

PUBLIC FIGURES IN PRIVATE SPACES: PATTERNS IN THE BUILT ENVIRONMENT  
AS A REFLECTION OF ELITE AGENCY

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## ABSTRACT

The Classic Maya built environment serves as a symbol, representing the decisions made by social actors who engaged in the design and construction of such buildings. Such architectural construction and the degree of spatial accessibility incorporated into the built environment provide deeper insight into those decisions and shed light on the meaning behind inclusive and exclusive architectural space. This dissertation focusses on identifying patterned variability in the architectural composition and accessibility of the palatial compounds at the Cahal Pech and Baking Pot civic-ceremonial centres in west central Belize, with specific focus on the Late Classic (AD 600-900) construction phases. The architectural analysis of Cahal Pech and Baking Pot aim to provide an example of how ruling elite agents employed different strategies of inclusivity and exclusivity in the construction of their palatial compounds. The degrees of inclusive space reflect a preference on part of the elite to provide a built environment which could accommodate and include associated intermediate elites and the commoner masses in spectacles and events. Conversely, exclusory space would promote ideas of estrangement and could cause the creation of kratophanous perspectives of the elite party residing in such space. Here I argue that the Baking Pot elite strategized inclusion in their architectural space and that the architecture constructed at the Cahal Pech palace demonstrates a strategy of exclusivity. Further, I discuss how the construction and use of inclusive and exclusive space may have been tactical strategies for maintaining political legitimacy on the landscape.

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## CHAPTER 1

### Introduction

The relationship between social actors and the built environment can be considered one of the most important aspects of humanity. Such relationships provide windows into the many realms of the human experience including, but not limited to underlying ideological and cosmological belief systems, socio-politics, status and wealth, quotidian life, events and activities (DeMarrais et al. 1996). This dissertation employs Classic Maya (300-950 CE) palatial architecture to elucidate variability in elite agency by examining the questions: To what extent are the different strategies employed by elite agents evident in the built environment? Do patterns of built form reflect broader political strategies? How do such patterns relate to political strategies at the polity level? The term ‘apical elite’ is used here as in reference to the ruling family who are situated at the apex of the social hierarchy of a given polity. Additionally, ‘elite’, is used here in reference to the affluent social status of an individual(s), and is often established through assessment of archaeological indicators such as luxury goods, elaborate architecture, and treatment in death (Chase and Chase 1992: 4; citing Blanton 1978: 67; Coe 1956, 1975: 102; Drennan 1976; Webster and Abrams 1983; Webster 1985). As “[apical] elites are viewed as being associated with architecture that has better stonework, higher elevation, [and/]or more monumental construction” (Chase and Chase 1992: 6; citing Kurjack 1974: 8, 92; Willey and Leventhal 1979: 82-83; Sanders and Webster 1983: 28-29, Webster 1985: 40; Abrams 1987: 495), the comparative analysis presented in this dissertation focuses on two Classic Maya palace compounds in the Belize Valley, as the defining characteristics of a Maya palace compound typically follows these same descriptors (further discussed in Chapter 2).

In attempting to understand the social implications of the built environment, I consider a few theoretical frameworks that are grounded in ideas of structure and agency as applied to archaeological studies (Gardner 2004; Gardner 2008; Joyce and Lopiparo 2005). Structure and agency are the foundational perspective from which this research was developed as “people engaged in making these monuments [monumental buildings] and those simply witnessing the events would have experienced profound changes in spatiality, connection to place, and materialization of time at multiple scales as a result of the new constructions” (Joyce 2004: 8). For the purpose of this dissertation, agency is understood as the ability to act and make decisions as a function of free will, however as discussed in Chapter 2, many social and cultural factors (structure) play into the influence and guidance of such decision making (Gardner 2008;

Giddens 1976, 1979, 1984; Joyce 2004, Joyce and Lopiparo 2005). Additionally, network and corporate models from dual-processual theory and ideas of stranger kingship are considered in this research. Dual-processual theory is concerned with the socio-political processes of corporate-network relations, in particular the nature of relationships between elites and other elements of society. Network power dynamics are more exclusionary and focused on aggrandizing leaders, whereas corporate organization can be considered more bureaucratic, inclusive and based on governance (Blanton et al 1996). Importantly, network organizational approaches have largely been attributed to the Classic Maya. In discussing elite strategies, ideas of stranger kinship explore ideas of “estrangement” as practiced by ruling agents to maintain a sense of otherness and establish inequality, albeit from a more cosmological perspective in the case of the Maya (Sahlins 2017). These theoretical perspectives provide a basis from which to organize and interpret data generated from the analysis conducted for this research.

The research questions posed above are pursued through quantitative analysis of architectural variables to assess patterns in the built environment which reflect elite decision making. The architectural analysis conducted for this research targets two Classic Maya palatial compounds in the Belize Valley, found at the civic-ceremonial centres, or polity centres, of Cahal Pech and Baking Pot. For this dissertation the term palatial compound is employed, as it simultaneously conveys palatial function and also provides a sense of formal layout, as a compound is typically a group of buildings that fully enclose a given space (OED, further discussed in Chapter 3). As the palace compounds discussed here are referred to as monumental architecture and involve monumental construction, I use Trigger’s (1990: 119) explanation, which states that “Monumental architecture embraces large houses, public buildings, and special purpose structures. Its principle defining feature is that its scale and elaboration exceed the requirements of any practical functions that a building is intended to perform”. This research uses methods of analysis by means of architectonic data, to assess these monumental compounds, including architectural area ( $m^2$ ), architectural volume ( $m^2$  and  $m^3$ ), elevation (masl), and number of structures per compound. In addition to these variables, space syntax methods are used to quantify the degree of inclusion and exclusion.

The combination of theoretical frameworks mentioned above, and a dataset comprised of architectural variables from two Classic Maya centres, provides the basis for examining the research questions discussed above. This dissertation illuminates similarities and differences between two separate palatial compounds, to better understand differences in elite decision making and between two polities within the Maya lowlands. The following chapters provide a

literary review of the theoretical frameworks employed here (Chapter 2), followed by a discussion of Classic Maya political structure (Chapter 3) and contextual information about the two civic-ceremonial centres targeted for this study (Chapter 4). Subsequently, a description of the methods used for architectural analysis and the results are presented (Chapter 5), followed by a synthesis of the analysis results (Chapter 6) and a discussion on future research (Chapter 7).

## CHAPTER 2

### Theoretical Perspectives

#### 2.1 Introduction

This dissertation relies on sociological theory, which has been employed in archaeological research for some time. I employ frameworks based on structure and agency (Bourdieu 1977; Giddens 1984) as well as the ideas behind applications of space syntax. To understand how theoretical frameworks fit within this research, I provide a background to each approach and situate both frameworks within this research. Finally, I identify and attempt to address any potential biases or conceptual issues which arise in this research.

#### 2.2 Theory

##### *2.2.1 Review of Structure and Agency Theory*

Perspectives on individuals and social structure developed significantly with the work of Bourdieu (1977), who examined the relationship between *habitus* and social structure to investigate power dynamics in society (1977). Bourdieu's works on social structure combine the theory's root philosophy of *Hexis*, which is associated with the physical condition of an individual, and habit, which Bourdieu suggests are shaped by one's cultural surroundings. When paired, these two concepts create *habitus* or subconscious behaviour (Bourdieu 1977: 76-78). Bourdieu suggests *habitus* is a predisposition that influences an individual's life choices and therefore creates the social structure in which individuals live, and influence future structures as well (Bourdieu 1977: 78-79).

Giddens developed the theory of structuration, which is defined as "the production and reproduction of society as the accomplished outcome of human agency" (Giddens 1976: 162). Structuration theory views social structure as a process, cyclically reproducing and evolving as a result of the operations of the individual (Giddens 1976; 1979; 1984). An important aspect of this process of social structure is that Giddens suggests the actors to be knowledgeable, to a certain degree, of their actions and the broader consequences of those actions (Giddens 1976: 160). The issue of knowledgeability has been critiqued by many as the concept suggests structural outcomes can be predicted based on individual action, which does not take into account intentionality and the great variability between cause and effect (Bintliff 2006: 191-192). However, there are many useful aspects of the framework which can be deployed in understanding social change.

### *2.2.2 Structure and Agency Theory in Archaeology*

The adoption of sociological perspectives into archaeological research makes sense as archaeology aims to understand the social and cultural processes of past societies. So-called ‘agency theory’ was integrated into archaeological research as perspectives shifted from processual archaeology towards post-processual approaches, while theories of structure (e.g. structuralism) had already been widely applied within the discipline (Trigger 2006: 959; Robb 1998; Shanks and Tilley 1987: 116). More so than structure, the incorporation of ‘agency’ within archaeological research has been at times problematic, as some scholars fail to define agency within their research, or the concept of agency is ill-applied (Dobres and Robb 2000: 1; Gardner 2008; Joyce and Lopiparo 2005). Conversely, many archaeologists have sought out the exciting challenge of figuring out how applications of agency can illuminate significant information about agents in the past (see Gardner 2004; Gardner 2008; Iannone 2002; Joyce and Lopiparo 2005; Lake 2004; Sillar 2004). One critique that arises from the misuse of agency is the separation of agency from structure. This separation is problematic, as “agency and structure. . . are not alternatives, but inseparable parts of a single process” (Joyce and Lopiparo 2005: 365; citing Giddens 1979: 53) as “individuals only exist in relation to a physical and social world, and it is in the relationships that agency is manifested” (Gardner 2008: 100; citing Dobres 2000: 142). In the case of archaeology, retaining this link is especially important as the agents we study are gone, which makes it extremely difficult to study one aspect if concerns about the other are pushed aside.

To better understand the essential link between structure and agency in regards to archaeology, Gardner (2008: 95) combines two understandings of agency, the first being that “agency is treated as the capacity that all individual humans (or agents) have to actively shape and transform their world, with a degree of self-consciousness or awareness that sets them apart from other species”, and the second being that agency is “defined in terms of the complex processes of interaction that people engage in, using language and material culture, through which they actually put this capacity into practice”. In considering both of these definitions, Gardner suggests agency be described as a form of “active involvement” (Gardner 2008: 95; citing Elliot 2001: 2) and explains that the use of “active involvement”, as a definition of agency, instinctively links structure with agency in the sense that the term “involvement” implies that a given act must be in relation to another entity, such as the broader social structure (Gardner 2008: 95).

The use of structure and agency theory is essential to my dissertation research, as I explore how apical elite-decision making is reflected in the monumental built environment. The underlying relationship between elite agency and the built environment speaks to elite strategies as a response to structural pressures. Understanding the specific strategies apical elites employed can provide a glimpse at how their political decision-making dovetailed or clashed with structural impositions located above and below them hierarchically and can therefore provide a novel window into their agency (what they could and could not do). Broader elite strategies are defined as the techniques, policies, and actions of elite agents to ensure their political longevity (Kurnick 2016; Marken and Fitzsimmons 2015, Stark and Chance 2012: 196; Walden et al. 2019). Structural pressures which would have influenced the decisions of apical elite Maya agents include ideological establishment and maintenance of divine kingship, an institution which determines a ruler's legitimacy to control a given polity (McAnany 2013; see Chapter 3). Competition from other political actors contribute structural pressures as they also would have been vying for support from the commoner masses and the cooperation from neighbouring intermediate elites to reinforce political control (Walden et al 2019).

The construction of monumental city centres directly affects a given polity as a whole, as one of the primary sources of elite power and prestige comes from "the ability to channel the behaviour of others" (Abrams 1994: 77; citing Fried 1967: 13) and thus relates to the control of labour (Abrams 1994: 77). As such, power is defined here as "the ability to channel the behaviour of others by threat or use of [social, cultural, or political] sanctions" (Abrams 1994: 77). Thus, the "active involvement" of all agents in the process of designing, building, maintaining, and renovating monumental architecture contributes to a polity's structural durability and speaks to underlying elite agendas (see Abrams 1994; Awe 2008; Walden et al. 2019). Consequently, these processes create a recurring cycle of monumental construction based on the decisions of elite agents, and thus contribute to the pressures and influence of the broader social structure. This process (creating the monumental built environment) is a primary concern here, and as such is concerned with the decisions of elite Maya agents in creating such buildings.

### *2.2.3 Space Syntax Theory*

Space syntax is both a theoretical framework as well as an application of spatial analysis. In this section I describe the theoretical aspects of space syntax, as the application methods are explained in Chapter 5. As defined by its founders, Hillier and Hanson (1984: 48),

“space syntax is a theory of space and a set of analytical, quantitative and descriptive tools for analysing the layout of space in buildings and cities. By learning to control the spatial variable at the level of the complex patterns of space...it is possible to gain insights into both the social antecedents and consequences of spatial form”. Space syntax theory was further developed by Hillier (1996: 309-310), who clarifies how the analysis of the built environment is grounded in the study of social interaction and behaviour as it “can generate and restrict encounter and interaction probabilities”, which ultimately makes the built environment a vital part of society.

As space syntax aims to understand the relationship between built spaces and the engagements between individuals and such spaces, it is clearly compatible with a perspective rooted in structure and agency theory. Inferences can be made about how an individual could exercise their agency within a given space and in the creation of that space. In its first development, space syntax was implemented for modern urban planning, however recent experimentation using space syntax in archaeological contexts has proven to be insightful in regard to agency and spatial layout (Liendo Stuardo 2003; Moore 1996; Morton et al. 2012; Parmington 2011; Watkins and Walden 2018).

Applications of space syntax are important for my research as space syntax is based on two propositions, the first being that people create and use the built environment consciously and therefore the built environment is not a passive aspect to human activity, but rather, is fundamental to it (Hillier and Hanson 1984: 82-83). Second, the way spaces are connected together impacts the interaction of individuals and activities occurring within that space. The application of space syntax here is used as a way of quantifying the organization of the built environment as decided by the apical elite. Understanding organization of space is essential for understanding the underlying social and political structures at play and how they might be reflected in the built environment, such as inclusivity and exclusivity. In connecting ideas of inclusivity and exclusivity with the agency of elite Maya, I consider ideas of corporate-network strategies and stranger kinship (Blanton et al. 1996; Sahlins 2008, 2017). Corporate approaches are defined as strategies of inclusivity employed by apical elite agents, who use ideas of kinship, such as ancestral veneration ceremonies, as way to “build confidence among group members that others' behaviour, including that of both principals and agents, is consistent with collective benefit” (Blanton and Fargher 2016: 35; Blanton et al. 1996). Network approaches employed by apical elite agents use political alliances, supernatural powers, and/or esoteric knowledge to build and maintain power through the exclusion of others and the prevention of access to these sources (Blanton et al. 1996). The corporate-network dichotomy compliments

ideas of stranger kingship in that the stranger kinship concept refers to the way(s) in which a ruler constructed his or her identity as an outsider (god-like in the case of the Maya, see Chapter 3), socially estranging themselves from the rest of society, including strategies of inclusion and exclusion (Feeley-Harnik 1985: 280; Gillespie 1989: 219; Graeber and Sahlins 2017; Helms 1993; Lamoureux St.-Hilaire 2018; McAnany 2008; Sahlins 2008, 2017). Ideas of stranger kingship derive from a general understanding of how local individuals are more often willing to accept the imposition of a foreign ruler because their estrangement allows an outsider's perspective that encourages logical exercise of authority and an understanding of the broader picture (Graeber and Sahlins 2017; Sahlins 2008, 2017).

Applications of space syntax to archaeological sites has been subject to critique as the modern application may impose etic perspectives of how individuals organize the world around them regarding inclusivity and exclusivity of space. Additionally, while space syntax analysis presents an "important tool for emphasizing the similarities and differences among buildings, it does not yield any information about the meaning and use of specific spaces" (Liendo Stuardo 2003: 199-200). This has caused some to suggest the application of space syntax cannot be successful unless full knowledge about the area is already established (Liendo Stuardo 2003: 200; citing Leach 1978). Following Liendo Stuardo, however, applying space syntax in combination with traditional methods is useful for exploring new avenues of research in archaeology. Applications of space syntax will aid in understanding the decisions made by apical Maya elites in the process of designing their respective palatial compounds and will provide quantitative measurements of inclusivity and exclusivity. However, it is recognized that space syntax cannot account for intangible ideas regarding space such as taboos, rules, and/or regulations regarding spatial access and movement, which are not visible in the archaeological record.

### **2.3 Identified Issues within This Research**

It is important to note that there are some biases present within my research that are addressed here to communicate the roots of my approach clearly and to point out where improvements can be made in future. The first issue to be addressed is the problem surrounding the identification and classification of elite-associated compounds within the Maya region. The architectural compounds within the Cahal Pech and Baking Pot civic-ceremonial centres, that have been assumed to be palace compounds, are based on structural forms including the presence of nucleated clusters of small courtyards/plazas that are enclosed by range structures

or multi-roomed structures (Awe et al. 1991; Awe 2008; Hoggarth et al 2016; Martin 2001: 170; Webster 2001: 133-134). These characteristics follow the generally accepted definition of what has been termed a 'palace compound' in the Maya region, which includes architectural features such as; terraced platforms; grand central stair(s), low range structures (long structures normally of one story in height); courtyard(s), patios, or plazas, temple-like structures or shrines, single room structures, perishable structures, special function structures (such as a sweatbath or ballcourt), masonry vaulted room(s), covered passageways, benches, tower(s), and often highly decorative architectural facades (Martin 2001; see also Cahal Pech: Awe 2008; Caracol: Chase and Chase 2001; Chase and Chase 2017; Xunantunich: Yaeger 2010). While the use of form as a defining characteristic for Maya palace compounds is helpful in identifying them, it is unclear if these architectural compounds actually served the functions of a palace. Some scholars have questioned the function of Maya 'palaces' owing to the lack of a domestic function identified within these compounds (sleeping quarters, kitchens, etc.) (see Chase and Chase 1992; Satterthwaite 1935: 20). However, it has been suggested that perhaps kitchens and food preparation areas would not be present within the palace; instead food would be prepared in an external area and then brought to the apical elites (Chase and Chase 2001; Inomata 2001). This lack of evidence for domestic function has been discussed in scholarly literature which considers the use of the term 'palace' (Inomata and Triaden 2003). In some instances, the lack of material evidence has led scholars to reject any functionality of 'palaces', deeming them as a "default class of architecture of unknown function" (Webster 2001: 134; Satterthwaite 1935: 20).

Before proceeding, I note that there are problems in synchronic approaches to understanding the social structure of polities whose occupation spanned approximately a thousand years. While my research is experimental in nature, it targets the final phase of construction of the built environment prior to site abandonment. This is problematic as I cannot account for spatial reorganization diachronically, nor am I able to distinguish which architectural elements were single additions as opposed to a completely new construction phase. These issues can be addressed with the implementation of intensive excavations at each centre. However, such destructive excavations would compromise the structural integrity and stability of the architecture itself. Keeping this in mind, I recognize that my research results may only provide a general understanding of agentive and structural dynamics as reflected by the construction of the built environment leading up to the abandonment of the city centres. Potential solutions and developments regarding future research are discussed in Chapter 7.

## CHAPTER 3

### Maya Political Structure

#### 3.1 Introduction

Maya political structure is rooted in cosmological symbolism and significance, and thus is the institution by which social actors engage with the ideologies of divine kingship. This chapter explores the pathway(s) to dynastic rule and divine kinship in Classic Maya political structure. In doing such I also provide a background on Classic Maya political organization and its association with the construction of the monumental built environment. Subsequently, I review some of the earliest mentions of Maya palaces and how the built environment is tied into political ideologies of kingship.

#### 3.2 Political Structure

Classic Maya political structure is best described as a hierarchical system, composed of multiple tiers of social status', each independent polity having a *K'uhul Ajaw* (divine king) as their apical ruler. The *K'uhul Ajaw* is often thought of as being the figurative centre of the universe, acting as a medium between the physical plane and the upper world and underworld (Freidel 2008). Classic Maya divine kings would have had subordinates such as intermediate elite courtly officials, who likely contributed significantly in overseeing administrative, religious, and diplomatic aspects of governance (Inomata 2001: 27, Walden et al. 2019). Apart from the apical and intermediate elites, who resided at polity capitals, satellite intermediate elites played a huge role in the overarching political structure, as they typically acted as “neighbourhood heads”, “frontier managers”, or bastions of apical elite control in the hinterlands (Walden et al. 2019). Sharer and Traxler (2006: 297) suggest this co-operative relationship between different tiers of elite individuals, is one of the reason divine kings could afford to reside in isolation away from their subjects and thus is one of the key components in ultimately reinforcing the ideologies of divine kingship.

##### *3.2.1 Divine Kingship*

The ideology of Classic Maya divine kingship is considered to be an institution which greatly contributed to the political achievements during the Classic period. Such ideologies stem from early agrarian ancestral worship and ideas of genealogical ties to the landscape (McAnany 2013). Commoner house groups typically had designated ancestral shrines, where

members of that lineage were interred after death and celebrated by their descendants. Likewise, the apical Maya elite also constructed ancestral shrines; however, these were largely monumental and were often used for more elaborate performative rituals and ceremonies of ancestral veneration. Scholars suggest these kinship-based practices were chosen and transformed into extravagant ceremonies, in which the greater masses could, through observation, participate in the ancestral veneration of the dynastic lineage, thus bolstering the apical elites' legitimacy as a divine ruler on the landscape (Lucero 2003; McAnany 2013: 126-127; Walden et al. 2019).

### *3.2.2 Politics and the Built Environment*

The monumental built environment can be seen as crucial to the success of ceremonial ancestral worship and other spectacles led by the apical elite (Inomata 2006, Demarest 2004). Often, a polity's city centre provided the primary local for such events as the architectural scale could incorporate the majority of the polity's population (Inomata and Tsukamoto 2014; Ringle and Bey III 2001). These monumental city centres included large plazas, temple structures, palace(s), ballcourts, *sacbe* (causeways), commemorative monuments such as stela and altars, and any other special function architecture (Willey et al. 1965). There is an overarching consensus in the literature which discuss how apical elite ruling regimes at polity capitals were responsible for the planning and construction of monumental architecture (Abrams 1994; Christie 2003; Demarest 2004; Fash and Stuart 1991; Hendon 1991; Hutson 2010; Lamoureux St. Hilaire 2018, Lucero 2003; McCurdy 2016).

Such monumental spaces were constructed by the apical elite as their status and power provided the abilities to control and access resources necessitated to construct monumental architecture (Abrams 1994; Lamoureux St.-Hilaire 2018; McCurdy 2016). These spaces were designed with the intention of providing a space for “performing rituals and programs of public art, such as the hieroglyphic stela...to memorialize the king's pedigree and deeds” (Hutson 2010: 58). Maya civic-ceremonial centres are thus the materialization of the apical elite agenda, serving as “enduring features of the landscape that actively express ideology, elicit memory, constitute identity, help reproduce certain meanings, and shape relationships of power and inequality between those who dwell in or use such buildings” (Hutson 2010: 47).

### 3.3 Maya Palace Compounds

As the political heart of Maya city centres, palace compounds provided apical and courtly elite actors with an environment which served both a public and private purpose. While the palace compounds may have not been used by the general public, palaces served as an iconic symbol of divine kingship, which likely invoked a sense of identity and community (McAnany 2013). Clearly, palaces would have been more privatized space, as the elite likely hosted other elite individuals, courtly events, and sensitive matters that would have required separation from onlookers and the general public. Thus, palace compounds provided the apical elite with an environment from which they could rule and make decisions about political affairs. Additionally, the courtly elite used these palaces to conduct their administrative affairs and interact with one another. As these palace compounds are difficult to define archaeologically, Maya palace compounds are generally thought of as being the primary residence of both the apical elite and their courtly parties (Lamoureux St-Hilaire 2018: 77, Zender 2004).

#### 3.3.1 Initial applications of the term ‘palace’ in Mesoamerica

The history behind the first categorizations of Maya palaces begins with the Spanish Conquest (1519-1700 CE). Spanish chroniclers made first reference to Maya ‘palaces’, which were described as *palacios* (see Tozzer 1941). Specifically, Bishop Diego de Landa writes some of the first documents on Maya houses and architecture, describing thatched dwellings and the distinct layout of city centres. De Landa notes the physical representation of hierarchy in the monumental built environment via the temples and the houses of the lords, priests, and most important people who occupied the city centre while those of the lower class resided in the perishable structures found in the peripheral hinterland (Christie 2003: 1-4; Tozzer 1941: 62).

In the centuries to follow, explorers in the Maya region would mirror the Spaniards in describing many buildings within Maya city centres as ‘palaces’, based on the buildings’ physical appearance including scale, density of rooms, and decorative features. American explorer John Lloyd Stephens documents the first sightings of Maya palaces since their decline, stating;

“we stopped at the foot of a second, when our Indians cried out ‘el Palacio,’ ‘the palace,’ and through openings in the trees we saw the front of a large building richly ornamented with stuccoed figures on the pilasters, curious

and elegant; trees growing close against it, and their branches entering the doors; in style and effect unique, extraordinary, and mournfully beautiful. . . For the first time we were in a building erected by the original inhabitants, standing before the Europeans knew of the existence of this continent, and we prepared to take up our abode under its roof.” (Stephens [1841] 1988: 278)

Stephens points out several architectural features which overlap some of the architectural attributes that are still used to classify Maya palaces in archaeological research today, such as the suggestion of elaborate buildings with multiple doors/rooms and masonry roofing. During the time of John Lloyd Stephens, the term ‘palace’ was (and still is) applied to Maya monumental precincts as they seemed reminiscent of the palatial compounds built during the Renaissance and Baroque periods (Christie, 2003: 2). Stated perfectly by Christie (2003: 2) “It filled them [explorers] with awe and surprise to stumble across examples of monumental architecture constructed of fine stone masonry in a tropical jungle far removed from any trace of Western civilization”. The descriptions by de Landa and John Lloyd Stephens (above) demonstrates how the colonial mindset ushered in the use and application of the term ‘palace’, which has persisted through to modern times.

### *3.3.2 Constructing Palaces as a Political Theatre*

As seen with the civic-ceremonial centres, palace compounds too evoked the ideologies that reinforced divine kingship. Many of these ideologies could be observed in the architecture itself, including the types of structures, their characteristics, and the spatial layout of a palace (Ashmore 1989; Christie 2003; Lamoureux St.-Hilaire 2018), implying that such constructions were intentional and served a functional role in communicating and reinforcing ideas of the broader social structure (Lamoureux St.-Hilaire 2018). Several studies on the design of Maya palaces, similar to this study here, consistently report that the palace of a given city centre is the most restricted area, suggesting that the apical Maya elite typically place value on separation as well as control over the internal space of these palaces and those who interact with it (Awe et al. 1991; Martin 2001; Parmington 2011; Walden et al. n.d.). The restriction of these elite spaces is symbolic of the ideologically charged spaces on the geographical landscape such as the summit of mountains, caves, and rockshelters. Emulation of these not-so-easily-accessible locations is reflected in the spatial layout and architectural composition of Maya palaces, and therefore evokes the sacredness of the palatial built environment (Ashmore 1989). Parmington (2011: 21) discusses the power that separation gives an individual, stating how

“privacy [social exclusion] relates to...the power to choose whether or not to associate with others, to participate in shared activities or seek seclusion, to share information or withhold it, to communicate information to selected individuals without being observed or overheard”. These ideas echo those embedded in theories of stranger kingship, as the ability to have a sense of otherness or exclusivity, enables and reinforces the political authority of a ruling elite individual (Sahlins 2008, 2017). Following Newell (1989: 357) “privacy is defined as ‘a voluntary and temporary condition of separation from the public domain’”.

## **CHAPTER 4**

### **Regional Background**

#### **4.1 Introduction**

Within the greater Maya region, the Belize Valley provides the setting of a vast socially and politically diverse landscape, which is the focus area of this research. This chapter presents an overview of the broader Maya region and chronological sequence, followed by an introduction of the Belize Valley. Subsequently, I introduce the archaeological history and current knowledge of both the Cahal Pech and Baking Pot civic-ceremonial centres. These centres are the focus of this research and act as the primary source of data, specifically targeted for their temporal occupation. Finally, the palatial compounds of each centre are examined and described based on their architectural composition.

#### **4.2 Geographic Setting**

The broader Maya culture region is situated within present day Central America and Mexico. This region encapsulates the modern countries of Belize, El Salvador, Guatemala, and Honduras as well as the Mexican states of Campeche, Chiapas, Quintana Roo, and Yucatan. The Maya region can be divided into geologically and environmentally into the northern lowlands, central lowlands, and southern highlands (Figure 4.1; see Sharer and Traxler 2006). The northern lowlands encompass the Yucatan Peninsula, which is a karstic landscape composed of limestone bedrock. Because the bedrock is primarily composed of limestone, the low water table is able to break through the bedrock often creating geological features such as cenotes and caves. Apart from the geological make-up, this area is typically flat grasslands and marshes, since the land is low in elevation in relation to the water table. The southern highlands are composed of both volcanic and plutonic geological bedrock which make up the vast mountain ranges of the area including the Sierra Madre del Sur, Se de las Minas, and Sierra de la Cuchumatanes mountains. The highlands are predominantly located in southern-Guatemala however, this sub-region extends from Chiapas, Mexico and reaches eastern Honduras and El Salvador. The central Maya lowlands encompasses the country of Belize, the northern half of Guatemala, and extends into the Mexican state of Chiapas. The central lowlands are similar to the northern lowlands in having a karstic topography, however this area also contains other features including metamorphic mountain ranges, such as the Maya mountains, and karstic uplands (Chase and Garber 2004). The central Maya lowlands are home to the densest sub-



ancient Maya chronological sequence is divided into three overarching time periods. These time periods are—The Preclassic (1200 BCE-300 CE), Classic (300-900/1000 CE), and Postclassic (900/1000-1519 CE), with two periods of transition and decline—the Terminal Preclassic (150-300 CE) and the Terminal Classic (750-900/1000 CE) (Table 4.1).

Table 4.1 Chronology for the broader Maya Region.

<b>Time Period</b>	<b>Date Range</b>
Postclassic	AD 900/1000–1519
Terminal Classic	AD 750–900/1000
Late Classic	AD 600–750
Early Classic	AD 300–600
Terminal Preclassic	AD 150-300
Late Preclassic	300 BC-AD 150
Middle Preclassic	900–300 BC
Early Preclassic	1200/1100–900 BC

#### *4.3.1 The Preclassic*

The Preclassic period, ushers in a time of dramatic social, political, and economic transformation, beginning with an increase in sedentary living, the refinement of agricultural practices, and technological advancement such as the introduction of ceramics (Ebert 2017: 35-36). The Preclassic period also sees a shift in regional distinctions between concurrent Mesoamerican cultural groups, with the Maya region becoming more distinct from other neighbouring cultures through their architectural style, art, and material culture (Sharer and Traxler 2006: 175). This period sees the first constructions of monumental public architecture, which marks early hierarchical organization and is one of the driving forces for development in social, economic, and political complexity (Awe 2008; Ebert 2017: 36; Demarest 2004: 15). Towards the transitional period from the Preclassic to the Classic, Inomata et al. (2017: 1297) found evidence of political decline (~100-300 CE) at the civic-ceremonial centre of Ceibal in the Pasión region of the central Maya lowlands. Inomata et al. (2017: 1296) suggest this “Preclassic collapse” can be observed at other centres across the Maya Lowlands including political centres located proximally to the Belize Valley.

#### *4.3.2 The Classic Period*

The Classic period marks a time of florescence within the central Maya lowlands, which involved great developments in architectural construction, the arts, written language, calendrics, astronomy, and mathematics. Classic period Maya societies employed greater regional expansion, interregional alliances, increased construction of monumental architecture

and sculpture, and saw a rapid increase population. The final centuries of the Classic period marks some of the most highly debated times within Maya archaeology, this time period being the Terminal Classic period (750-900/1000 CE). The Terminal Classic period marks a time of political and economic decline and massive social transformation. This time period is often associated with the great “Maya Collapse”, an event that still confuses archaeologists despite over a century of intense research (see Demarest et al. 2004). The Classic Maya collapse is defined as a time of strife, ideological disenchantment, disenfranchisement, environmental degradation, drought, disease, and political warfare (Aimers 2004: 306-307; Chase and Chase 2004:13-14). During the Terminal Classic period each Maya sub-region seems to be experiencing the social transformation or “collapse” in different ways and at different times, however two factors appear to be evident in the archaeological record during this time. The first factor being a “sociopolitical” (Aimers 2007) stressor, that during this time divine kingship appears to be dissolving as reflected by decreases in the production and consumption of material with hieroglyphic inscriptions and the construction of monumental architecture (Schele and Freidel 1990: 382-396). The second factor deals with external stressors, in this case environmental stress such as reoccurring, and in some areas ongoing, drought. Many archaeologists have studied these environmental stressors in relation to the Maya collapse, including Hoggarth et al. (2016), who documents two major episodes of drought in the Yucatan peninsula during the Terminal Classic and the Early Postclassic periods. In western Belize, archaeologists have been able to identify severe drought conditions during the Terminal Classic period (Hoggarth et al. 2016: 29-30). A closer look at the social and environmental conditions during the Terminal Classic period in the Belize Valley shows that elite individuals were reliant on a highly specialized diet consisting primarily of maize (Ebert et al. 2019; Kennett and Beach 2013). Ebert et al. (2019) concludes that dependency on the agricultural production of maize during a time of drought would have had serious impacts on the consumers of such crops in comparison to those who were willing to maintain a more diversified diet and suggests this reliance, on maize agriculture by Maya elites, to have been a contributing factor in the decline of divine kingship.

#### *4.3.3 The Postclassic*

The Postclassic period (1000-1519 CE) brought a time of political renewal for the Maya. After the Terminal Classic period, the Caribbean coast and the Northern Lowlands saw increasing political development (Sharer and Traxler 2006: 534,591). Despite the abandonment

of major city centres in the Belize Valley by the end of the Terminal Classic period, archaeological evidence suggests that occupation in the Belize Valley persisted, however on a much smaller scale than that of the Classic period. Archaeological evidence from Barton Ramie (see Willey et al. 1965), Tipu 43 (see Aimers 2004; Graham 1991), and even reoccupation of some centres such as Baking Pot (see Audet and Awe 2005; Hoggarth et al. 2014; Willey et al. 1965) suggests these sites were resilient enough to withstand the total decline of the Maya Collapse, and saw some form of occupation through the Postclassic period.

#### **4.4 The Belize Valley**

The cultural sub-region of the Belize River Valley, also referred to as the Belize Valley, is defined by the major waterways of the area, namely the Mopan River, Macal River, and the Belize River. Major civic-ceremonial centres such as Lamanai to the north, Caracol to the south, and Naranjo to the west create a cultural boundary of the Belize Valley, since Lamanai, Caracol, and Naranjo display many differences from those centres located in the valley (Chase and Garber 2004; Connell and Silverstein 2006; Helmke and Awe 2012). The Belize Valley is one of the longest occupied regions in the central Maya Lowlands with first occupations beginning no later than the Early Preclassic Period (~1200 BCE) until the Postclassic and even through the Colonial period (Chase and Garber 2004: 8; Graham et al. 1985). The socio-political organization of the Belize Valley has long been a topic of discussion and provides an interesting region to examine social interaction and organization (Driver and Garber 2004; Iannone 2004; Walden et al. 2019). Several peer-polities in the Belize Valley seem to have been similar to the other riverine valleys of the Maya lowlands (Golden et al. 2008), yet stand in contrast to areas where the largest polities, such as Caracol, Calakmul, and Tikal, occupied environments that lack major waterways (Chase and Chase 2003: 113-116; Rice and Puleston 1981; Willey 1981).

My research focuses on the Belize Valley as I have several years of experience conducting archaeological research in the region (Figure 4.2). The valley's political landscape included various socially stratified entities whose interaction and cooperation with one another had a great effect on the many communities in the Belize Valley (see Walden et al. 2019). I target two contemporaneous civic-ceremonial centres in the Belize Valley, Baking Pot and Cahal Pech, for this research. Both centres are situated in the upland areas of the region, often referred to as the Upper Belize River Valley (Chase and Garber 2004: 1). The Upper Belize

River Valley area spans approximately 125 km<sup>2</sup>, stretching from the Late Classic centre of Xunantunich to the Preclassic centre of Blackman Eddy.

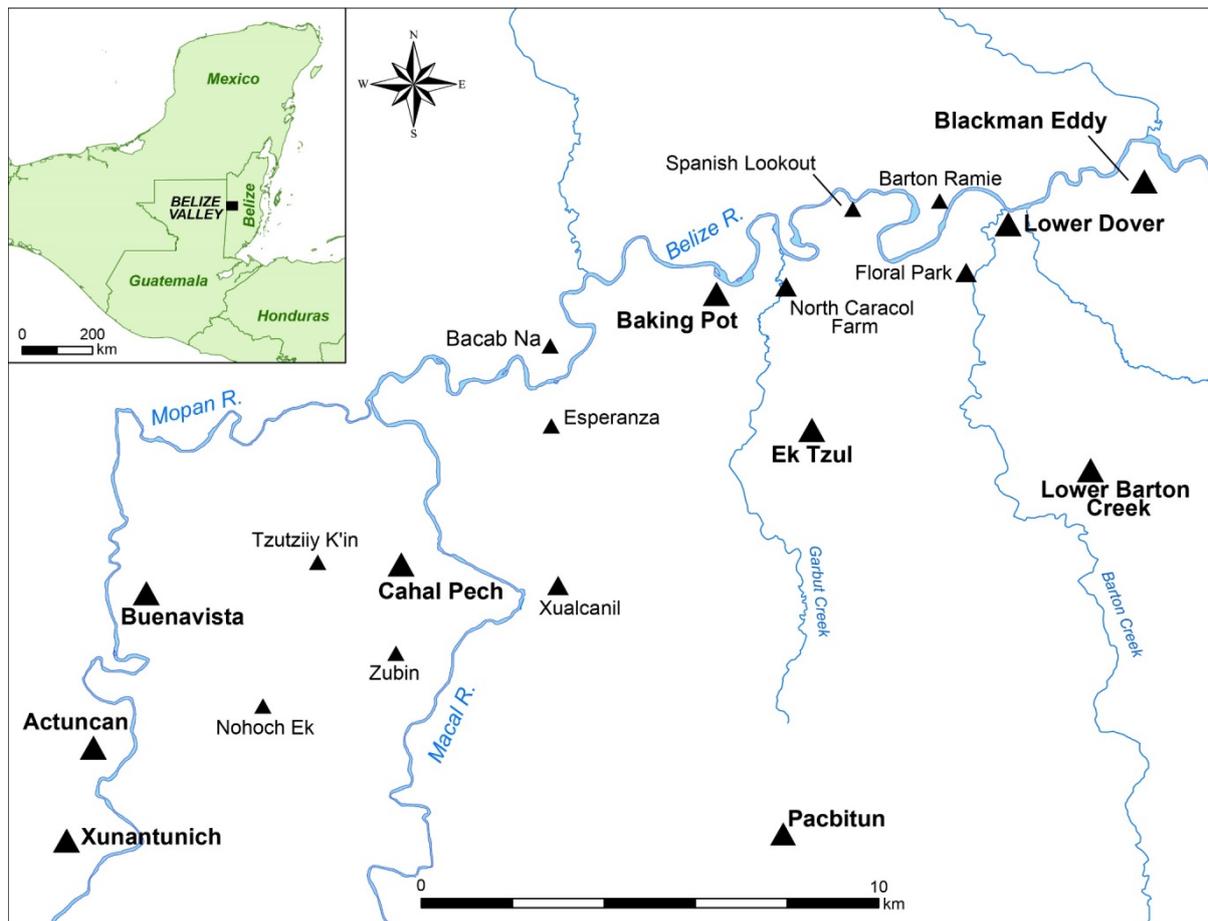


Figure 4.2 Map of Belize Valley and Maya lowlands (inset) with major sites mentioned in text (map by C. Ebert, 2018).

## 4.5 Cahal Pech

### 4.5.1 Site Description

Cahal Pech is one of the earliest and longest occupied Maya centres within the Belize River Valley. Cahal Pech first shows signs of inhabitancy around ~1200 BCE (Early Preclassic). The Cahal Pech civic-ceremonial centre is located atop a limestone escarpment, which provides its inhabitants with a vantage point, however this also hinders the ability to expand in architectural construction. The centre maintained political and economic stability until ~900 AD (Terminal Classic) (Ebert, 2017: 36). During the Middle Preclassic (900-650 BCE), the initial signs of investment in monumental architecture began within the civic-ceremonial centre of Cahal Pech, with large platforms constructed from limestone (Awe 1992; Ebert, 2017: 52; Healy et al. 2004; Horn 2015). During the Late Preclassic period, Cahal Pech

saw a dramatic increase in the construction of monumental architecture, which reflects “institutionalized social differentiation” (Ebert 2017: 52). In addition, a rise in more elaborate burial practices, suggests that Cahal Pech was the “seat of power” for the region during that time period (Awe 2013; Awe and Zender 2016; Ebert, 2017: 52; Healy et al. 2004; Novotny 2015). From the Early Classic through to the Late Classic period, Cahal Pech is seen as one of the dominant political centres in the region, as observed through the maintenance of sequential architectural construction (Awe 1992; Ebert, 2017: 96).

#### *4.5.2 Archaeological History*

Archaeological research at Cahal Pech began during the 1950s by Linton Satterthwaite of the University Museum of Pennsylvania (see Satterthwaite and Ralph 1960). Throughout the 1970s, the civic-ceremonial centre was heavily looted, which led the Belize Tourist Industry Association to develop a plan of action to preserve Cahal Pech with the goal of opening the archaeological site for public use. During the 1988 field season, Joseph Ball and Jennifer Taschek excavated and conserved many structures in the palatial compound. During the same field season, the Belize Valley Archaeological Reconnaissance Project (BVAR) under the direction of Jaime Awe, began preliminary excavations and re-surveyed the site core and periphery areas (Figure 4.3). The survey of the site core established Plazas A, D, and E as the palace compound based on noticeable restriction of access into these plazas (Awe et al. 1991). Since 1988, the BVAR project has continued to conduct research within the civic-ceremonial centre of Cahal Pech with the goal of further understanding the earlier developments of the centre (see Awe 1992; Ebert 2017; Healy et al. 2004; Horn 2015).

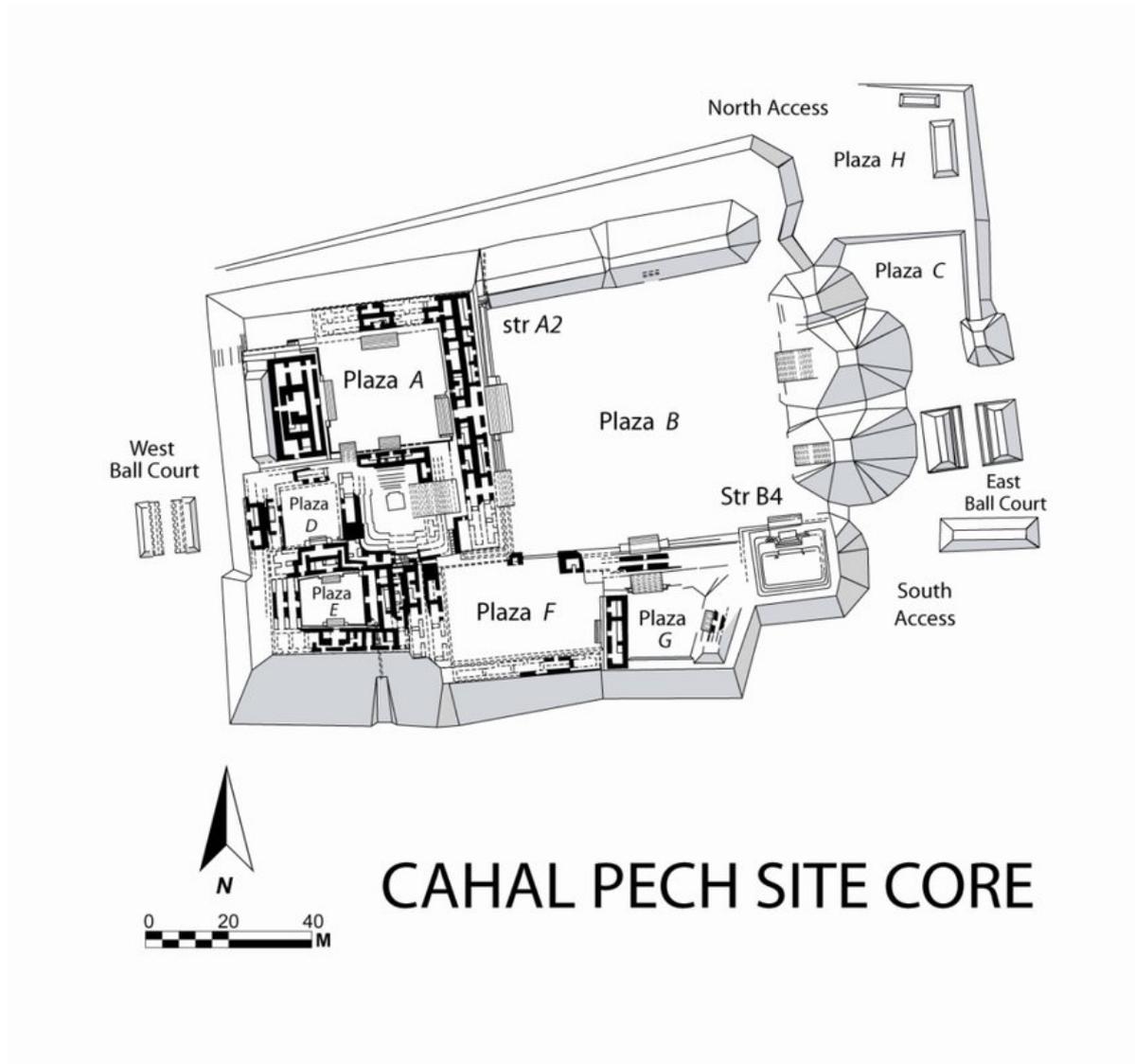


Figure 4.3 Map of the Cahal Pech civic-ceremonial centre (courtesy of the Belize Valley Archaeological Reconnaissance project).

#### 4.5.3 Cahal Pech Palace Compound

The apical elite palace compound at Cahal Pech incorporates Plaza A, Plaza D, and Plaza C of the Cahal Pech civic-ceremonial centre (Figure 4.3). Plazas B, C, F, G, and H are considered public space due to their spatial openness and lack of architectural restriction, as such these areas are referred to as ‘public space’ for the remainder of this dissertation. The Cahal Pech palace is situated at the highest elevation within the city centre at ~4m above the public space (162 masl). The palace compound is comprised of 14 buildings. The type of buildings present include: range structures (long multi-roomed structure), one temple (building with a ritual function), and three plazas (Plaza A, Plaza D, and Plaza E) situated on a platform of 10347 m<sup>2</sup> in area. Notably, the Cahal Pech palace compound is concentrated in the western

portion of the centre behind the primary thoroughfare of Structure A2, a range structure that displays 12 doorways and one axial passage into the palace compound.

## **4.6 Baking Pot**

### *4.6.1 Site Description*

The Baking Pot civic-ceremonial centre is separated into two architectural ‘groups’, Group A and Group B. Group A is considered and referred to as ‘public space’, as the architecture there includes ancestral shrines and temples (Figure 4.4). The presence of these building types provides the grounds to designate Group A as ‘public space’ as such buildings are thought to be intended for performance and spectacles for public benefit (Inomata 2006; Ringle and Bey III 2001). Group B is considered to be the palatial compound as the group incorporates many range structures, elevated courtyards, and is more spatially enclosed (discussed below). Group A and Group B are connected via *sacbe*, or causeway (Hoggarth 2012: 48). Baking Pot is situated in the alluvial plains of the central Belize Valley, along the southern banks of the Belize River. The Baking Pot polity incorporates a more densely settled hinterland, in comparison to other major civic-ceremonial centres in the region, and at least three minor centres which would have housed intermediate elites, under the rule of Baking Pot’s apical elite (Audet and Awe 2005; Bevan et al. 2013 ; Hoggarth, 2012: 48; Walden et al. 2019).

The earliest occupational dates for the Baking Pot site core reveal the centre was occupied no later than 400 BCE and reached its political apex as an independent entity towards the end of the Late Classic period (Audet and Awe 2005; Helmke and Awe 2012; Hoggarth, 2012: 40). Monumental construction efforts at the civic-ceremonial centre of Baking Pot seem to cease after the Late Classic period, suggesting that occupation declined shortly thereafter (Audet 2006; Helmke and Awe 2012; Hoggarth 2012: 42). Group A and several households in the periphery do, however, display some evidence of having been reoccupied in the Late Postclassic (Hoggarth et al. 2014: 1070-1071).

### *4.6.2 Archaeological History*

Baking Pot was first excavated in 1924 by Oliver G. Ricketson in affiliation with the Carnegie Institution of Washington. During these initial investigations of Baking Pot, Ricketson was able to recover several elaborate burials from the eastern temple structures located in Group A (Ricketson 1929). Archaeological investigations of Baking Pot would

continue with the first archaeological commissioner of Belize, A.H. Anderson in 1949, where investigations primarily focused on Ballcourt 3 and Structure B1 (Hoggarth 2012: 49). William R. Bullard aided in the supervision of Anderson's excavations in Group B and would return in 1961 and 1965 to continue Anderson's excavations at the ballcourt and Structure B1 (see Bullard 1963; Bullard & Bullard 1965). In 1965, Gordon Willey would conduct the first systematic excavations at the site core of Baking Pot and conducted settlement survey of the Baking Pot polity (Willey et al. 1965).

The Belize Valley Archaeological Reconnaissance project has continued to conduct archaeological research in both the settlement and the site core of Baking Pot, starting in 1992 (see Conlon 1993). Over the past twenty field seasons, the BVAR project has focussed on understanding the occupational and construction sequences of the site core to diachronically understand the political and urban trajectory of the overall polity and how Baking Pot was situated within the greater Belize Valley.

#### *4.6.3 Baking Pot Palace Compound*

Group B is the southernmost group of the Baking Pot centre situated ~300m from Group A and is considered to be the apical elite palace compound as previously discussed. Group B is referred to as the Baking Pot palace compound for the remainder of this dissertation (Hoggarth 2012). The Baking Pot palace compound is situated at approximately 56 masl and is composed of at least 22 structures (mainly range structures), five courtyards, and one plaza. Special function structures and monuments include one ballcourt (the playing surface of which acts as the only entrance into Group B), one sweatbath, and at least one known stela. The majority of the structures that make up the Baking Pot palace compound are concentrated on the eastern side of Group B, situated behind Structure B7, Structure B1 (high, terraced platform temple), and Structure B21 (range structure). The main plaza (Plaza B) is situated on the west and enclosed by three range structures with the ballcourt entrance at the southwest corner.

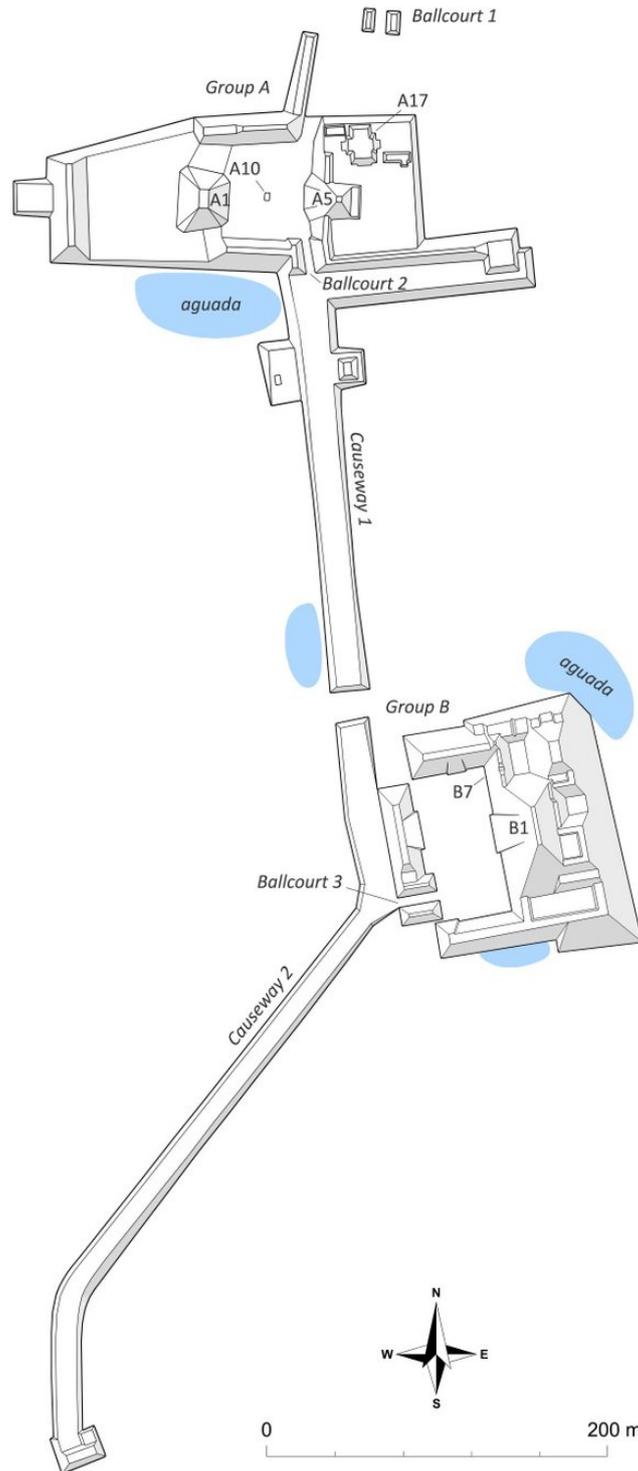


Figure 4.4 Map of the Baking Pot civic-ceremonial centre (courtesy of the Belize Valley Archaeological Reconnaissance project).

## **4.7 Discussion**

For the purposes of this dissertation, I follow the designations of the Cahal Pech and Baking Pot palace compounds that have been distinguished in previously research, and as the architectural groups fit the criteria listed above (Awe et al. 1991; Awe 2008; Hoggarth 2012; Walden et al. 2019). The two palatial compounds at Cahal Pech and Baking Pot were chosen for my study because they are noticeably different in architectural layout and composition. This becomes a point of interest as both palaces were occupied contemporaneously, although current knowledge suggests Cahal Pech predated Baking Pot by ~800 years (Audet and Awe 2005; Ebert 2017; Helmke and Awe 2012; Hoggarth, 2012: 40). The following chapters discuss the architecture of each palace compound to understand the construction efforts and decisions made by the apical elite Maya responsible for such construction.

## CHAPTER 5

### Methods and Analysis Results

#### 5.1 Introduction

Architectural analysis of the Cahal Pech and Baking Pot palace compounds involves the collection of architectonic data from each palace compound including the area ( $m^2$ ), volume ( $m^2$  and  $m^3$ ), and elevation (masl). Architectonic data was extracted from LiDAR data (courtesy of the Belize Valley Archaeological Reconnaissance project) to obtain the architectural variables mentioned above. Measures of accessibility are incorporated into the architectural analysis to assess underlying decision making processes in architectural design and construction. Accessibility was measured through space syntax analysis and is based on spatial connectivity, spatial integration and mean spatial depth. This chapter provides discussion on each of the methods applied and the results of the analysis.

#### 5.2 Methods

The dual architectural analyses of two Classic Maya palaces at the civic-ceremonial centres of the polities of Cahal Pech and Baking Pot provide insight into apical elite decision making in construction (volumetrics), while applications of space syntax elucidate strategies of inclusivity and exclusivity. Esri's ArcGIS ArcMap v10.3.1, and Depth Map X were used for analysing monumental architecture. ArcGIS was used to extract measurements of the architecture from LiDAR data. Additionally, the use of Depth Map X provides data regarding accessibility by measuring connectivity, spatial integration, and depth of a given palatial compound (Liendo Stuardo 2003; Morton et al. 2012; Watkins and Walden 2018). The resulting dataset was then manipulated statistically to assess variability in elite decision making. The analysis reported here is comparative and uses multiple architectural variables, to assess the intention and ideals behind the construction of elite space in the Belize River Valley.

##### *5.2.1 Architectural Variables*

The variables obtained through ArcMap were extracted from the LiDAR data acquired by the West-Central Belize Lidar Survey (Figures 5.1 and 5.2; see Awe et al. 2015; Chase et al. 2011; Ebert et al. 2015). Architectural variables considered in this dissertation include, Area ( $m^2$ ), Architectural Volume ( $m^3$ ), Architectural Volume ( $m^2$ ), and Elevation (masl). Area represents the total area of the centre, plaza, and/or structure being measured in meters squared.

Architectural Volume represents the total mass of the architecture in meters cubed. Architectural Volume per m<sup>2</sup> represents the density of architectural volume per meters squared as represented by the area. Elevation represents the height of a given point and is measured in meters above sea level (masl). Each individual variable is compared to the variables of the whole city centre to understand the proportional similarities and differences in the architectural compositions of Maya palaces. Many scholars have identified a strong correlation between architectural size and higher socio-political status (see Abrams 1994: 76-77; Fash and Stuart 1991; Hendon 1991). As such, the scales of the Cahal Pech and Baking Pot palace compounds indicate that both groups must have been commissioned by politically powerful regimes. (Abrams 1994: 4-5; Walden et al. 2019; see also McCurdy 2016).

### *5.2.2 Space Syntax*

The application of space syntax is used to measure spatial connectivity, integration, and depth. As described by Hillier and Hanson (1984: 103) connectivity “measures the number of spaces immediately connecting a space of origin”. Connectivity is an important variable because it quantifies the ability to move freely through a constructed space through other connected spaces. Integration measures “how deep or shallow a space is in relation to all other spaces” (Hillier and Hanson 1984: 24-25,108). It is a variable that refers to how a space is “connected with other spaces in its surroundings” (Hillier and Hanson 1984: 108-109) and is often construed as how likely a space is to be the location of frequent social interactions (Hillier, 1996). Depth “is calculated by assigning a depth value to each space according to how many spaces it is away from the original space, summing these values and dividing by the number of spaces in the system less one (the original space)” (Hillier and Hanson 1984: 108).

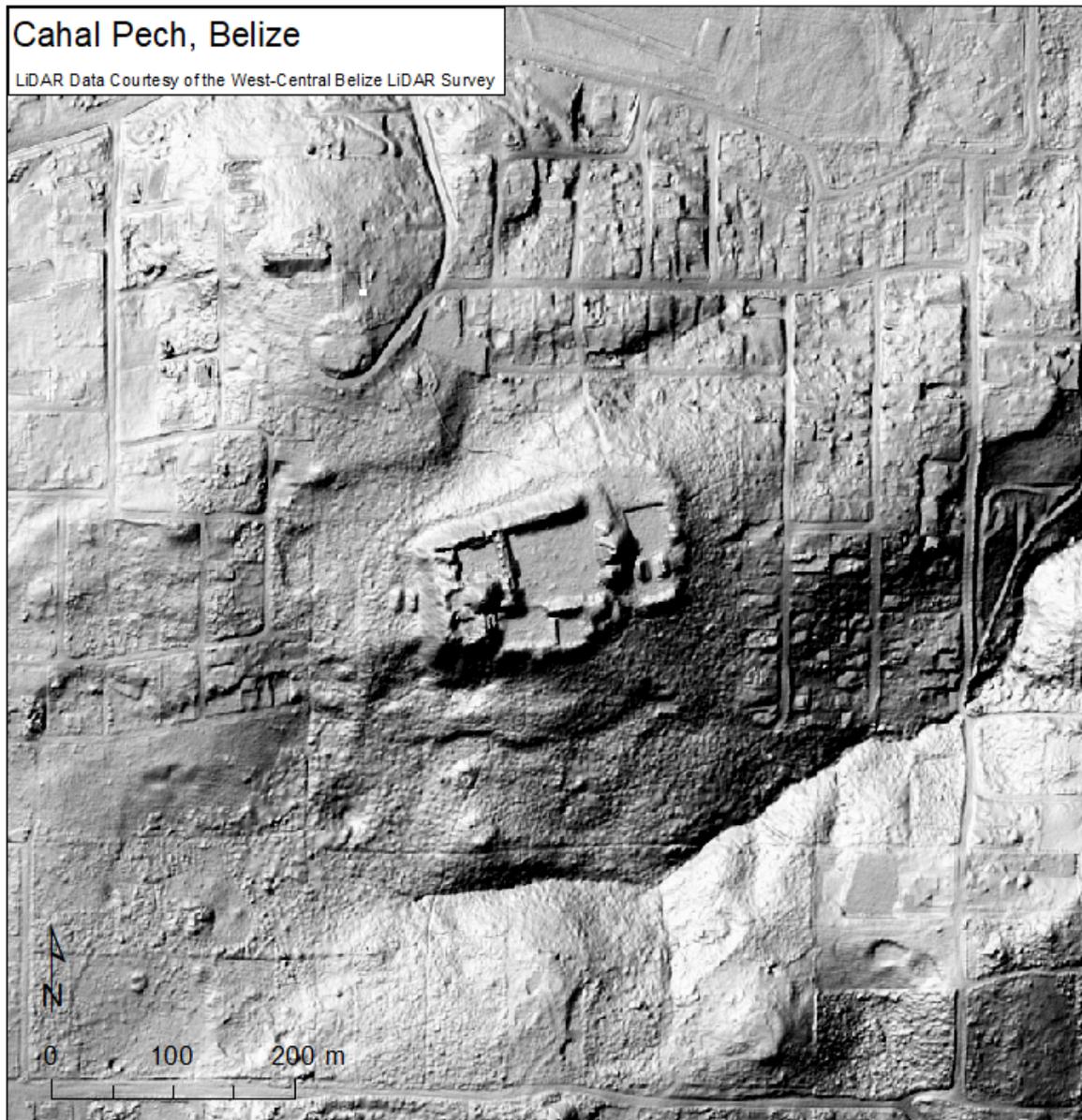


Figure 5.1 Hillshade image of Cahal Pech civic-ceremonial centre from LiDAR database (Courtesy of the BVAR project).



Figure 5.2 Hillshade image of Baking Pot civic-ceremonial centre from LiDAR database (Courtesy of the BVAR project).

### 5.3 Analysis Results

This section presents the results from the architectural analysis discussed in previous sections. Following the organization of the methods section, architectural variables including area, volume, elevation, and proportional ratios are presented first and discussed in detail. Subsequently, results from the space syntax analysis are presented and interpreted for further discussion in Chapter 6.

Table 5.1 Architectural metrics for Cahal Pech civic-ceremonial centre and palace.

<i>Site/Area</i>	<i>Area (m2)</i>	<i>Volume (m3)</i>	<i>Volume (m2)</i>	<i>No. of Structures</i>	<i>Elevation (masl)</i>	<i>Area %</i>	<i>Vol (m3) %</i>	<i>Structure %</i>
<i>Cahal Pech Centre</i>	28374	84841	2.99	34	162	100.00%	100.00%	100.00%
<i>Cahal Pech Palace</i>	10347	78441	7.58	14	166*	36.47%	92.46%	41.18%

Table 5.2 Architectural metrics for Baking Pot civic-ceremonial centre and palace.

<i>Site/Area</i>	<i>Area (m2)</i>	<i>Volume (m3)</i>	<i>Volume (m2)</i>	<i>No. of Structures</i>	<i>Elevation (masl)</i>	<i>Area %</i>	<i>Vol (m3) %</i>	<i>Structure %</i>
<i>Baking Pot Centre</i>	51774	284010	5.49	46	50	100.00%	100.00%	100.00%
<i>Baking Pot Palace</i>	16876	89207	5.29	22	56*	32.60%	31.41%	47.83%

#### 5.3.1 Volumetric Data

The results for architectural volume and area demonstrate interesting contrasts between the Cahal Pech and Baking Pot palace compounds. The palatial compound of Cahal Pech comprised 92.46% of the site's overall architectural volume, while only taking up just over a third 36.47% of the total area. What this indicates is that the Cahal Pech apical elite were architecturally more invested in the palace compound than in public/community space. The Baking Pot palace compound on the other hand, revealed to be composed of only 31.41% of the site's total architectural volume and take up roughly a third 32.60% of the total area of the centre.

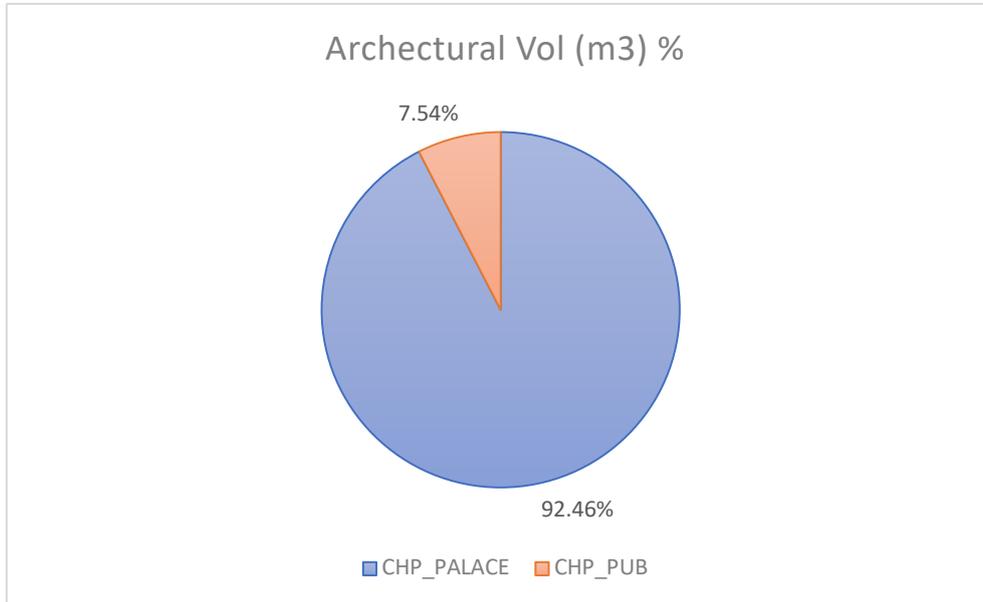


Figure 5.3 Chart of the architectural volume (m<sup>3</sup>) of the Cahal Pech palace (CHP\_PALACE) in proportion to the Cahal Pech public space (CHP\_PUB).

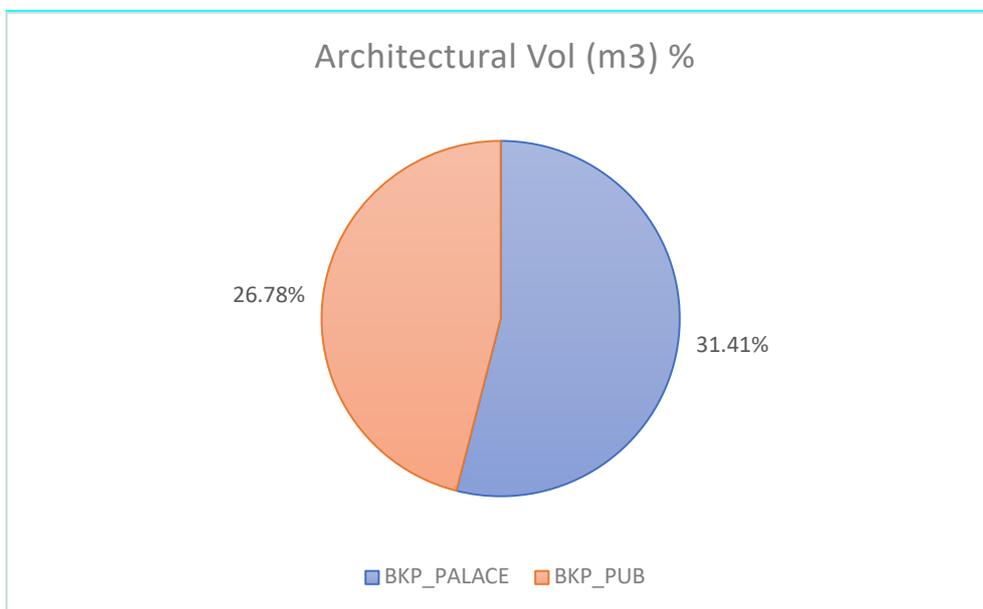


Figure 5.4 Chart of the architectural volume (m<sup>3</sup>) of the Baking Pot palace (BKP\_PALACE) in proportion to the Baking Pot public space (BKP\_PUB).

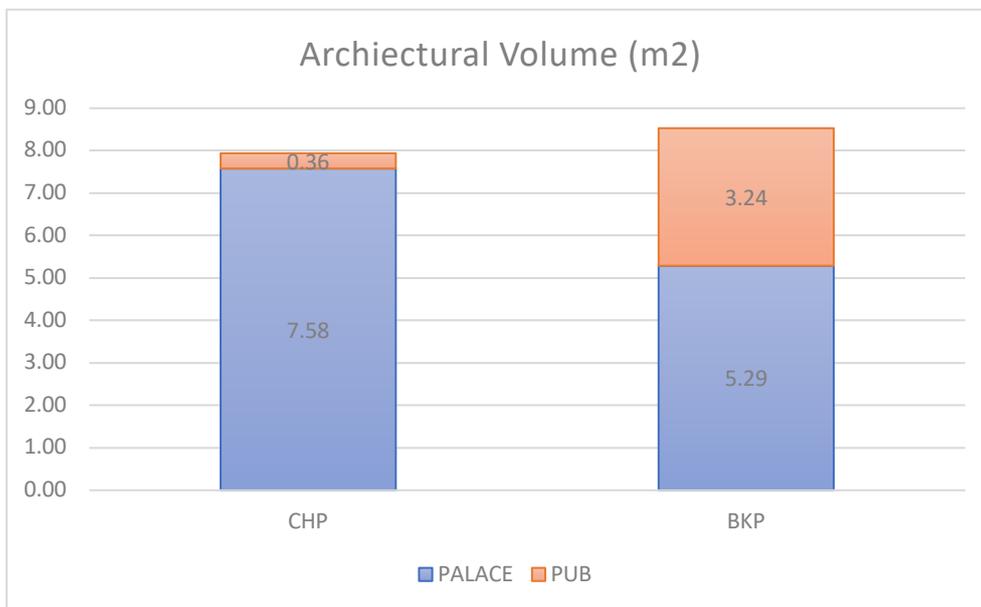


Figure 5.5 Graph displaying the architectural volume (m2) for the Cahal Pech (CHP) and Baking Pot (BKP) palaces in proportion to the public space (PUB).

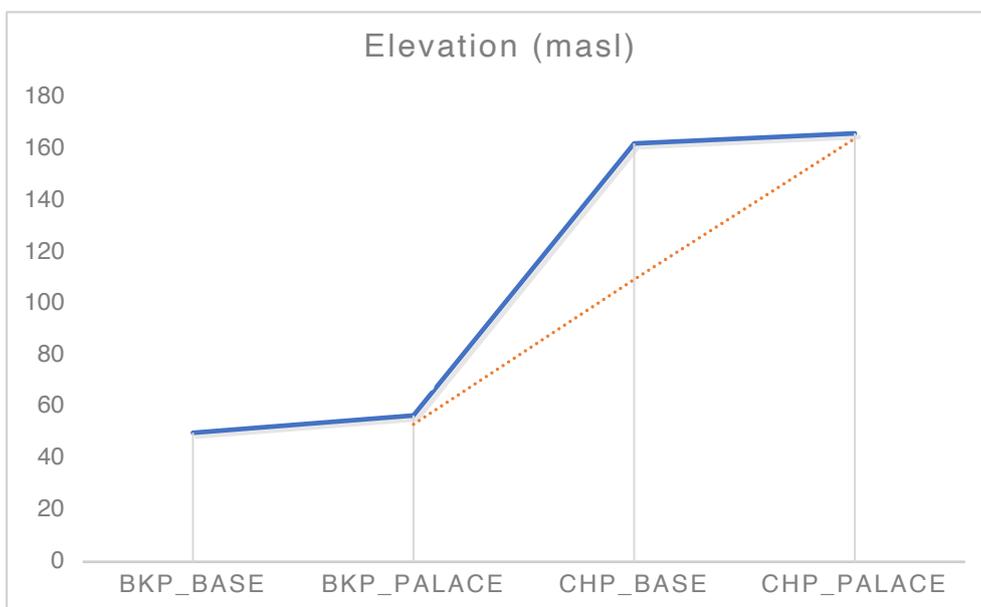


Figure 5.6 Graph showing the difference in elevation, trend line showing a positive relationship between palaces being more elevated than the public space.

### 5.3 Space Syntax Analysis

Results from the space syntax analysis present two different patterns in the data between the Cahal Pech and Baking Pot palace compounds. Analysis was conducted on the palace compounds and the civic-ceremonial centres as a whole to provide comparative data of each palace within their broader contexts. This comparison helps to clarify the degrees of accessibility of each palace compound by providing a base measurement (the whole centre) to refer to.

Table 5.3 Space syntax results for Cahal Pech and Baking Pot palace compounds and the broader centres as a whole.

Site/Area	Node Count	Connectivity (Mean)	Integration (Mean)	Mean Depth
Cahal Pech Centre	13	2.00	0.83	2.89
Cahal Pech Palace	9	1.77	0.73	2.72
Baking Pot Centre	31	2.24	0.82	4.14
Baking Pot Palace	18	2.00	0.86	3.37

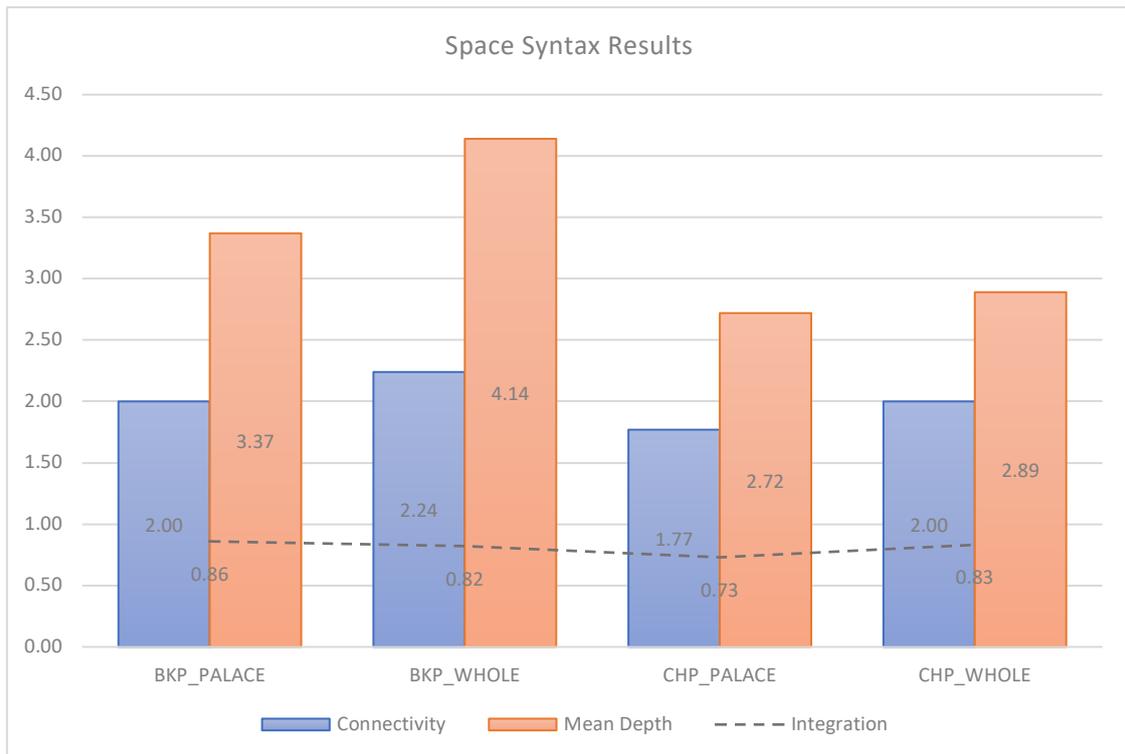


Figure 5.5 Bar chart displaying all variables from the space syntax analysis for the palace compound and the civic-ceremonial centres as a whole.

#### *5.4.1 Connectivity*

The mean connectivity measurement for the Baking Pot palace compound resulted at 2.00 in comparison to the site's overall spatial connectivity of 2.24. This indicates that a given space within the Baking Pot palace compound averages two connections to a given area's neighbouring spaces. The Cahal Pech palace compound also displays a low degree of connectivity (1.77) when compared to the site's overall score of 2.00. Both Cahal Pech and Baking Pot palace groups therefore displayed lower degrees of connectivity when compared to the site's overall connectivity, and further conclude that the spatial layout of public space is more connected than the palace compounds.

#### *5.4.2 Depth*

The mean depth for the Baking Pot palatial compound scored 3.37, meaning that the average spaces needed to pass through to reach a given destination is 3.37 spaces. The mean depth for the Cahal Pech palace is 2.72. The mean depths for both palatial compounds conclude that the Baking Pot palace is spatially deeper than the Cahal Pech palace, which suggests the Baking Pot palace compound space is more restricting when it comes to movement as it would take an individual more movement to navigate the Baking Pot palace over the Cahal Pech palace. The depth of each palace compound is best represented by J-Graphs, which are generated using space syntax applications (Figure 5.6). The J-Graphs display nodes as individual spaces (access points) and the strings represent each connection to a given space.

#### *5.4.3 Integration*

The integration score relates to how "social" a given space is, meaning the integration score of a given space theoretically represents the likeliness for that space to be more or less social space (Hillier 1996). The Integration score for the Baking Pot palace compound is 0.86, a higher score than the site's overall integration of 0.82. Integration for the Cahal Pech palace displays opposite results to Baking Pot in that the Cahal Pech palace integration is 0.73 compared to the site's higher degree of integration at 0.83. The results from the integration measurements prove interesting as we can see that the palace compounds display contrasting patterns in integration when compared to the site as a whole.

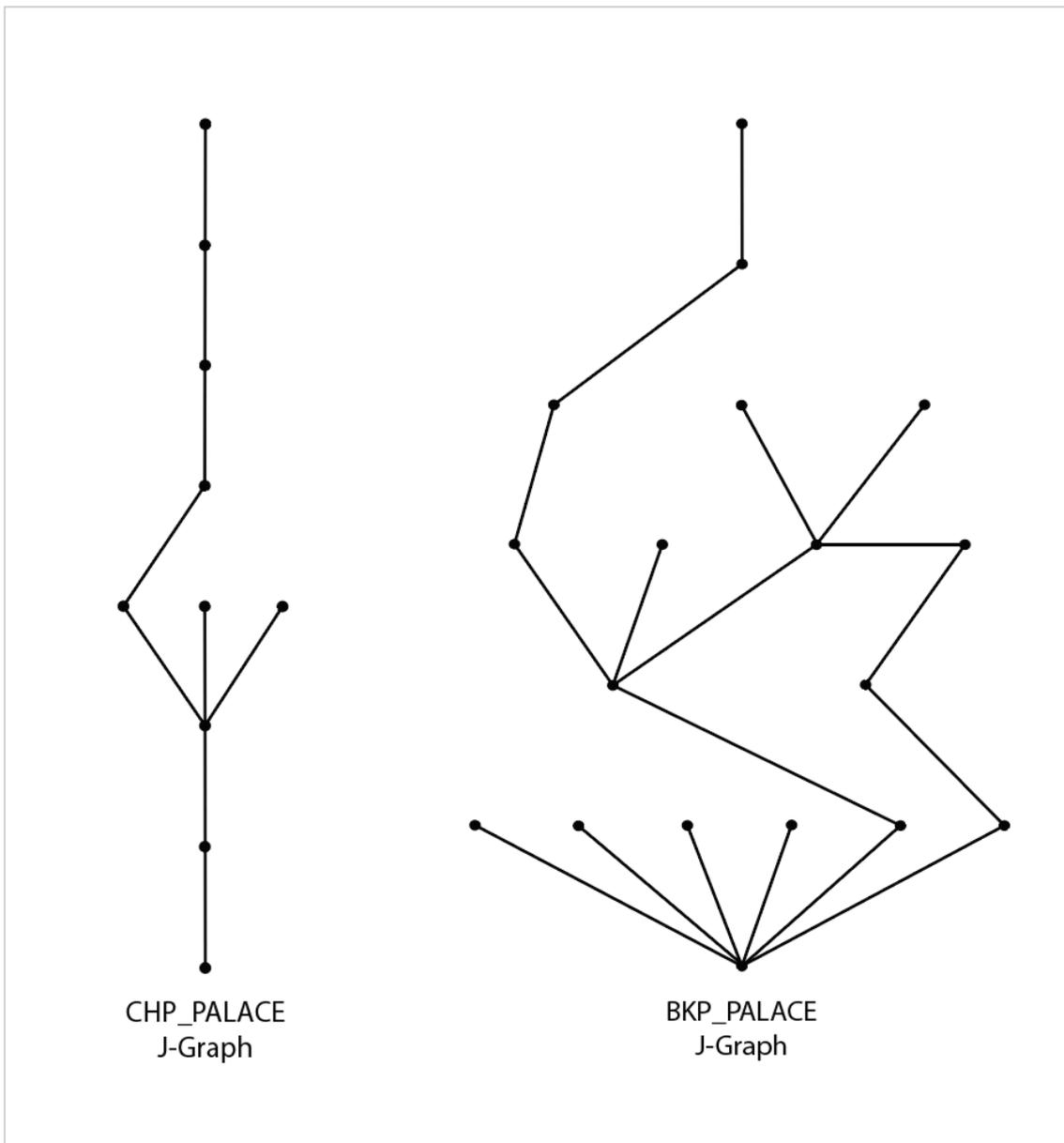


Figure 5.6 J-Graphs for the Cahal Pech and Baking Pot palace compounds.

#### 5.4 Discussion

Considering the variables discussed above, we can identify some patterns and some outliers for interpretation. The first notable contrast between the Baking Pot palace and the Cahal Pech palace is the difference in architectural volume. As the apical elite are responsible for controlling the labour and resources needed to construct monumental architecture (Awe 2008; Abrams 1994; Neiman and Monticello, 1997), they are naturally also responsible for deciding which structures are being invested in and the organization of that space. As reflected in the data presented here, apical elites invest in the construction of monumental architecture

in different ways, which is to be expected, however there are distinct contrasts between the two palatial compounds analysed here.

As the architecture was analysed for both the palace compound as well as the whole city centre, comparing the proportional makeup of each centre shows that the Cahal Pech palace makes up ~92% of the entire civic-ceremonial centre's architectural volume. This is important as it demonstrates that the apical elite placed a heavy emphasis on elite space, leaving only ~8% of the ceremonial centre as dedicated space for public use and events, such as markets, public ceremonial gatherings, and public rituals (Inomata and Tsukamoto 2014: 3). The priority area of investment is clearly defined here and indicates that the Cahal Pech apical elite were more concerned with the construction of their own space. Looking at the space syntax results, we can also see that the spatial organization of the Cahal Pech palace is less integrated and less interconnected when compared to the centre's overall integration, which suggests higher restriction of through-movement and accessibility. The high restriction of the Cahal Pech palace contrasts other patterns of accessibility for Classic Maya ceremonial centres in the Maya Lowlands, which are fairly accessible (Liendo Stuardo 2013: 191-194).

The architectural metrics for Baking Pot show that the palatial compound (Group B) makes up 31% of the architectural volume for the ceremonial centre. While this may seem relatively low, it is actually slightly higher than the volume of the public space (Group A), which makes up 26% of the ceremonial centre, attributing ~43% of the architectural makeup to the ~750m long *sacbeob* that extend N/S through the entire centre and its associated structures on either end. When compared to the architectural volumes for Cahal Pech, the Baking Pot apical elite appear to have invested equally in the construction of both public space and elite space, with a slightly higher investment in their own private space. The space syntax results for Baking Pot communicate that the centre as a whole is less integrated than the palatial compound, meaning that the palace compound is relatively accessible and less restricted internally, having a higher score than the overall ceremonial centre. This follows other palatial compounds in the Maya Lowlands during the Classic period such as Tikal and Uaxactun (Liendo Stuardo 2013: 189).

## CHAPTER 6

### Synthesis and Discussion

#### 6.1 Architectural Construction

As discussed in Chapter 5, the proportions of architectural construction (Volume  $m^2$  and  $m^3$ ) of the Baking Pot and Cahal Pech palace compounds are different. The nearly uniform proportions of both Group A and Group B at Baking Pot, suggest the civic-ceremonial centre as a whole may have been the product of intentional architectural planning. The topic of intentionality regarding monumental construction is often criticized for its lack of emic consideration for the constructors themselves (Joyce 2004; see also McCurdy 2016). Joyce (2004) suggests that the accumulation of monumentality is not always the intentional outcome of the structure's first planning. This diachronic aspect is important to consider, as Maya architectural design and layout changes through time (Ashmore 1989: 283). While the data presented here does not offer a diachronic perspective, the equal proportions of built space seem intentional and suggest that strategic architectural planning occurred at least with the final phase of construction at Baking Pot. Such proportional design of public space and elite space is considered a tactical strategy on part of the apical elite, as “elite ambition favours vertical consolidation, but popular support is won through the celebration of the collectivity” (McCurdy 2016: citing Dunning et al. 2003: 144). This puts forth the idea that the final architectural construction of Baking Pot may have served to reinforce community identity by providing integrative architectural space (Chase and Chase 1996) by demonstrating that the construction of public ceremonial space was just as important as the construction of the elite palace (Parmington 2011; McCurdy 2016: 164). In providing integrative space, the Baking Pot apical elite employ a corporate strategy in which the commoners or non-elites may have felt included and tied to those elites and to the ideologies of divine kingship, which ultimately would have given favour to the Baking Pot apical elite and increased their political power (Blanton et al. 1996).

In contrast, the architectural volume of the Cahal Pech civic-ceremonial centre construction is disproportionately weighted, as the palace compound makes up the architectural majority of the whole centre. These data suggest that the Cahal Pech apical elite held a different approach to constructing elite space compared to public space, the former being more elaborate and grander in comparison to the later. This perhaps demonstrates that the Cahal Pech apical elite had to bolster ideas of social inequality through the investment of palatial architectural construction. This investment in the architectural construction, maintenance, and renovation of

the palatial compound at Cahal Pech perhaps reflects ideologies surrounding the Cahal Pech dynastic lineage and divine kings themselves rather than broader cosmological meaning, corroborating a network approach (Blanton et al. 1996). Demonstrating dynastic lineage, as discussed in Chapter 3, is an important aspect of successful rule, and as Cahal Pech is one of the longest occupied civic-ceremonial centres in the Belize Valley, this may have become even more essential to the polity's stabilization as other polities begin to emerge in the region during the Classic period and even during the Late Classic period.

When considering the data for the surrounding settlement, both Cahal Pech and Baking Pot are estimated to have roughly the same polity population of 3,000 inhabitants (Hoggarth 2012: 44, Table 3.1). Thus, the dramatic difference in architectural proportions between Cahal Pech and Baking Pot, theoretically could not be based solely on access to labour. What is notable, as discussed in Chapter 4, are the locations of each centre on the landscape. In theory, the Cahal Pech elite had better access to construction materials as the centre was situated atop a limestone escarpment. Baking Pot elites in comparison would have required greater control over construction resources and procurement to successfully construct the monumental centre, as it is situated in an alluvial plain. What might be the case, as reflected by the architectural volume, is that the Cahal Pech apical elite might not always have had stable control over its associated intermediate elites and thus the commoners themselves. If labour was unreliable or unstable, this might be reflected in the dense construction of the Cahal Pech palace compound, as investment priority would have gone to elite space over public space.

## **6.2 Accessibility and Control**

Following Parmington (2011: 21), the accessibility and control of constructed space reflects a certain degree of power, as demonstrated by the apical elites' concern and preference for privacy and social exclusion. Decisions made by the Baking Pot apical elite to design a more inclusive palace compound coincide with the idea of being more accommodating not only to the public but to their subordinate elites as well. The high connectivity and integration and low depth of the Baking Pot palace compound further supports the idea of a strategically planned architectural layout to provide an environment that is less restrictive, increasing the possibilities for interaction amongst those living there and making internal spaces more accessible. Again, by providing inclusive space, the Baking Pot apical elite are engaging in more of a 'corporate' approach to catering to the desires of the general public to feel more included. Conversely the inaccessibility of the Cahal Pech palace compound demonstrates a

need for spatial control through low spatial connectivity and integration. This further supports the idea that the Cahal Pech apical elite fostered more of a network-based relationship with their subordinates and valued ideas of social exclusion.

### **6.3 Elite Agents and Spatial Organization**

The architectonic data here suggest that the Cahal Pech apical elite placed a greater value on social exclusion away from the public eye in comparison to Baking Pot apical elite, who based on these data, aimed to appear more socially inclusive. Additional factors effecting these results could be the proximity of each palace compound to ‘public space’, as the Baking Pot civic-ceremonial centre is separated into two groups and as such the apical elite palace compound is further removed from potential onlookers and unwanted attention (Walden et al. n.d). Having a palace compound that is removed from public gathering space, may have relieved the stress of controlling access to space, as the public would not have amassed in the more private palatial compounds. This dynamic would have allowed the Baking Pot apical elites to maintain dual strategies of inclusion and exclusion at their different architectural precincts, resulting in a more accessible palace compound relative to that of Cahal Pech. This is an important trend as it is also recognized within different tiers of the political hierarchy at the nearby polity of Lower Dover (Walden et al. n.d.), where an increase in accessibility was recognized in sites that had two separate architectural groups, one designated for public gatherings and another suspected to serve residential functions. As such, the Cahal Pech apical elite may have required more control over their palatial space as it was directly joined with the public ceremonial plaza, thus resulting in a less accessible palatial group.

### **6.4 Cosmological Significance**

Several cosmological aspects are present in the architecture of the Cahal Pech and Baking Pot palace compounds. While this dissertation does not cover an in-depth review of Maya cosmology, cosmological ideas are present within the architectural data discussed here, and as such, are significant as they incorporate the ideologies of kingship and therefore the ideologies of the broader socio-political structure, as discussed in Chapter 3. Following the hallmark study on cosmology as reflected by Maya monumental architecture by Ashmore (1989), it is suggested here that the spatial layouts of the Cahal Pech and Baking Pot palaces communicate different aspects of Maya cosmology. As discussed in Chapter 4, the Baking Pot palace is situated in the southern portion of the ceremonial centre with a ballcourt acting as the

primary thoroughfare into the compound. This orientation is significant as the cardinal direction: south, and ballcourts are associated with the realms of the underworld or *Xibalba*, which is occupied by Maya deities (Ashmore 1989; Coggins 1967, 1980; Freidel 1980). This cardinal situation reinforces ideas of the divine king as having the ability to transcend the physical plane to the planes of underworld deities, and also promotes ideas of the Baking Pot palace being in the underworld itself as one must pass through the ballcourt to enter elite space. Conversely, the Cahal Pech palace compound is located at the western portion of the ceremonial centre, which is presumed to be associated with the solar axis of the setting sun and is reminiscent of ancestral ideologies (Ashmore 1989; Awe et al. 1991; McAnany 2013). This organization of space favours ideologies of the Cahal Pech apical elite as having a strong association with the ancestral planes, and thus evokes ideas of lineage (Ashmore 1989; Coggins 1980; McAnany 2013).

These contrasting representations of cosmologically associated planning reflect decisions made by the apical elite to push forth a political agenda based on specific ideologies. Ashmore (1989; see also Ashmore 1995) discussed the directional orientation of ceremonial centres through temporal shifts in Maya ideology and kingship, stating that Preclassic orientations seem to be based on the solar axis of east-west, and being more associated with astronomic elements to a more cosmological focus of north-south orientations during the Classic period. This shift in cosmological and therefore socio-political focus from representation of astronomic orientation to one more concerned with “representing the increasing prominence of the king and dynasties” (Ashmore 1989: 203; see also Freidel and Schele 1988) may definitely be demonstrated by the layouts of Cahal Pech and Baking Pot. While it is likely that the layout of the nucleated centre of Cahal Pech saw minor changes throughout its occupation (Ebert et al. 2019), it is unlikely that dramatic changes may have occurred as the centre is situated in such a confined location on the landscape (see Chapter 4). Baking Pot on the other hand, being situated in an open alluvial plain, could have easily changed the cardinal layout had they begun as an east-west oriented centre. This idea is speculative and further data regarding the diachronic construction of the entire centre is needed to support this idea.

## **6.5 Discussion**

The architectonic data, cosmological significance, and architectural composition of the Cahal Pech and Baking Pot palace compounds provide a unique dataset through which to interpret apical elite decision making and implications of the broader social structure.

Decisions made by apical elite agents at Baking Pot, to commission and plan a palatial compound that is symbolically representative of the underworld and that is relatively easily accessible suggests that construction was a strategy in broader social political theatrics of divine kingship and performance. As the Baking Pot palace was separated from public space, it may be the case that this social separation theoretically implies a greater effort would have to be made on part of the Baking Pot apical elite to participate in and support the public's demand for ceremonial events and spectacle (Inomata 2006: 197; Ringle and Bey III 2001: 279). Thus, it is suggested that the Baking Pot apical elite strategically constructed a palace that was symbolic of Classic Maya cosmological ideas, yet was removed from the public eye to retain a greater degree of social exclusion (Sahlins 2017), which would bolster their kingship and legitimacy through the portrayal of being linked to the gods while also providing ample space and accessibility for interaction, performance, and ritual ceremony. This could also be the result of being a later established polity within the Belize Valley, although not as late as others (e.g. Lower Dover and Classic Xunantunich), as Baking Pot only begins to develop during the Late Middle Preclassic when other polities such as Cahal Pech (Awe 1992; Ebert 2017), Blackman Eddy (Hartman et al. 2002: 5-8), Pacbitun (Healy 1999: 69) and Early Xunantunich (Brown et al 2017: 54) were already well established polities on the landscape, all within the span of ~20km. As previously stated, chronological architectural development would further elucidate diachronic concerns of employed elite strategy but is out of the scope of this research.

As with the Cahal Pech palace, the data may be reflecting the decisions made by the apical elite to retain a greater degree of exclusion, placing a stronger focus on shared ancestral ideologies. As the Cahal Pech apical elite retained constant control over the palatial compound as well as the public space, there might have been more need to separate themselves in other ways such as constructing a spatially complex and restricted palatial compound. Further estrangement may have been achieved through the portrayal of the Cahal Pech palace compound as an access point between the physical world and the ancestral plane. As the Cahal Pech palace abuts the public ceremonial plaza, the Cahal Pech apical elites may have felt a lesser need to be as inclusive, since they were present in that immediate area all of the time. This constant presence and proximity of apical elite figures to public space may have also contributed to the ideas of ancestral ideologies of the Cahal Pech area. As one of the longest occupied political entities and civic-ceremonial centres in the Belize River Valley area, the apical elite of Cahal Pech may have seen fit to dedicate the majority of their centre to

monumental restricted space for themselves as a way of demonstrating their legitimacy as apical elites in the valley. This concentration might reflect that the Cahal Pech apical elite used monumental architecture as a bolster to stabilize the perspective the general population had on the Cahal Pech apical elites.

These results from the architectural analysis do provide some answers to the initial research questions of this dissertation. From the data presented here, it seems that apical elites may have used inclusive and exclusive spaces as strategic designs to influence other actors engaging with and perceiving those spaces. As such, the decisions made in the creation process of the monumental built environment reflect social and political ideologies of apical elite agents. Embedding these ideologies into the built environment help reinforce the social structure of spatial inclusion and exclusion. This process of agentive decision making to disseminate ideologies of social structure via architectural construction, which influence and/or restricts the agency of others, directly speaks to the processes of structuration (Giddens 1976; 1979; 1984; see Chapter 2). From a broader perspective, the construction of monumental built environments, and specifically palace compounds, can be interpreted as the physical product of apical elite active involvement (Gardner 2008), which communicate the individual's political strategies and agenda regarding the overall polity (e.g. corporate-network dichotomy), and as such the structure in which it operates (Blanton et al. 1996). The different strategies evident between the two Classic Maya polities discussed here, seem to reflect that different apical elite families possessed sufficient agency to determine their own social and political strategies, implying that bottom-up or top-down pressures were not as restricting to apical elite agents, and rather, fostered individual expression and decision making at the apical elite level. However, further archaeological investigations could illuminate more specific details regarding apical elite active involvement and expression through monumental construction.

While these interpretations are very tentative, they make an effort to interpret the possible structural influences which were created by (and in turn guide) the decisions made by apical elite individuals in constructing such monumental space. I recognize that many other aspects could also be potential players in effecting the construction such as economic factors, geological and topographical preferences, ideological factors, and other factors that may have contributed to the first constructions of these palaces, however the data presented in this dissertation does communicate an interesting yet contrasting pattern in the construction of Maya palaces during their final years of occupation.

## CHAPTER 7

### Conclusions and Future Research

This dissertation presents new interpretations on the creation processes of the monumental built environment through examination of two Classic Maya palace compounds. The Cahal Pech and Baking Pot palace compounds, presented many variations in their architectural composition. These data suggest that the Cahal Pech and Baking Pot apical elite employed different social and political strategies through their active involvement in the creation processes of their palace compounds. As such, variation between palace compounds included different cosmological focusses, contrasting ideas of exclusion and inclusion, and architectural planning. Such patterns in the architectural data speak to the underlying social structures of Maya politics and suggest the built environment was used strategically to reinforce socio-political and cosmological ideas, ultimately reinforcing the kingship of the apical elite ruler. This study of apical elite architecture has proved to be insightful in attempting to understand elite agency and the processes of structuration as they provide a glimpse at the “circular relationship in which social organization leads to patterns of built form” and how social organizations transform, and in doing so reshape the built environment (Lang 1987: 177). This relationship thus fosters and influences the conditions under which human interaction, perception, and identity are formed and disseminated as a result of interacting with these spaces (Parmington 2011: 4; Rapoport 1982: 19).

This dissertation has served as a pilot study for assessing the built environment through the combination of different methods used for architectural analysis. Experimenting with different theoretical frameworks and quantitative applications has sparked several additional questions regarding elite decision making and the construction of Maya palaces and the monumental built environment in general, including: How do architectural additions and minor renovations speak to the political atmosphere during their time of construction? Can an accurate diachronic assessment of the built environment be successfully conducted using the methods presented here? How do other palatial compounds in the Belize Valley and the broader Maya area corroborate or contrast the results presented here? What does architectural analysis of intermediate elite and commoner spaces tell us about decision making and agency throughout the social hierarchy? What other methods or method refinements can be incorporated into this study to counteract the biases present in the data? These are just some examples of the many questions that arose during the developments of this dissertation.

To fully support the results and synthesis provided here, additional research at both the Cahal Pech and Baking Pot ceremonial centres is needed. This would include strategic implementation of archaeological excavations to target areas suspected to have the most architectural build-up. Such excavations would provide a clearer picture of the construction sequences of each palatial compound and would target diachronic questions of architectural change. Further, analysis including AMS Radiocarbon <sup>14</sup>C dating and strontium isotopic analysis from human remains would provide further information on the individuals who are suspected to have lived within the palatial compounds including: absolute chronological sequencing of the architecture itself as well as providing insight into where the centre's establishers came from, which may hint towards different cultural perspectives and practices in architectural design. These methods of analysis would allow for a clearer picture to be developed when identifying decision making of elite agents and who these agents actually were.

Considering broader archaeological impacts, improvements and developments of the methods used here could be achieved through experimental tests and applications of such method to other cultural contexts outside of the Maya region. Ideally, the methods used here would be applicable to other archaeological contexts to elucidate patterns of inclusion and exclusion in the built environment and as such reflect the decisions of the actors associated with the construction of such spaces. Future applications will try to identify the applicability of such methods to the built environments of other ancient civilizations to aid in the refinement of research methods and approaches. As this research targets conceptual understandings of the built environment and its reciprocal relationship with the individual, further developing the methods of analysis presented here is essential so that these methods could be widely applied within the broader field of archaeology, and as such would greatly contribute to our understanding of the social factors behind the built environment on a global scale.

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