.59%	49
<i>B7-100</i>	Unknown	6.88%	26
	Bowl	19.84%	75
	Dish	8.73%	33
	Jar	60.85%	230
	Vase	3.70%	14
<i>B7-102</i>	Unknown	13.86%	28
	Bowl	20.30%	41
	Dish	9.41%	19
	Jar	45.54%	92
	Vase	10.89%	22
<i>B2-2</i>	Unknown	1.72%	2
	Bowl	20.69%	24
	Dish	20.69%	24
	Jar	50.00%	58
	Pyroform	0.86%	1
	Vase	6.03%	7
<i>B17-1</i>	Unknown	28.14%	273
	Bowl	23.30%	226
	Censer	0.10%	1
	Dish	11.34%	110
	Jar	23.81%	231
	Olla	0.52%	5
	Plate	0.10%	1
	Tecomate	0.21%	2
Vase	12.47%	121	



Figure 4.8. A platformed pyroform vessel from the deposit in Unit B6-6. The vessel is too exceptional to type, but stylistically, it likely belongs to the Cabrito Cream Group. Photograph by J. Britt Davis (Davis 2018: Figure 2).

Iconographic and Epigraphic Analysis Results. The majority of the decorated vessels found in all deposits, except in unit B2-2, are Cabrito Cream polychromes. Many of the Cabrito Cream vessels exhibit the typical Holmul Dancer iconography associated with the vessel type, but also several vessels contain cormorant imagery and germinating seed imagery. The Holmul Dancer iconography is named for the ‘Holmul-style’ Cabrito Cream vessels that the iconography generally appears on and was first discovered at the site of Holmul in Guatemala, just west of the modern Belize-Guatemala border (Merwin and Vaillant 1932). The typical Holmul Dancer

vase shows a lordly figure in full regalia presiding over a dwarf (Figure 4.9.). Another prevalent iconographic feature of the Cabrito Cream type vessel is the cormorant which generally appears with the cormorant beneath a water sign, which likely suggests that the Maya saw this bird as a symbol of existence in both the upperworld and the underworld (Figure 4.10., Christophe Helmke, personal communication 2017). Some of the Cabrito Cream vessels with more black pigments than the others show germinating seed iconography, which is expressed by a *mijin*, or ‘son-of-the-father’, symbol that is sprouting (Figure 4.11., Christophe Helmke, personal communication 2017). Reents-Budet (1994) advances that the Cabrito Cream vessels with very fine lines and detail are likely coming from either Holmul or Naranjo in Guatemala, but many of the less intricate Cabrito Cream vessels found in the Belize Valley are likely locally made



Figure 4.9. Cabrito Cream vase sherds with Holmul Dancer iconography. This style of Cabrito Cream vase is fairly common. The sherd on the bottom right is likely from Guatemala based on the detailed line work, and the sherds on the left and the top right are likely from Belize because of the less intricate line work (Davis 2018: Figure 3).



Figure 4.10. Cabrito Cream vase sherds with cormorant iconography. The cormorant on the right vessel is pictured with a water symbol above its head. This likely symbolizes the bird's ability to survive in both the upper and underworlds (Davis 2018: Figure 4).

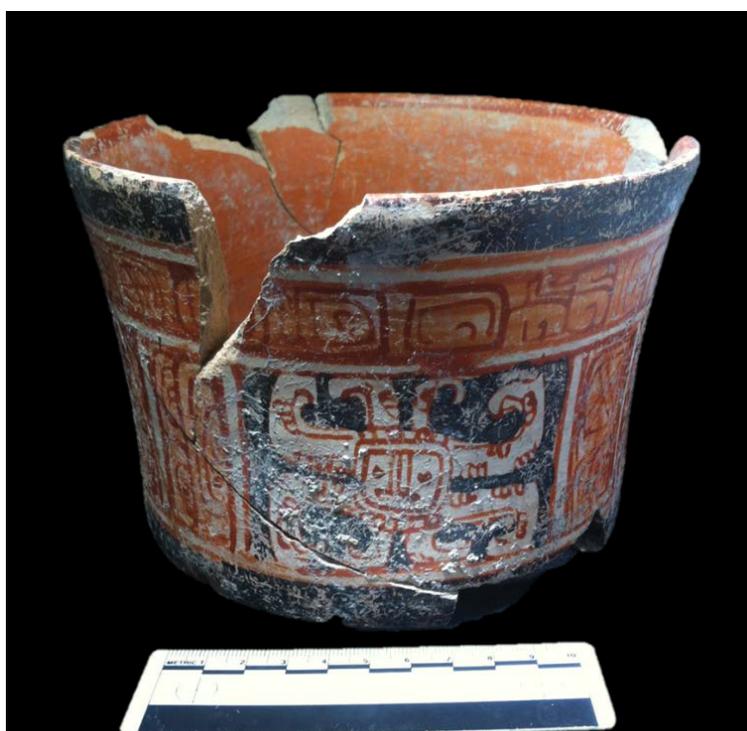


Figure 4.11. Cabrito Cream vase with *mijin* (i.e. son-of-the-father relationship) iconography. The piece in the middle that looks like a face with a hat is the *mijin* symbol, and from this 'seed' tendrils are sprouting (Davis 2018: Figure 6).



Figure 4.12. Well preserved Cabrito Cream vase with Maize god iconography. The image on the right likely represents a transformed figure on the left because of the modified cranium and the seeds that he is casting (Davis 2018: Figure 5).

imitations. I think the vessel that is too exceptional to type (Figure 4.8.), that likely belongs to the Cabrito Cream group, may represent the Maya cosmology, with a quadripartite earthly realm in the center and a tripartite vertical axis. One other Cabrito Cream vessel that was recovered from the deposit in Unit B6-6 is of exceptional preservation. This vessel exhibits two panels that likely represent the Maize god in a state of transformation. One panel shows a seated figure with his palm raised outward, and the other panel shows what is likely the same figure with a modified cranium and he is now casting seeds (Figure 4.12.). Additionally, the post-slip addition of Maya blue pigment around the base and rim of the pot as well as the figure facing to the right rather than the more common left hints at the origin of the vessel. Reents-Budet (1994) and Reents-Budet et al. (2000) provide stylistic as well as Instrumental Neutron Activation Analysis (INAA) data from Buenavista del Cayo that suggests that the addition of Maya blue pigments on Cabrito Cream vases seems to be an indication of production in the Belize Valley.

Lithic Analysis Results

To date, the analyses of two depositional contexts are complete, B6-6 and B7-102 (Table 4.5.). Lithic data show the primary type of lithic between contexts differ, with deposit B6-6 containing 36.20% shatter, and deposit B7-102 containing 26.12% tertiary flakes. For deposit B6-6, tertiary, secondary, and primary flakes are the next most prevalent lithic types after shatter, with 21.31%, 18.10%, and 9.20% of the lithic assemblage respectively. For B7-102, the next most prevalent lithic types in the assemblage are shatter with 23.88%, secondary flakes with 19.4%, and primary flakes with 12.69% of the lithic assemblage.

Bifaces are much less common in these contexts, but, notably, deposit B6-6 contains two whole bifaces, a projectile point and a chisel, and five broken, possibly terminated, projectile points, compared to deposit B7-102 which contains only one whole projectile point. According to BVAR's lithic specialist, these bifaces are characteristic of the Late Classic period (James Stemp, personal communication 2017). Chert blades are also not prevalent in these contexts with deposit B7-102 containing two blades and deposit B6-6 containing one.

Faunal Analysis Results

The analysis revealed that between 50-60% of all non-ceramic materials from all peri-abandonment contexts at Baking Pot were faunal remains. The majority of the remains belong to mammals, but there are also several other species (Table 4.6). According to Wisner et al. (2017) 40, or 2.39% of the faunal remains from deposit B6-6 are worked, including one ring, and several beads, needles, awls, and drilled teeth (Wisner et al. 2017). The conclusions reached during the analyses by Wisner et al. (2017) suggest the fauna found in the deposits are likely representative of a ritual activity as opposed to feasting or refuse. Additionally, Burke et al.

(2017) suggests the deposits at Baking Pot may represent a wet season ritual due to the relative abundance of water creatures such as jute, turtles, and fish.

Table 4.5. Lithic Totals from Deposits B6-6 and B7-102.

<i>Lithic Type</i>	<i>Deposit B6-6</i>	<i>Deposit B7-102</i>
Unknown	43	16
Biface	2	1
Biface Fragment	5	0
Primary Flake	63	17
Primary Flake Fragment	1	3
Secondary Flake	124	26
Secondary Flake Fragment	8	0
Tertiary Flake	146	35
Tertiary Flake Fragment	42	2
Shatter	248	32
Uniface	2	0
Blade	1	2

Table 4.6. Faunal Remains from Deposits. Modified from Burke et al. 2017: Tables 4,5,6, and 7.

<i>Deposit</i>	<i>Taxonomic Classification</i>	<i>NISP</i>	<i>Proportion of Faunal Remains in Deposit</i>
B6-6	<i>Rhambdia laticuada laticuada</i>	2	0.12%
	Small-medium Class: Actinopterygii	1	0.06%
	Order: Anura	16	0.95%
	Order: cf. Anura	1	0.06%
	Order: cf. Accipitriformes	1	0.06%
	Small Class: Aves	21	1.25%
	Small-medium Class: Aves	27	1.61%
	Medium Class: Aves	14	0.83%
	Order: Artiodactyla	11	0.66%
	<i>Odocoileus virginianus</i>	37	2.21%
	cf. <i>Odocoileus virginianus</i>	19	1.13%
	cf. <i>Mazama americana</i>	2	0.12%
	cf. <i>Tayassu pecari</i>	5	0.30%
	cf. Order: Artiodactyla	5	0.30%
	<i>Canis lupus familiaris</i>	7	0.42%
	<i>Dasypus novemcintus</i>	16	0.95%
	<i>Didelphis virginiana</i>	1	0.06%
	<i>Philander opossum</i>	1	0.06%
	cf. <i>Philander opossum</i>	1	0.06%
	Order: Felidae	1	0.06%
	cf. <i>Leopardus pardalis</i>	1	0.06%
	Order: Rodentia	10	0.60%
	<i>Sciurus</i> sp.	1	0.06%
	cf. <i>Agouti paca</i>	1	0.06%
	cf. <i>Liomys salvini</i>	2	0.12%
	cf. Primate	1	0.06%
	Small Class: Mammalia	51	3.04%
	Small-Medium Class: Mammalia	244	14.55%
	Medium Class: Mammalia	443	26.42%
	Medium-Large Class Mammalia	382	22.78%
	Large Class: Mammalia	187	11.15%
	Small Superclass: Osteichthyes	4	0.24%
	Order: Crocodylia	1	0.06%
	cf. <i>Crocodylus moreletii</i>	1	0.06%
	Order: cf. Crocodylia	2	0.12%
	Order: Squamata	21	1.25%
	Order: cf. Squamata	13	0.78%
	Order: Testudines	88	5.25%
	cf. <i>Claudius Angustatus</i>	1	0.06%
	Order: cf. Testudines	1	0.06%
	Small Class: Reptilia	1	0.06%
	Small-Medium Class: Reptilia	1	0.06%

	Medium Class: Reptilia	9	0.54%
	Phylum: Chordata	20	1.19%
	Order: Decapoda	1	0.06%
	Phylum: Mollusca	1	0.06%
B7-100	Order: Anura	1	3.7%
	Small Class: Aves	6	22.22%
	Order: Artiodactyla	1	3.7%
	cf. <i>Leopardus pardalis</i>	1	3.7%
	Small Class: Mammalia	1	3.7%
	Small-Medium Class: Mammalia	1	3.7%
	Medium Class: Mammalia	10	37.04%
	Order: Testudines	4	14.81%
	Medium Class: Reptilia	1	3.7%
	Order: Decapoda	1	3.7%
B7-102	Small-Medium Class: Actinopterygii	1	0.43%
	Order cf. Accipitriformes	1	0.43%
	Small Class: Aves	39	16.6%
	Small-Medium Class: Aves	22	9.36%
	Medium Class: Aves	2	0.85%
	cf. <i>Odocoileus virginianus</i>	2	0.85%
	Small Class: Mammalia	16	6.81%
	Small-Medium Class: Mammalia	44	18.72%
	Medium Class: Mammalia	40	17.02%
	Medium-Large Class: Mammalia	30	12.77%
	Large Class: Mammalia	12	5.11%
	Order: Testudines	24	10.21%
	Medium Class: Reptilia	1	0.43%
	Phylum: Chordata	1	0.43%
B2-2	<i>Odocoileus virginianus</i>	1	1.28%
	<i>Agouti paca</i>	22	28.21%
	Small-Medium Class: Mammalia	29	37.18%
	Medium Class: Mammalia	5	6.41%
	Medium-Large Class: Mammalia	7	8.97%
	Large Class: Mammalia	4	5.13%
	<i>Meleagris</i> sp.	1	1.28%
	Medium Class: Aves	1	1.28%
	Order: Testudines	8	10.26%
B17-1	Indeterminate Class: Mammalia	4	44.44%
	<i>Odocoileus virginianus</i>	1	11.11%
	Indeterminate Class: Aves	2	22.22%
	Order Testudines	1	11.11%
	cf. Order Testudines	1	11.11%

Framing the Artifact Analysis Chronologically

Although the results of the radiocarbon study are forthcoming (Hoggarth et al. n.d.), some of the initial results are presented here to frame the results of the artifact analysis. Dating samples from within each deposit and from the skeletal remains identified in the deposit in the northwest and southwest corners of Plaza B, demonstrate the final activities in Plaza B and courtyard 4 occurred in the Late to Terminal Classic periods. Burials have statistically identical dates as the initial layers in the B7 and B2 deposits, which do not point to any disturbance by later populations (Hoggarth et al. n.d.). Furthermore, strontium results suggest that those individuals are of local (Hoggarth et al. n.d.). Radiocarbon dates from two deposits (B7 and Courtyard 4) show evidence for two distinct depositional events, the earlier event in the mid to latter half of the eighth century and the second event in the mid to latter half of the ninth century. Hieroglyphic information from both deposits, including the long count calendar date from the Komkom Vase, aligns well with these chronological models. Future radiocarbon studies will focus on dating the final plaza construction phase to constrain the earlier portion of the deposit radiocarbon distributions.

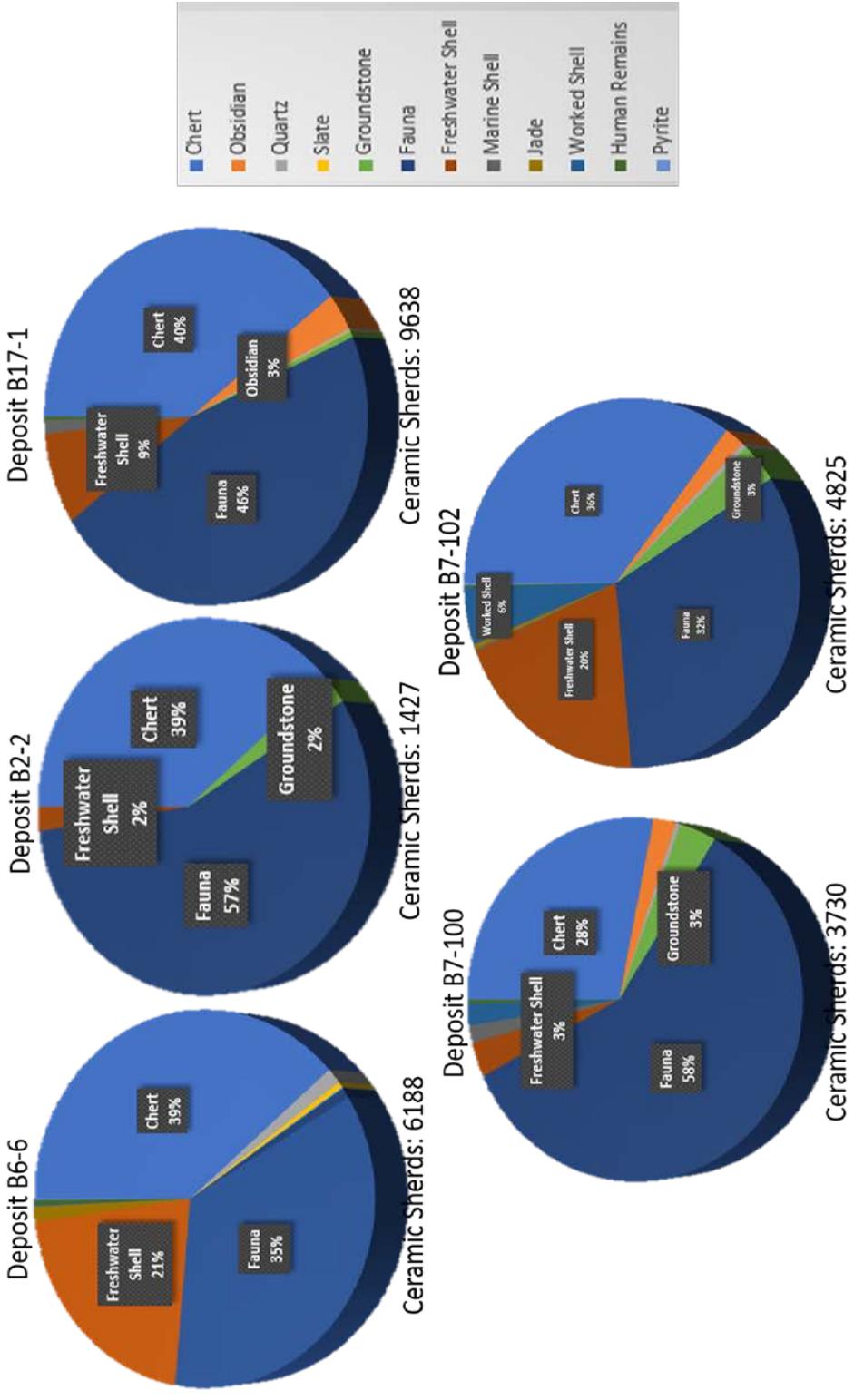


Figure 4.13. The proportional distribution of artifacts from peri-abandonment deposits at Baking Pot.

Chapter 5: Discussion

The peri-abandonment deposits at Baking Pot all show strong characteristics of Terminal Classic activity. This is evidenced by the relative chronology of prevalent Late Facet Spanish Lookout ceramics (Gifford 1976), epigraphic data from the Komkom Vase (Helmke et al. 2017), radiocarbon dates (Hoggarth et al. n.d.), and to a small extent the projectile point tradition evidenced by the few examples found in the deposits. It is clear that both Plaza B and Courtyard 4 fell into disuse prior to the depositional events that are being evaluated in this study based on the formation of sediment between the deposits and the terminal plaza floor. This chapter situates the findings of this study into the existing literature by examining the previously posited hypotheses for peri-abandonment deposits and explores how the data from Baking Pot compare with those hypotheses.

Previous Hypotheses

Feasting. If the peri-abandonment deposits are associated with feasting activities it would be expected to find large, decorated serving vessels in size and number, an unusual number of jars for both storage and preparation, evidence for special feasting vessels such as cacao vases, and prestige items associated with entertainment and accompanying rituals (Hayden 2001). Also, faunal remains with evidence for butchery would be present. Additionally, archaeologists would expect to find evidence for feasting in special locations and associated bone dumps and middens. What is not present in any of the five deposits at Baking Pot are butchered faunal remains. While it is true most of the deposits do contain a large proportion of bowls, dishes, and plates, the primary vessel form in all of the deposits is the jar. LeCount (1996) argues a combination of

vases and jars may have been used to froth chocolate beverages at feasts by repeatedly transferring the liquid between vessels (see also Coe 1994).

The majority of the jars found in the peri-abandonment deposits at Baking Pot are large mouth Cayo Unslipped vessels. Ethnographically, similar types of large mouth jars are typically used for the storage of a variety of substances such as water and maize (Thompson 1958). More recent ethnographic research also shows the Maya utilizing large plastic buckets where jars were once likely used. Interestingly, many of the ritualistic food offerings left today in Cha Chak and Dia de los Muertos rituals are not actually consumed by humans but are intended as offerings for the gods and ancestors (Christenson 2010). It is possible food stuffs such as cacao, maize, beans, or water may have been present in the storage jars, but it does not necessarily mean they were meant for human feasting. Another possible explanation for the large proportion of jars may be found in modern belief systems. Tarn and Prechtel (1986:176) report the Maya near Lake Atitlan believe the moon is a deity that holds rainwater and is seen as a large jar, which when tipped, forming a crescent moon, is understood as the moon 'jar' pouring water on the earth (see also Moyes et al. 2009).

An examination of jar usage in other ritual contexts may help shed light on the utilization of jars in peri-abandonment deposition contexts. For instance, jars make up the largest percentage of vessels found in caves (Moyes 2001, 2006), sites primarily considered sacred places where the ancient and modern Maya conduct fertility rituals. In Western Belize caves, most jars are the same vessel type, Cayo Unslipped, as those found in peri-abandonment deposits at Baking Pot. Additionally, these vessels within caves, are found smashed or with killholes, again, similar to those found in deposits. In fact, the smashing itself may be a large part of the ritual, as Moyes et al (2009) argue the smashing of jars and other ceramic vessels was meant to

release the spirit of the vessels. They further note that jars in caves likely contained offerings to gods who were being petitioned for rain and good harvest during a prolonged drought in the Terminal Classic period.

Finally, given the thin layer of matrix below the deposits many of the activities performed likely occurred after the site core was in disrepair. It seems unlikely that people would come back to an abandoned site core during an extended drought to feast. That coupled with the ethnographic data on vessel usage and jar/rain ideology, and a lack of butchered or faunal remains makes the feasting theory, regarding the deposits at Baking Pot, less likely (Table 5.1.).

Table 5.1. Feasting Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Rare or Labor-Intensive Plant or Animal Species</i>	x	x	x	x	x
<i>Articulated Joints and Unprocessed Bone</i>	x	x	x	x	
<i>Recreational Food Vessels</i>	x	x	x		x
<i>Unusual Number and Size of Bowls and Jars</i>	x	x	x	x	x
<i>Highly Decorated Serving Vessels</i>	x	x	x	x	x
<i>Presence of Food Disposal Features</i>					

<i>Presence of Feasting Facilities</i>					
<i>Special Location</i>	X	X	X	X	X
<i>Prestige Items for Entertainment</i>	X	X	X	X	X
<i>Associated Ritual Materials</i>	X	X	X	X	X

De Facto Refuse. The concept of *de facto* refuse has been proposed for Terminal Classic depositional contexts as a catch-all for rapid abandonment, primarily attributed to warfare (Chase and Chase 2004; Inomata et al. 2002). Another scenario associated with the concept of *de facto* refuse is the gradual decline of trash removal from structures when the eventual abandonment of a site is known by the inhabitants (Schiffer 1987). Depending on the type of abandonment scenario, researchers may find different types of archaeological correlates for *de facto* refuse. For example, if rapid abandonment occurred at Baking Pot, and is the reason for the deposits, then it would be expected to find vessels in place, manos adjacent to whole metates, evidence for cooking such as fire hearths, and a scene that would show everything in a state of use. In the event of gradual abandonment, smaller items that are easier to carry, especially such things as jewelry, obsidian blades, and spindle whorls would likely not be present.

In some cases, the *de facto* refuse theory may be valid, such as the case at Caracol where some intact pots were identified on the terminal floor, and epigraphic evidence supports the notion that Caracol was at war during the Terminal Classic period (Chase and Chase 2004). As previously stated, this scenario would likely appear in the archaeological record as a glimpse

inside of everyday life. That being said, there is a great deal of evidence, archaeological, ethnohistoric, and ethnographic, demonstrating the Maya as a very tidy people (Beaudry-Corbett et al. 2002, Deal 1985, Tozzer 1941).

One incredibly well preserved archaeological example of the cleanliness of the Maya comes from the site of Cerén in El Salvador, a sort of Mesoamerican Pompeii (Beaudry-Corbett et al. 2002). Due to a volcanic eruption, the inhabitants were forced to rapidly abandon the site, and this gives researchers a glimpse into the daily activity of the people of Cerén. Beaudry-Corbett et al. (2002) report that the plazas and courtyards at Cerén are relatively free from artifacts, which supports the notion that the Maya often maintained cleaned and cleared ceremonial and public spaces.

Ethnohistorically, researchers need look no further than Bishop de Landa's account of the Maya of the 16th century. In his relation of the Yucatán, de Landa describes regular household cleaning and purification rituals he observed (Tozzer 1941). Further ethnohistoric evidence of the beliefs associated with the cleanliness observed by the Maya can be found in the Popol Vuh, in which the lords Demon of Filth and Demon of Woe, gods of Xibalba, kill people who do not sweep debris from their doorway (Tedlock 1996:92). Modern ethnographic evidence also supports the excellent hygiene of the Maya. Deal (1985:260) notes the Tzeltal Maya of Chiapas in Highlands Mexico swept their village patios every 2-3 days. With the prevailing evidence in support of the Maya keeping their sites clean, if rapid abandonment did occur, there should not be large amounts of midden-like deposits in the site core. There are some potential exceptions, however, such as squatters reusing or moving objects or invading parties smashing and moving things.

In the case of Baking Pot, it is imperative to recognize the sediment buildup between the deposits and the terminal plaza floor. The discovery of collapsed architecture, such as plaster and daub from building walls, beneath the deposits in the site core suggest that buildings had already fallen into disrepair and abandonment prior to the deposition of these cultural remains. The concept of rapid abandonment as an answer for the peri-abandonment deposits, therefore, is not supported in this case. It is also important to note that the intentional burials were carefully placed. This evidence also refutes the idea of rapid abandonment purely based on the time required to bury an individual.

Schiffer (1987) notes that in cases when inhabitants know they will be abandoning the site, a breakdown in refuse control occurs. A gradual decline in population could be brought on by any number of things such as lack of food, water, and farmable land, or even a loss of faith in the leadership. Regardless of why the gradual decline occurs, the archaeological record often exhibits traits that inform upon the nature of the decline. For instance, if the deposits at Baking Pot represent uncontrolled trash middens due to a gradual decline and eventual permanent abandonment of the site's ceremonial center, archaeologists would expect to find mostly broken high status goods such as decorated pottery and food refuse. Since much of the artifact assemblage in these deposits is composed of utilitarian pottery, and a markedly high number of high status polychrome vessels are present, it is reasonable to suggest the materials are not the result of abandonment. Also, while some broken tools are present in the deposits, such as broken projectile points and metates, there are also objects such as jade pendants, spindle whorls, and bone needles or awls that are not. Additionally, there are many faunal remains present in the assemblage, yet no evidence these animals were used for food purposes.

Table 5.2. *De Facto* Refuse Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>De Facto Refuse</i>	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Artifacts Left in Context of Use</i>					
<i>Many Objects in Expected Clean Areas</i>	x	x	x	x	x
<i>Mostly Refittable Ceramic Vessels</i>					
<i>Elite Debris</i>					

The evidence provided above suggests these deposits are not *de facto* refuse (Table 5.2.), and in most cases is not supported by ethnohistoric or ethnographic accounts either. There may be exceptions, such as on floor deposits at the sites of Caracol and Cerén, but these cases also are exceptions rather than the rule, and in the case of Cerén, the result of rapid abandonment due to volcanic eruption. The intentional burials also discount the notion of rapid abandonment, but not necessarily gradual abandonment. The sediment buildup between the deposits, which include the burials, and the terminal floor, however, suggests the site core had already been abandoned for some time prior to the depositional events.

Squatter Refuse. To summarize what archaeologists would expect to find in the case of squatter trash first requires a definition of squatting. How long does one have to occupy a place before they are no longer considered a squatter but an inhabitant? In general, if a squatter were to

occupy Baking Pot's Plaza B there would be evidence for the reuse of earlier scavenged vessels, butchered and burned faunal remains along with evidence for cooking fires, and potentially evidence for temporary structures such as postholes and contextually contemporary daub. O'Mansky and Dunning (2004:94) provide evidence for middens with a high concentration of ceramic materials associated with "squatter villages" in the Petexbatun during the Terminal Classic period, and, significantly, show that a dense cluster of thatched roof huts were built along a low platform in the ceremonial center of Dos Pilas between AD 760 and 830. Halperin (2014:322) proposes that "monumental ruins were understood as part of a dynamic metaphor of animate mountains...although [this] provides a single, broad interpretation of how ruins may have been perceived over the *longue durée* of the Pre-Columbian past, ruins also had multiple, local and shifting meanings...as they were reinterpreted by different generations." Since the scope of this project primarily deals with the site core, it is important to note that at various times during the Terminal Classic period, the abandoned ceremonial center could have been in the 'backyard' of migrant farmers.

With the available evidence of abandonment, based on the accumulation of sediment, the concept of squatters or new short-term inhabitants could be a possible explanation for the deposits at Baking Pot. Archaeological correlates that would be expected for squatter activity could split into different durations. For short term reoccupation, the presence of small amounts of older pottery scavenged from nearby structures or non-local pottery brought in by migrants would be apparent, unless the squatters are local. The likelihood of trash middens in plazas where squatters were seeking shelter would be higher than for a longer occupational duration. Evidence for food processing and remains would be present in the trash middens. For a longer duration of site reoccupation, archaeologists would likely find larger deposits with more artifacts

which logically would indicate a longer stay at the site. The location of these middens, however, would likely be out of the way, and not in an enclosed plaza. Evidence for structures would be more apparent as well.

At Baking Pot, there is no evidence for reoccupation of the site core after its abandonment in the Terminal Classic period. The vast majority of the cultural remains are of local origin, and Strontium Isotope Analysis performed on several of the burials from the deposits indicate the local origin of those interred (Hoggarth et al. n.d.). The deposits conform to Awe (2012) and Awe et al.'s (2017) proposed pattern of peri-abandonment deposits, and the artifact assemblages do not conform to the expected correlates of trash middens. The data from Baking Pot, therefore, do not support the hypothesis of squatter refuse as the cause of the peri-abandonment deposits (Table 5.3.).

Table 5.3. Squatter Trash Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>Squatter Trash</i>	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Evidence for Abandonment</i>	x	x	x	x	x
<i>Post-Abandonment Structures</i>					
<i>Abundance of Domestic Materials</i>					

Primary and Transposed Middens. Deposits at Baking Pot are unlikely to be primary or transposed middens due to the ease of refitting pottery, burials, and unbroken high-status goods (Table 5.4.). Since the deposits at Baking Pot are of a mixed nature, one can explore the possibility of a transposed midden. A transposed midden could serve one of two purposes. One such purpose would be the removal of a primary midden for reasons such as cleaning, space maintenance, or the need to use the area where the primary midden rests. Depending on the use-life of the midden it would be possible to find artifacts and charcoal from different time periods mixed together. An additional purpose for the transposition of a midden could be for ritual purposes. Archaeologists have argued, based on the location of these transposed deposits, that some form of ritual is taking place (Clayton et al. 2005; Garber et al. 1998).

At the site of Blue Creek, a “problematic deposit” was discovered in the doorway of a shrine, and after researchers conducted ceramic analyses they discovered that the pottery spanned temporally from the Preclassic to the Terminal Classic periods and that they were all

Table 5.4. Primary and Transposed Midden Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>Abundance of Domestic Materials</i>					
<i>Large Number of Artifacts</i>	x	x	x	x	x
<i>Weathering Present on Pottery</i>					
<i>Mostly Non-Reconstructable Pottery</i>					

comingled together (Clayton et al. 2005). The deposit found at Blue Creek, however, only contained a few lithic artifacts, and the remainder of the deposit was all ceramic materials. The researchers concluded that the deposit likely represents feasting activities from an undiscovered primary deposit. What purpose could moving broken pots from hundreds of years ago possibly serve? Clayton et al. (2005) cautions researchers when making ritualistic interpretations due to the gap in knowledge about specific rituals.

The pottery in the deposits at Baking Pot primarily date to the Spanish Lookout phase, roughly AD 680-880, with just a few pots dating to the Tiger Run phase, roughly AD 580-680 (Gifford 1976:46). Radiocarbon dates from deposits suggest some of the deposits were single depositional events, whereas other deposits in Baking Pot's site core show evidence for multiple depositional events that occurred around 100 years apart (Hoggarth et al. n.d.). Moreover, the deposits at Baking Pot contain many other artifacts besides ceramic materials including elite items such as jade and pyrite as well as tools and personal adornments made from faunal remains. The data from Baking Pot do not support the hypothesis that these deposits represent either primary or transposed middens.

Termination Rituals. Researchers frequently turn to the idea of termination rituals when these deposits are discovered. There is plenty of evidence spanning from the Preclassic to the Terminal Classic periods to support the concept that the Maya terminated structures before either abandoning them or building over them (Garber et al. 1998; Stanton et al. 2008). These termination rituals usually take the form of caching along the axes of the structure and occasional burning events. The concept of termination is not all that different from the idea of a killhole in a pot. By releasing the spirit of the vessels in a cache, or even more pronounced, by burning a

structure, the spirit would be released. This concept has frequently been associated with ancestor veneration, dedication, and rededication ceremonies that are part of life rejuvenation rituals (Friedel et al. 1998; Garber 1983; Lamoureau-St.-Hilaire et al. 2015; Mock 1998b).

There is also a debate about the nature of termination rituals, some researchers believe that they represent reverential termination (Mock 1998a, Garber et al. 1998; Piehl 2005), others believe they represent desecratory termination (Inomata 2003; Stanton et al. 2008), and still others recognize the difficulty in distinguishing between the two (Ambrosino 2007; Duncan 2005; Navarro-Farr 2009; Mock 1998a; Pagliaro et al. 2003). The difficulty in distinguishing one or the other stems from the similarities exhibited by both types of related rituals. To reiterate, the archaeological correlates researchers can expect when examining termination rituals, would be the presence of high status goods such as polychrome pots smashed and scattered, jade, stingray spines and obsidian bloodletters, and possibly ornamental items made from faunal remains.

Given the sediment buildup beneath the deposits, however, casts doubt on this hypothesis. One way of explaining the latter situation is if post-abandonment populations returned to the site to terminate the structures or the site itself. If so, the pattern of axial caching is not present, so this would indicate a change in termination behavior. Additionally, researchers must ask the question why it is that the deposits are found in front of some structures. In other words, why are only some structures chosen for termination and not others? When we look at the distribution of peri-abandonment deposits at Baking Pot, it is apparent the deposits are predominantly associated with residential architecture (Tables 5.5. and 5.6.). The same is true at Cahal Pech and at Xunantunich (Jaime Awe, personal communication 2018).

Table 5.5. Reverential Termination Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>Reverential</i>	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Smashed and Scattered Artifacts</i>	x	x	x	x	x
<i>Large Number of Artifacts</i>	x	x	x	x	x
<i>Many Refittable Ceramic Vessels</i>	x	x	x		
<i>Killholes Present with Ceramic Vessels</i>	x	x	x	x	x
<i>Important Location</i>	x	x	x	x	x
<i>Ritual Artifacts</i>	x	x	x	x	x
<i>Burials</i>	x	x	x	x	
<i>Abundance of High-Status Materials</i>	x	x	x	x	x
<i>Concentrated Burning</i>					x

Table 5.6. Desecratory Termination Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>Desecratory</i>	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Extensive Structural Damage</i>					
<i>Intensive Burning</i>					
<i>Cut Floors</i>					
<i>Looted Burials</i>					
<i>Evidence of Violence</i>					
<i>Scattering of Artifacts</i>	x	x	x	x	x
<i>Refittable Vessels</i>	x	x	x	x	x
<i>High-Status Objects</i>	x	x	x	x	x

Peri-Abandonment Rituals. Microstratigraphic excavations of the peri-abandonment deposits at Baking Pot exhibit evidence for the end of cleaning and maintenance of the ceremonial center sometime during the Terminal Classic period. Between the terminal floor of the plaza and the start of the deposits, we recorded a thin layer of matrix, usually about 3-5 centimeters thick, containing fine powdery limestone and architectural rubble. This stratigraphy indicates the buildings behind the deposits were already falling apart, and that the site core was

in a state of disrepair and disuse prior to the events creating the peri-abandonment deposits. What would drive a people to revisit an abandoned site? Since the hypothesis of temporary reoccupation (i.e. squatting), has already been examined, and does not seem to be likely at Baking Pot, there is the possibility the events are ritualistic in nature. Noting a gap in archaeological knowledge of Maya rituals, Clayton et al. (2005) advise caution when attributing artifact assemblages to ritual behavior, so the following peri-abandonment ritual hypotheses, which may be both possible and probable, may also be incorrect. Several possible hypotheses for peri-abandonment rituals may be pilgrimage, ancestor veneration, petitioning the gods, or a combination of the three.

It has been commonly noted that ceremonial site cores were human made sacred mountains from which the Kings ruled over their subjects (Palka 2005:226; Vogt 1981). The Maya are also known to visit these sacred landscapes for pilgrimages and ritual purposes (Palka 2005:226). Several reasons for pilgrimage could be for spiritual renewal, which is common today in many religions, for ancestor veneration, which would be like leaving flowers on a grave, and even to petition the gods directly or through deceased persons buried at the site (Palka 2014:46). There is evidence, ethnohistorical, ethnographic, and archaeological, supporting the concept of Maya pilgrimage. For example, ethnohistoric evidence from the Tzeltal Maya Revolt of 1712 indicates that one leading cause of the revolt was the forceful cessation and destruction of holy Maya pilgrimage sites by Spanish rulers (Gosner 1992; Palka 2014).

Much ethnographic literature from the twentieth century provides a lot of evidence for the Lacandon Maya going to ruins to leave offerings of pottery, incense burners, offerings of food and to conduct ceremonies largely to petition the gods for resource wealth (Boremanse 1998; Palka 2014; Petryshyn 1968). Notably, on many of the pilgrimage visits by the Lacandon,

pieces of the ruins were taken back with the pilgrim as a holy relic of sorts (Boremanse 1999). This concept of leaving and taking, which is associated with pilgrimage sites may extend into the ancient past as well. When vessel reconstruction was attempted on the polychrome pottery from the peri-abandonment deposits at Baking Pot, no single vessel was 100% restored, in fact, even the most reconstructed vessel was missing a rim sherd about the size of a fist, possibly indicating the sherd was taken as a holy relic in antiquity. A similar pattern has been noted in sacred cave contexts by Awe (personal communication 2018).

Further ethnographic evidence conducted by Blom and La Farge (1926) shows the Tzeltal Maya visiting ruins on mountaintops near the site of Toniná during festivals and leaving ceramic vessels and other perishable items. The leaving of pottery at Maya ruins by pilgrims is perhaps the most common offering exhibited in the ethnographic literature. Again, Blom and La Farge (1926) demonstrate the leaving of pottery and burning of incense by the Itza Maya at the site of Tikal to ask their ancestors for prosperity.

Much of the archaeological evidence for Maya pilgrimage comes from the Postclassic and Historic periods, however, this does not necessarily mean that pilgrimage was not occurring in the Terminal Classic period or earlier. Again, the most common type of offering in these instances is pottery, frequently incense burners. An additional archaeological marker for the concept of pilgrimage would be the appearance of non-local ceramics in peri-abandonment deposit contexts (Bauer and Stanish 2001). A prominent example of Postclassic ceramic offerings comes from the site of El Mirador, which had been abandoned for centuries prior to the pilgrimages. Hansen et al. (2008) notes during the Late Postclassic the nearest occupied sites were several days journey from El Mirador, yet the pilgrims trudged through the swampy terrain with ceramic vessels and likely other perishable offerings to visit the long-abandoned site.

Similar evidence has been shown for Tikal (Culbert 1974; Rice and Rice 2009), Toniná (Becquelin and Baudez 1979), Piedras Negras (Butler 2005), and Yaxchilan (Lopez-Varela 1989).

Ancestor veneration rituals could be another peri-abandonment alternative for the deposits at Baking Pot. During and after the extended Terminal Classic drought that is likely the cause for the abandonment of most sites in the Belize Valley, it would be possible for the descendants and older generation to make their way back to Baking Pot to visit the place of their ancestors. It is also possible peri-abandonment burials at the site are associated with the deposits may have belonged to people born at Baking Pot who wished to be buried with their ancestors. Strontium Isotope Analysis indicate that all the burials dating to this period are those of local Belize Valley individuals. Radiocarbon data from deposits largely overlap with the final elite burials in Group B at Baking Pot, although evidence suggests populations were still located at Baking Pot into the tenth century (Hoggarth et al. n.d.) (Table 5.7.).

Table 5.7. Peri-Abandonment Ritual Correlates vs. Baking Pot Deposits. The “x” means this correlate is present at Baking Pot.

<i>Peri-Abandonment</i>	B6-6	B7-100	B7-102	B2-2	B17-1
<i>Soil Between Deposit and Terminal Floor</i>	x	x	x	x	x
<i>Ritual Artifacts Present</i>	x	x	x	x	x

<i>Burials Present</i>	X	X	X	X	X
<i>Important Location</i>	X	X	X	X	X

Conclusion

After breaking down each of the hypotheses that have been forwarded for peri-abandonment deposition and seeing how they align with artifactual data from Baking Pot several conclusions may be drawn. The hypothesis of feasting is not likely what the deposits at Baking Pot represent based on a lack of butchered and burned fauna, yet there is a large amount serving vessels and ritual paraphernalia present. It is also possible that a portion of a ritual involved some small aspects of feasting. *De facto* refuse is not likely due to a total lack of 100% refittable ceramic vessels and the location of refittable sherds indicate a purposeful scattering of broken artifacts. Furthermore, there is clear evidence that the site core had been abandoned prior to the depositional events. Middens, both primary and transposed, are not likely also based on the prior abandonment, and the location of the deposits does not make sense for primary middens. The idea of squatter refuse seems more likely than the above hypotheses, yet, this possibility is still deficient based on a lack of butchered or burned food remains and a high concentration of elite status pottery. Termination rituals are primarily incorporated within a rejuvenation of the life cycle of a new structure being built over an old one, yet the possibility that peri-abandonment populations were reverentially terminating the site is a valid hypothesis; however, the likelihood of the site being terminated on multiple occasions makes this hypothesis less probable. It must be noted that the burning event associated with deposit B17-1 could be indicative of a reverential

termination ritual. The hypothesis that seems most likely in the case of the deposits in Plaza B is peri-abandonment rituals that likely involve ancestor veneration, petitioning the gods, and possibly some aspects of pilgrimage.

Chapter 6: Conclusions

This study examines peri-abandonment deposits from the site of Baking Pot, Belize. Many researchers previously hypothesized these deposits represented cultural remains associated with *de facto* refuse, feasting activities, squatter trash, termination rituals, transposed middens, or peri-abandonment rituals. This study sought to analyze the artifactual assemblages from the deposits at Baking Pot in an effort to test the validity of these various hypotheses.

By examining the data through my theoretical framework, I was able to record the abandonment processes that introduced Baking Pot into the archaeological record. By exploring the depositional processes, I was able to more thoroughly address each of the hypotheses that have been asserted for peri-abandonment deposition events. Using a behavioral perspective to analyze the data, it becomes apparent that Schiffer's (1987) concept of linkages and the *chaîne-opératoire* inform on the nature of the abandonment at Baking Pot, in the Belize Valley, and likely in the Maya lowlands. It is clear that during the Terminal Classic period, the Baking Pot site core was abandoned, yet peri-abandonment populations were likely returning to the sacred sites to petition the gods and venerate their ancestors for assistance during a time of crisis. This change in behavior may have been linked to environmental changes, yet the underlying cosmology and cultural traits of the Maya established by the *longue durée* of their history helped them to cope with the loss of their Classic period lifestyle and heavily influenced their behavior during such trying times.

To come full circle, it is important to reiterate my research questions:

1. What do the broad patterns of activity at Baking Pot tell us about the behavior of the Terminal Classic Maya during a period of site abandonment and societal collapse?
2. How do the artifact assemblages and contexts of each deposit at Baking Pot compare with archaeological expectations for hypotheses presented for peri-abandonment deposits?
3. What was the nature of change in occupational activity and ceremonial/political use of space in the site core of Baking Pot at the end of the Classic period? How do these activities compare within societal changes identified within the Belize Valley and beyond?

To respond to question 1, it is important to recognize that at some point during the Terminal Classic period the Maya began to abandon the site core at Baking Pot. Not too long after this abandonment, people, possibly residents in the area, returned to the site core as evidenced by the buildup of sediments above the terminal plaza floor mixed with collapsed architecture. These visits may have been associated with pilgrimages, or for the purpose of performing rituals to venerate ancestors and petition gods.

In response to question 2, the context of all of the peri-abandonment deposits at Baking Pot are the clue to unraveling these phenomena. All of them are clearly located in the corners of plazas and courtyards and appear to have been deposited sometime after the buildings in Group B had started to fall apart. With the exception of the deposit found in Unit B17-1, all of the deposits were found in a public plaza, with B17-1 being slightly more secluded in a smaller courtyard. It is likely that if excavations continue into other corners of plazas and courtyards at Baking Pot additional deposits will be discovered. Of the hypotheses that that are currently

circulating in the literature the most likely hypothesis that describes the deposits at Baking Pot is peri-abandonment ritual, primarily dealing with sympathetic magic. The ecological strain placed on the Maya and the symbolic meanings of the artifactual assemblages help to strengthen this conclusion. The jars, spindle whorls, and chert, along with additional pottery and faunal remains are reminiscent of offerings in ethnohistorically and ethnographically recorded rituals designed to petition the gods for prosperity and protection. This is particularly true among the Lacandon who continue to visit sacred caves and archaeological sites for these purposes.

Finally, to answer question 3, it seems that some population may have persisted at Baking Pot a bit longer than at some sites in the Belize Valley. Cahal Pech, for example, appears to have been abandoned slightly before Baking Pot, while Xunantunich remained occupied a little longer. Epigraphic evidence from the Komkom vase also indicates that the peri-abandonment deposition events in the Baking Pot site core happened after AD 812.

Future Research and Conclusion

As previously stated, it is likely more deposits are waiting to be found at Baking Pot. The northwestern corner of Plaza B, the stairway of structure B5, and various other courtyard corners in Group B should be excavated. In Group A, Aimers previously located one deposit, but it remains whether this part of the site core has peri-abandonment deposits. An intensive multi-year excavation plan to locate more deposits in Group A is, therefore, worth consideration. It is probable that Group A may contain more peri-abandonment deposition assemblages based on its location near the river. If a severe drought was occurring, it seems likely that petitions for rain would be closer to a dried-up water source. Several of the exceptional vessels should be subject

to INAA analysis to trace either trade patterns or to determine whether some of this fine pottery was locally produced.

Viewing these deposits through the lens of the *longue durée* provides a new perspective that archaeologists can use to enhance both their synchronic and diachronic analyses of the peri-abandonment deposits, the Terminal Classic period, and the cosmology of the Maya. The value of this theoretical lens is evidenced by its utility to merge the structure vs. agency debate. It is my hope that the *longue durée* be used by future researchers to analyze all aspects of ancient Maya life, and through this perspective more conclusive and intertwined results may be established to provide a bigger picture of cultural change and ideological manifestations in artifact assemblages through time.

Much has been written about peri-abandonment deposition, and many hypotheses have been advanced for their possible meaning and purpose. This research at Baking Pot, when compared to the data gathered from other similar deposits at other sites in the lowlands, further impresses the need for applying microstratigraphic excavation and recording of these deposits, and for conducting multidisciplinary analyses of the cultural remains within them. For Baking Pot, it is obvious the depositional process occurred after some of the monumental buildings in Group B had begun to fall into disrepair, yet this is not the case with some other sites. While this research is a valuable addition to the knowledge base of the Terminal Classic period in the Belize Valley, it is also important to note each deposit, each site, each region must be evaluated on a case by case basis. The methods, theories, and analytical tools used along with the conclusions drawn from this study will hopefully be useful to future researchers, and perhaps provide an additional viewpoint to think about peri-abandonment deposition.

References Cited

Aimers, James J.

- 1997 Preliminary Investigations of Architecture in Group I at Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1996 Field Season*, edited by Jaime J. Awe, pp 21-46. Trent University, Department of Anthropology. Peterborough, Canada.
- 2003 Abandonment and Nonabandonment at Baking Pot, Belize. In Inomata, T., and Webb, R. W. (eds.), *The Archaeology of Settlement Abandonment in Middle America*, University of Utah Press, Salt Lake City, pp. 149–162.
- 2007 What Maya Collapse? Terminal Classic Variation in the Maya Lowlands. *Journal of Archaeological Research* 15(4):329-77.

Ambrosino, James N.

- 2007 Warfare and Destruction in the Maya Lowlands: Pattern and Process Archaeological Record of Yaxuna, Yucatan, Mexico. Unpublished Ph.D. dissertation, Department of Anthropology, Southern Methodist University, Dallas.

Ascher, Robert.

- 1968 Time's Arrow and the Archaeology of a Contemporary Community. In *Settlement Archaeology* edited by K.C. Chang, pp. 43-52. National Press Books, Palo Alto, California.

Ashmore, Wendy, Jason Yaeger, and Cynthia Robin

- 2004 Commoner Sense: Late and Terminal Classic Social Strategies in the Xunantunich Area. In *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by Arthur A. Demarest, Prudence M. Rice, and Don S. Rice, pp. 302–323. University Press of Colorado, Boulder.

Audet, Carolyn M.

- 2005 Excavations at Structures B and G, Plaza 2, Group 2, Baking Pot. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2004 Field Season*, edited by Christophe G. B. Helmke and Jaime J. Awe, pp 1-12. National Institute of Culture and History, Institute of Archaeology, Belmopan, Belize.
- 2006 Political Organization in the Belize Valley: Excavations at Baking Pot, Cahal Pech and Xunantunich. Unpublished PhD dissertation, Vanderbilt University, Nashville.

Awe, Jaime J.

- 1992 Dawn in the Land Between the Rivers: Formative Occupation at Cahal Pech, Belize and its Implications for Preclassic Development in the Central Maya Lowlands. Ph.D. Dissertation, Institute of Archaeology, University of London, England.
- 2012 The Last Hurrah: Terminal Classic Occupation at Cahal Pech. Paper presented at the *2nd Maya at the Lago conference*. Davidson Day School, Davidson.

- Awe, Jaime J. and Christophe Helmke
 2007 Fighting the Inevitable: The Terminal Classic Maya of the Upper Roaring Creek Valley. *Research Reports in Belizean Archaeology* 4: 28-42.
 2015 The Sword and the Olive Jar: Material Evidence of Seventeenth-Century Maya-European Interaction in Central Belize. In *Ethnohistory* Vol 62 (2), pp.333-360.
 n.d. Exotics for the Lords and Gods: Lowland Maya Consumption of European Goods along a Spanish Colonial Frontier. In *Material Encounters and Indigenous Transformations in the Americas*, Corinne Hofman and Floris Keehnen (Eds.), Brill Press, Leiden, Netherlands
- Awe, Jaime J., Julie Hoggarth, Christophe Helmke, James Aimers, J. Britt Davis, and Hannah Zanotto
 2017 Defining the Terminal Classic in the Belize River Valley. Paper presented at the *Maya at the Playa conference*. Palm Coast Florida
- Bauer, Brian S., and Charles Stanish
 2001 *Ritual and Pilgrimage in the Ancient Andes: The Islands of the Sun and Moon*. Austin: University of Texas Press.
- Beaudry-Corbett, Marilyn, Scott E. Simmons, and David B. Tucker
 2002 Ancient Home and Garden: The View from Household 1 at Cerén. In *Before the Volcano Erupted: The Ancient Cerén Village in Central America*, edited by Payson D. Sheets, pp. 45-57. University of Texas Press, Austin.
- Becquelin, Pierre, and Claude F. Baudez
 1979 Tonina, une cite maya du Chiapas (Mexique). *Estudes Mesoamericaines*, vol. 5, no. 1. Mexico City: Mission Archeologique et Etnologique Francaise au Mexique.
- Blom, Frans F., and Oliver La Farge
 1926 *Tribes and Temples: A Record of the Expedition to Middle America*. Middle American Research Institute Publication, 1. New Orleans, LA: Tulane University.
- Boremansé, Didier
 1998 Representaciones metaforicas de los antiguos Mayas en mitos y ritos religiosos lacandonés. *Journal de la Societe des Americanistes* 84(1):201-9.
 1999 Ritual de ofrenda de primicias en la religion maya lacandona. *Anales de la Academia de Geografia e Historia de Guatemala* 74:237-64.
- Braudel, Fernand.
 1972 [1949] *The Mediterranean and the Mediterranean World in the Age of Philip II*, vol. 1, trans. By Sian Reynolds. New York: Harper and Row.
- Braudel, Fernand and Immanuel Wallerstein.
 2009 [1958] *History and the Social Sciences: The Longue Durée*. Review (Fernand Braudel Center), Vol. 32, No. 2, *COMMEMORATING THE LONGUE DURÉE* (2009), pp. 171-203. Research Foundation of State University of New York.

- Brenner, Mark, Michael F. Rosenmeier, David A. Hodell, and Jason H. Curtis
2002 Paleolimnology of the Maya Lowlands: Long-Term Perspectives on Interactions Among Climate, Environment, and Humans. *Ancient Mesoamerica* 13:141-157.
- Brown, Linda A.
2001 Feasting on the Periphery: The Production of Ritual Feasting and Village Festivals at the Cerén Site, El Salvador. In *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics and Power*, edited by Michael Dietler and Brian Hayden, pp. 368- 390. The University of Alabama Press, Tuscaloosa, Alabama.
- Bullard, William R., and Mary R. Bullard
1965 Late Classic Finds at Baking Pot, British Honduras (Vol. 8). Royal Ontario Museum.
- Burke, Chrissina C., Katie K. Tappan, Gavin B. Wisner, Julie A. Hoggarth, J. Britt Davis, and \ Jaime J. Awe
2018 To Eat, Discard, or Venerate: Faunal Remains as Proxy for Human Behaviors in Lowland Maya Peri-Abandonment Deposits. Paper presented at *Society for American Archaeology*, 83rd Annual Meeting, Washington D.C.
- Burke, Chrissina C., Gavin B. Wisner, Katie K. Tappan, Dylan M. Wilson, and Norbert Stanchly
2017 Analysis of Faunal Remains from the Upper Belize River Valley Sites of Baking Pot, Cahal Pech, Lower Dover, and Xunantunich. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2016 Field Season*, edited by Claire E. Ebert, Chrissina C. Burke, Jaime J. Awe, and Julie A. Hoggarth, pp. 407-438. Institute of Archaeology, Baylor University, Waco; Department of Anthropology, Northern Arizona University, Flagstaff.
- Butler, Mary
2005 Pottery Vessels. In *Piedras Negras Archaeology, 1931-1939*. John M. Weeks, Jane A. Hill, and Charles Golden, eds. Pp. 90-120. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.
- Cameron, Catherine M.
1991 Structure Abandonment in Villages. In *Archaeological Method and Theory* Vol. III, edited by Michael B. Schiffer. University of Arizona Press, Tucson.
1993 Abandonment and archaeological interpretation. In *Abandonment of settlements and regions*. Edited by Catherine M. Cameron and Steve A. Tomka. Cambridge University Press, New York.
- Chase, Arlen F. and Diane Z. Chase
1994 Maya veneration of the dead at Caracol, Belize, in *Seventh Palenque Round Table, 1989*, eds. M. Greene Robertson & V. Fields. San Francisco (CA): The Pre-Columbian Art Research Institute, 55– 62.

- 2000 Inferences about Abandonment: Maya Household Archaeology and Caracol, Belize. *Mayab* 13: 67-77.
- 2004 Terminal Classic Status-linked Ceramics and the Maya “Collapse:” De Facto Refuse at Caracol, Belize. *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by Arthur A. Demarest and Don S. Rice, pp. 342-366. University Press of Colorado, Boulder.

Child, Mark B. and Charles W. Golden

- 2008 The Transformation of Abandoned Architecture at Piedras Negras. In *Ruins of the Past: The Use and Perception of Abandoned Structures in the Maya Lowlands*, edited by Travis W. Stanton and Aline Magnoni, pp.65-89. University Press of Colorado, Boulder.

Christenson, Allen J.

- 2010 Maize was their Flesh: Ritual Feasting in the Maya Highlands. In *Pre-Columbian Foodways: Interdisciplinary Approaches to Food, Culture, and Markets in Ancient Mesoamerica*. Edited by John Edward Staller and Michael Carrasco, pp.577-600. Springer, New York.

Clayton, Sarah C., W. David Driver and Laura J. Kosakowsky

- 2005 Rubbish or Ritual? Contextualizing a Terminal Classic Problematical Deposit at Blue Creek, Belize: A response to “Public Architecture, Ritual, and Temporal Dynamics at the Maya Center of Blue Creek, Belize” by Thomas H. Guderjan. *Ancient Mesoamerica*, Vol. 16(1): 119-130.

Coe, Sophia

- 1994 *America’s First Cuisines*. University of Texas Press, Austin.

Conlon, James

- 1993 The 1992 Season of Investigations at Baking Pot: On the Outside Looking In. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1992 Field Season*, edited by Jaime J. Awe, pp 173-177. Trent University, Department of Anthropology. Peterborough, Canada.
- 1996 Investigations in the Lost Ballcourt of Group I at Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1995 Field Season*, edited by Jaime J. Awe, pp 39-53. Trent University, Department of Anthropology. Peterborough, Canada.

Conlon, James and Jennifer Ehret

- 2000 Ancient Maya Settlement at Baking Pot, Belize: Results of the Continually Expanding Survey Program in the Search for the End of the Final Frontier. In *The Western Belize Regional Cave Project: A Report of the 1999 Field Season*, edited by Cameron G. Griffith, Reiko Ishihara, and Jaime J. Awe, Occasional Paper No. 3, pp. 43-54. Department of Anthropology, University of New Hampshire, Durham.

Culbert, Patrick

1973 Introduction: A Prologue to Classic Maya Culture and the Problem of its Collapse. In *The Classic Maya Collapse*, edited by T.P. Culbert, University of New Mexico Press, Albuquerque.

1974 *The Lost Civilization: The Story of the Classic Maya*. New York: Harper and Row.

Dahlin, Bruce H.

2002 Climate Change and the End of the Classic Period in Yucatan. *Ancient Mesoamerica* 13: 327-340.

Davis, J. Britt

2018 Laboratory Methods and Analyses for Terminal Deposits in Baking Pot's Group B. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2017 Field Season*, edited by Claire Ebert, Chrissina Burke, and J.J. Awe. Belize Institute of Archaeology, Belmopan. Submitted.

Davis, J. Britt, Julie A. Hoggarth, and Jaime J. Awe

2017 Terminal Deposition at Baking Pot Belize. Paper presented at *Society for American Archaeology*, 82nd Annual Meeting, Vancouver, British Columbia, Canada.

Deal, Michael

1985 Household Pottery Disposal in the Maya Highlands: An Ethnoarchaeological Interpretation. *Journal of Anthropological Archaeology* 4:243-291.

Duncan, William N.

2005 Understanding Veneration and Violation in the Archaeological Record. In *Interacting With the Dead: Perspectives on Mortuary Archaeology for the New Millennium*, edited by Jane E. Buikstra, Gordon F. M. Rakita, Lane A. Beck, and Sloan R. Williams, pp. 207-227. University Press of Florida, Gainesville.

Durkheim, Émile.

1964 [1895] *The Rules of Sociological Method*. The Free Press.

Freidel, David A.

1986 "The Monumental Architecture" in Archaeology at Cerros Belize, Central America: an Interim Report. Edited by Robin A. Robertson Pp. 1-22. Southern Methodist University Press, Dallas TX.

Freidel, David, Charles K. Suhler, and Rafael Cobos Palma

1998 Termination Ritual Deposits at Yaxuna: Detecting the Historical in Archaeological Contexts. In *The Sowing and the Dawning*, edited by Shirley Mock, pp.135–144. University of New Mexico Press, Albuquerque.

Garber, James F.

1983 Patterns of Jade Consumption and Disposal at Cerros, Northern Belize. *American Antiquity* 48(4):800–807.

- 1989 *The Artifacts. Archaeology at Cerros, Belize, Central America Vol II.* Southern Methodist University Press, Dallas.
- Garber, James, W. David Driver, Lauren A. Sullivan and David M. Glassman
 1998 *Bloody Bowls and Broken Pots: The Life, Death, and Rebirth of a Maya House. The Sowing and the Dawning: Termination, Dedication, and Transformation in the Archaeological and Ethnographic Record of Mesoamerica*, edited by Shirley Boteler Mock, pp. 125-134. University of New Mexico Press, Albuquerque.
- Gifford, James C.
 1976 *Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley.* *Memoirs of the Peabody Museum of Archaeology and Ethnology* Vol. 18. Harvard University, Cambridge.
- Golden, Charles W.
 2002 *Bridging the Gap Between Archaeological and Indigenous Chronologies: An Investigation of the Early Classic / Late Classic Divide at Piedras Negras, Guatemala.* Unpublished PhD. Dissertation, University of Pennsylvania.
- Gosner, Kevin
 1992 *Soldiers of the Virgin: The Moral Economy of a Colonial Maya Rebellion.* Tucson: University of Arizona Press.
- Guderjan, Thomas H.
 2004 *Public Architecture, Ritual, and Temporal Dynamics at the Maya center of Blue Creek, Belize.* *Ancient Mesoamerica*, Vol. 15(2): 235-250.
- Halperin, Christina T.
 2014 *Ruins in Pre-Columbian Maya Urban Landscapes.* *Cambridge Archaeological Journal* 24(3):321-344.
- Hansen, Richard D., Wayne K. Howell, and Stanley P. Guenter
 2008 *Forgotten Structures, Haunted Houses, and Occupied Hearts: Ancient Perspectives and Contemporary Interpretations of Abandoned Sites and Buildings in the Mirador Basin, Guatemala.* *In Ruins of the Past: The Use and Perception of Abandoned Structures in the Maya Lowlands.* Travis W. Stanton and Aline Magnoni, eds. Pp. 25-64. Boulder: University Press of Colorado.
- Harrison, Peter
 1999 *The Lords of Tikal.* Thames & Hudson, London.
- Harrison-Buck, Eleanor
 2016 *Killing the "Kings of Stone": The Defacement of Classic Maya Monuments.* *In Ritual, Violence, and the Fall of the Classic Maya Kings*, edited by Gyles Iannone, Brett A. Houk, and Sonja A. Schwake, pp. 61-88. Gainesville: University Press of Florida.

Haviland, William A.

1985 Excavations in Small Residential Groups of Tikal: Groups 4F-1 and 4F-2. Tikal Report, No. 19. The University Museum, University of Pennsylvania, Philadelphia.

Hayden, Brian

2001 Fabulous Feasts: A Prolegomenon to the Importance of Feasting. In *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics and Power*, edited by Michael Dietler and Brian Hayden, pp. 23- 64. The University of Alabama Press, Tuscaloosa, Alabama.

Hayden, Brian D. and Aubrey Cannon

1984 Interaction Inferences in Archaeology and Learning Frameworks of the Maya. *Journal of Anthropological Archaeology* 3:325-367.

Hayden, Brian and Suzanne Villeneuve

2011 A Century of Feasting Studies. *Annual Review of Anthropology*. Vol. 40:433-449.

Healy, Paul F., Kitty Emery and Lori E. Wright

1990 Ancient and Modern Maya Exploitation of the Jute Snail (*Pachychilus*). *Latin American Antiquity* 1(2):170-183.

Helmke, Christophe G. B.

2008 Excavations of Structures B1 and B7 at Baking Pot, Belize in The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season, edited by Christophe G. B. Helmke and Jaime J. Awe, pp. 109–44. Belize Institute of Archaeology, Belmopan.

Helmke, Christophe, Julie A. Hoggarth, Jaime J. Awe, Sarah E. Bednar, and Amber L. Johnson

2017 Some Initial Comments on the Komkom Vase Discovered at Baking Pot, Belize. *Research Reports in Belizean Archaeology*, Vol.14, 2017, pp. 227-240.

Hoggarth, Julie A.

2012 Social Reorganization and Household Adaptation in the Aftermath of Collapse at Baking Pot, Belize. Unpublished PhD Dissertation, Department of Anthropology, University of Pittsburgh. Pittsburgh, PA.

Hoggarth, Julie A. and Jaime J. Awe.

2015 Household Adaptation and Reorganization in the Aftermath of the Classic Maya Collapse at Baking Pot, Belize. In *Beyond Collapse: Archaeological Perspectives on Resilience, Revitalization, and Reorganization in Complex Societies*. Edited by R.K. Faulseit, Center for Archaeological Investigations, Occasional Paper 42, pp. 504-527. Southern Illinois University, Carbondale.

- Hoggarth, Julie A., Jaime J. Awe, Sarah E. Bednar, Amber Lopez-Johnson, Ashley McKeown, Sydney Lonaker, Kirsten Green, Niyolpaqui Moraza-Keeswood, Erin Ray, and John Walden. 2016 How it Falls Apart: Identifying Terminal Deposits in Group B to Date the 'Classic Maya Collapse' at Baking Pot. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2015 Field Season*, edited by Julie A. Hoggarth and Jaime J. Awe, pp. 240-267. Institute of Archaeology, Baylor University, Waco.
- Hoggarth, Julie A., Brendan J. Culleton, Jaime J. Awe, and Douglas J. Kennett. 2014a Questioning Postclassic Continuity at Baking Pot, Belize, Using Direct AMS ¹⁴C Dating of Human Burials. *Radiocarbon* 56(3):1057-1075.
- Hoggarth, Julie A., J. Britt Davis, Jaime J. Awe, and Chrissina C. Burke. 2018 Using Bayesian Radiocarbon Chronologies and Artifact Inventories to Reconstruct the Timing and Formation of Peri-abandonment Deposits at Baking Pot, Belize. Paper presented at *Society for American Archaeology*, 83rd Annual Meeting, Washington D.C.
- Hoggarth, Julie A., Matthew Restall, James W. Wood, and Douglas J. Kennett. 2017 Drought and Its Demographic Effects in the Maya Lowlands. *Current Anthropology* 58(1):82-113.
- Hoggarth, Julie A. and Kelsey J. Sullivan. 2015 It's Getting Hot in the Palace: Discovery of a Sweatbath in Group B at Baking Pot. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2014 Field Season*, edited by J.A. Hoggarth and J.J. Awe, pp. 222-229. Belize Institute of Archaeology, Belmopan.
- Hoggarth, Julie A., Christina M. Zweig and May Mzayek. 2014b Methodology and Preliminary Findings from the 2013 Excavations in the Royal Palace Complex at Baking Pot. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2013 Field Season*, edited by Julie A. Hoggarth and Jaime J. Awe, pp. 160-173. Belize Institute of Archaeology, National Institute of Culture and History, Belmopan.
- Houston, S., David Stuart, and Karl Taube. 1989 Folk Classification of Classic Maya Pottery. *American Antiquity* 91:720-726.
- Inomata, Takeshi. 2003 "War, Destruction, and Abandonment: The Fall of the Classic Maya Center of Aguateca, Guatemala." In *The Archaeology of Settlement Abandonment in Middle America*, ed. Takeshi Inomata and Ronald W. Webb, pp. 43-60. University of Utah Press.

- Inomata, Takeshi, Daniela Triadan, Erick Ponciano, Estela Pinto, Richard E. Terry, and Markus Eberl
 2002 Domestic and Political Lives of Classic Maya Elites: The Excavation of Rapidly Abandoned Structures at Aguateca, Guatemala. *Latin American Antiquity*, Vol. 13(3):305-330.
- Kennett, Douglas J., Julie A. Hoggarth, and Brendan J. Culleton
 2015 Examining the Disintegration of Maya Polities and Demographic Decline in the Central Maya Lowlands. Grant proposal funded by the National Science Foundation (BCS-1460369, 2015-2016).
- Koenig, Emma N.
 2014 Terminal Ritual Deposits and Abandonment Processes at Aguacate Uno, Belize. Unpublished MA Thesis, Department of Anthropology, The University of Alabama, Tuscaloosa, Alabama.
- Lamotta, Vincent, and Michael B. Schiffer
 2001 Behavioral Archaeology: Toward a New Synthesis. In *Archaeological Theory Today*, edited by I. Hodder, pp. 14-64. Polity Press, Cambridge.
- Lamoureux-St.-Hilaire, Maxime, Scott Macrae, Carmen A. McCane, Evan A. Parker, and Gyles Iannone
 2015 The Last Groups Standing: Living Abandonment at the Ancient Maya Center of Minanha, Belize. *Latin American Antiquity* 26(4), 2015, pp. 550–569.
- LeCount, Lisa J.
 1996 Pottery and Power: Feasting, Gifting, and Displaying Wealth Among the Late and Terminal Classic Lowland Maya. Unpublished Ph.D. Dissertation, University of California Los Angeles.
 2001 Like Water for Chocolate: Feasting and Political Ritual among the Late Classic Maya at Xunantunich, Belize. *American Anthropologist*, Vol. 103, No.4, pp.935-953.
- LeCount, Lisa J., Jason Yaeger, Richard M. Leventhal, and Wendy Ashmore
 2002 Dating the Rise and Fall of Xunantunich, Belize: A Late and Terminal Classic Lowland Maya Regional Center. *Ancient Mesoamerica* 13:41-63.
- Lee, Richard E.
 2012 Fernand Braudel, The *Longue Durée*, and World-Systems Analysis. State University of New York Press, Albany.
- Lonaker, Sydney, Britt Davis, Niyo Moraza-Keeswood, and Julie A. Hoggarth
 2017a Group B, Plaza B, Peri-Abandonment Deposit Excavations at Baking Pot, Belize In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2016 Field Season*, edited by J.A. Hoggarth and J.J. Awe. Belize Institute of Archaeology, Belmopan.

- Lonaker, Sydney, Julie Hoggarth, and Jaime Awe
 2017b Terminal Deposit Excavation Methodology. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2017 Field Season*, edited by J.A. Hoggarth and J.J. Awe. Belize Institute of Archaeology, Belmopan.
- Lopez-Varela, Sandra L.
 1989 Analisis y clasificacion de la ceramica de un sitio maya del Clasico: Yaxchilan, Mexico. *BAR International Series*, 535. Oxford: B.A.R.
- Merwin, Raymond E., and George C. Vaillant
 1932 The Ruins of Holmul, Guatemala. Peabody Museum of American Archaeology and Ethnology Memoirs Vol. 3, No. 2. Harvard University, Cambridge.
- Mock, Shirley Boteler
 1998a Prelude. In *The Sowing and the Dawning: Termination, Dedication, and Transformation in the Archaeological and Ethnographic Record of Mesoamerica*, edited by Shirley Boteler Mock, pp. 3-18. University of New Mexico Press, Albuquerque.
 1998b The Defaced and the Forgotten: Decapitation and Flaying/Mutilation as a Termination Event at Colha, Belize. In *The Sowing and the Dawning: Termination, Dedication, and Transformation in the Archaeological and Ethnographic Record of Mesoamerica*, edited by Shirley B. Mock, pp. 113–124. University of New Mexico Press, Albuquerque.
- Morton, Shawn G.
 2015 Pahn-Ti-Pan: The Rise and Fall of Complex Socio-Political and Economic Systems as Attested in Subterranean Site Contexts of Central Belize, C.A. Unpublished PhD Thesis, The Department of Anthropology and Archaeology, University of Calgary, Calgary, Alberta.
- Moyes, Holley
 2001 The Cave as a Cosmogram: The Use of GIS in an Intrasite Spatial Analysis of The Main Chamber of Actun Tunichil Muknal, A Maya Ceremonial Cave in Western Belize. Unpublished M.A. Thesis, Department of Anthropology, Florida Atlantic University, Boca Raton, FL.
 2006 The Sacred Landscape as a Political Resource: A Case Study of Ancient Maya Cave Use at Chechem Ha Cave, Belize, Central America, Unpublished Ph.D. Dissertation, Department of Anthropology, State University of New York at Buffalo, Buffalo, NY.
- Moyes, Holley, Jaime J. Awe, George A. Brook, and James W. Webster
 2009 The Ancient Maya Drought Cult: Late Classic Cave Use in Belize. *Latin American Antiquity* 20(1), 175-206.
- Navarro-Farr, Olivia
 2009 Ritual, Process, and Continuity in the Late to Terminal Classic Transition: Investigations at Structure M13-1 in the Ancient Maya site of El Peru-Waka', Peten, Guatemala. Unpublished Ph.D. dissertation, Department of Anthropology, Southern Methodist University.

- Novotny, Anna C. and Laura Kosakowsky,
 2009 Burials and caches from the Chan site E-Group: a bioarchaeological perspective on ritual and social complexity at an ancient Maya farming community. *Research Reports in Belizean Archaeology* 6, 73–81.
- O'Mansky, Matt and Nicholas P. Dunning
 2004 Settlement and Late Classic Political Disintegration in the Petexbatun Region, Guatemala. *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by Arthur A. Demarest and Don S. Rice, pp. 83-101. University Press of Colorado, Boulder.
- Pagliari, Jonathan B., James F. Garber, and Travis W. Stanton
 2003 Evaluating the Archaeological Signatures of Maya Ritual and Conflict. In *Ancient Mesoamerican Warfare*, edited by M. K. Brown, and T. W. Stanton, pp. 75-90. Alta Mira Press, New York.
- Palka, Joel W.
 2014 *Maya Pilgrimage to Sacred Landscapes: Insights from Archaeology, History, and Ethnography*. University of New Mexico Press, Albuquerque.
- Pendergast, David M.
 1979 *Excavations at Altun Ha, Belize, 1964-1970, Volume 1*. Royal Ontario Museum, Toronto.
 1982 *Excavations at Altun Ha, Belize, 1964-1970, Volume 2*. Royal Ontario Museum, Toronto.
 1990 *Excavations at Altun Ha, Belize, 1964-1970, Volume 3*. Royal Ontario Museum, Toronto.
- Petryshyn, Jaroslaw T.
 1968 El panteon maya de los Lacandones en Naja. San Cristobal de las Casas: Temporada Chiapaneca.
- Piehl, Jennifer C.
 2005 Performing Identity in an Ancient Maya City: The Archaeology of Houses, Health, and Social Differentiation at the Site of Baking Pot, Belize. Unpublished Ph.D. Dissertation, Tulane University.
- Powis, Terry
 1993 Special Function Structures within Peripheral Groups in the Belize Valley: An Example from the Bedran Group at Baking Pot. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1992 Field Season*, edited by Jaime J. Awe, pp 212-224. Trent University, Department of Anthropology. Peterborough, Canada.

1994 Sacred Space and Ancestor Worship: Ongoing Plaza Investigations of Two Middle Formative Circular Platforms at the Tolok Group, Cahal Pech, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1993 Field Season*, edited by Jaime J. Awe, pp 122-146. Institute of Archaeology, University of London, England.

Reents-Budet, Dorie

1994 *Painting the Maya Universe: Royal Ceramics of the Classic Period*. Duke University Press Books, Durham and London

Reents-Budet, Dorie, Ronald L. Bishop, Jennifer T. Taschek, and Joseph W. Ball.

2000 Out of the Palace Dumps: Ceramic Production and Use at Buenavista del Cayo. *Ancient Mesoamerica* 11:99-121.

Reid, J. Jefferson, Michael B. Schiffer, and William L. Rathje

1975 Behavioral Archaeology: Four Strategies. *American Anthropologist* 77:864-879.

Rice, Prudence M., Arthur A. Demarest, and Don S. Rice

2004 The Terminal Classic and the “Classic Maya Collapse” in Perspective. *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by Arthur A. Demarest and Don S. Rice, pp. 1-11. University Press of Colorado, Boulder.

Rice, Prudence M. and Donald W. Forsyth

2004 Terminal Classic-Period Lowland Ceramics. *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by Arthur A. Demarest and Don S. Rice, pp. 28-55. University Press of Colorado, Boulder.

Rice, Prudence M., and Don S. Rice, eds.

2009 *The Kowoj: Identity, Migration, and Geopolitics in Late Postclassic Peten, Guatemala*. Boulder: University Press of Colorado.

Robertson, Robin A. and David A. Freidel

1986 *The Monumental Architecture*. Southern Methodist University Press. Dallas, TX.

Sagebeil, Kerry L. and Helen R. Haines

2017 “Fools Make Feasts, and Wise Men Eat Them”: Interpreting Problematic “Smash and Trash” Deposits at Ka’kabish, Belize. Paper presented at the 15th Annual Belize Archaeology Symposium. San Ignacio, Belize

Sawyer, Stephen W.

2015 Time After Time: Narratives of the *Longue Durée* in the Anthropocene. *Transatlantica: American Studies Journal*. Accessed October 15, 2017.

Schiffer, Michael B.

1972 Archaeological Context and Systematic Context. *American Antiquity* 37(2):156-165.

- 1976 *Behavioral Archaeology*. Academic Press, New York.
- 1987 *Formation Processes of the Archaeological Record*. University of Utah Press, Salt Lake City.
- Schortman, Edward M.
1993 Quirigua Reports III: Archaeological Investigations in the Lower Motagua Valley, Izabal, Guatemala. The University Museum, University of Pennsylvania, Philadelphia.
- Solis, Wendy
2010 Ancient Maya Exploitation of *Jute* (*Pachyichilus spp.*) at Minanha, West Central Belize. Unpublished Master's Thesis, Trent University, Peterborough, Ontario, Canada.
- Stanton, Travis, M. Kathryn Brown and Jonathan Pagliaro
2008 Garbage of the Gods? Squatters, Refuse Disposal, and Termination Rituals Among the Ancient Maya. *Latin American Antiquity* 19(3):227-247.
- Tarn, Nathaniel and Martin Prechtel
1986 Constant Inconstancy: The Feminine Principle in Atiteco Mythology. In *Symbol and Meaning Beyond the Closed Community: Essays in Mesoamerican Ideas*, edited by Gary Gossen, pp. 173-184. Institute for Mesoamerican Studies, University at Albany, State University of New York, Albany
- Taube, Karl
1989 The Maize Tamale in Classic Maya Diet, Epigraphy, and Art. *American Antiquity* 54(1):31.
- Tedlock, Dennis
1996 *Popol Vuh: The Definitive Edition of the Mayan Book of the Dawn of Life and the Glories of Gods and Kings, Revised Edition*. Simon and Schuster, New York.
- Thompson, J. Eric
1954 *The Rise and Fall of Maya Civilization*. University of Oklahoma Press, Norman.
- Thompson, Raymond E.
1958 *Modern Yucatecan Maya Pottery Making*. Memoirs of the Society for American Archaeology. Vol. 23 (4), part 2. Salt Lake City, Utah.
- Tozzer, Alfred M. (translator)
1941 *Landa's Relacion de las Cosas de Yucatan*. Papers of the Peabody Museum of American Archaeology and Ethnology. Harvard University. Kraus Reprint Corp, New York.
- Vogt, Evon Z.
1981 Some Aspects of the Sacred Geography of Highland Chiapas. In *Mesoamerican Sites and World Views* (Elizabeth P. Benson, ed.): 119–138. Dumbarton Oaks, Washington, D.C.

Walker, William H. and Lisa J. Lucero

2000 The depositional history of ritual and power. In *Agency in Archaeology*, edited by Marcia-Anne Dobres and John E. Robb. Routledge, London.

Willey, Gordon R., William R. Bullard Jr., John B. Glass, James C. Gifford

1965 Prehistoric Maya Settlements in the Belize Valley. *Peabody Museum of Archaeology and Ethnology, Harvard University*, 54:300-309.

Wisner, Gavin B., Katie K. Tappan, Dylan M. Wilson, Chrissina C. Burke, and Norbert Stanchly

2017 Animal Use in Ancient Maya Terminal Deposits: Examining Faunal Remains from the Lower Dover and Baking Pot Sites in the Belize Valley to Determine the Potential for Ritualized Activities. Poster Presented at *Society for American Archaeology*, 82nd Annual Meeting, Vancouver, British Columbia, Canada.

Yaeger, Jason

2010 Shifting Political Dynamics as Seen from the Xunantunich Palace. In *Classic Maya Provincial Politics: Xunantunich and its Hinterlands*, edited by Lisa J. LeCount and Jason Yaeger, pp. 145-160. University of Arizona Press, Tucson.

Zračka, Jarosław, Wiesław Koszkuł, Bernard Hermes, Juan Luis Velásquez, Varinia Matute, and Bogumił Pilarski

2017 From E-Group to Funerary Pyramid: Mortuary Cults and Ancestor Veneration in the Maya Centre of Nakum, Petén, Guatemala. *Cambridge Archaeological Journal* 27:3, 451–478.