

Modeling variability in Classic Maya intermediate elite political strategies through multivariate analysis of settlement patterns

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ABSTRACT

Intermediate elites played pivotal roles in the political dynamics of ancient complex societies across the world. In the Classic period (CE 250–900/1000) Maya lowlands, intermediate elites acted as mediators between apical rulers and lower status commoners. These individuals and the political strategies they employed, however, have rarely taken center stage in reconstructions of Classic Maya politics. In this paper, we evaluate the role of intermediate elites who occupied the middle level of the settlement hierarchy of the Belize River Valley of west-central Belize. Multivariate statistical analyses of architectural variables ($n = 24$) across 35 sites identified five hierarchically arranged groups of settlement types. Groups 2 and 3 are associated with intermediate elites, with Group 2 being large specialized centers with ballcourts, causeways, terminus groups and multiple plazas. In contrast, Group 3 were smaller residential and ceremonial centers focused around a single plaza. Investigation of patterned variability in the middle tier of the settlement hierarchy provides evidence for five political strategies which intermediate elites used to gain and maintain power and authority: (1) ancestor veneration, (2) ceremonial integration of commoners, (3) acting as neighborhood heads, (4) apical elite emulation, and (5) pursuing a ‘frontier’ role. Elucidating the variability in intermediate elite decision-making provides a new avenue for understanding the dynamics of integration and autonomy across the Classic Maya political landscape.

1. Introduction

Power structures in ancient societies were composed of dynamic relationships negotiated between political agents operating at multiple nested levels (Foucault, 1979; Miller and Tilley, 1984; A.T. Smith, 2003, 2011). Traditional perspectives in Maya archaeology have emphasized the role of divine kings (*k'uhul ajaw*) in the development and operation of Classic period (CE 200–900/1000) political systems across the lowlands (Demarest, 1992, 2004; Rice, 2009). More recently, scholars working in the region have conceptualized polities as networks of overlapping relationships between actors on multiple hierarchical tiers (Golden and Scherer, 2013; Graham, 2002; Iannone, 2002; LeCount and Yaeger, 2010a; Marken and Fitzsimmons, 2015; Munson and Macri, 2009; Robin, 2003; Schortman and Ashmore, 2012; see also Latour, 2005). The intermediate elite concept distinguishes between the multiple types of elites that served as nodes within these nested social, political, and economic networks (Elson and Covey, 2006). Above intermediate elites sat apical elites, the ruling regimes of Maya polities.

Apical elites controlled the internal governance of their polity, but sometimes fell under the sway of external scions (Foias, 2013; LeCount and Yaeger, 2010b). Below intermediate elites lay the commoner masses, representing the rank and file of society (Lohse and Valdez, 2004). Focusing on intermediate elite strategies provides a behavioral approach to understanding how actors on multiple hierarchical levels sought and maintained power within the structural constraints imposed upon them by rulers and commoners (Bailey, 1969; Kintigh et al., 2014; Kurnick, 2016a; Roscoe, 1993).

Ongoing debate over the level of centralization that existed within Classic period Maya polities, and whether they were hierarchically or heterarchically organized, largely boils down to the compliancy or autonomy of intermediate elites (Chase and Chase, 1996; Fox et al., 1996; Crumley, 1995; Demarest, 1996; Hageman and Lohse, 2003). Some scholars argue that Maya polities were highly centralized, or that power was located in the hands of a few (Chase and Chase, 1996), while others have drawn on political models from Africa and Asia to suggest that polities were decentralized, politically fragile, and reliant on

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ideological power (Ball and Taschek, 1991; Carmack, 1981; Crumley, 2003; Fox, 1994; McAnany, 2013:25; Pohl and Pohl, 1994; Roys, 1957:12, 1967:64–66; Sanders and Webster, 1988; Webster, 2002:295–326). Maya scholarship has generally shifted over time towards a more decentralized or heterarchical picture of political dynamics (Marcus, 2003). Proponents of this view argue that the ruling Maya elite possessed little physical control over daily affairs and that administrative and economic control rested in the hands of corporate groups and lineages (Crumley, 2003; Hageman, 2004; Hageman and Lohse, 2003; Scarborough and Lucero, 2010). As such, Maya polities were likely internally fraught with factionalism between elite lineages (Marcus, 1989; Lohse, 2013; Restall, 2001:349). We show that investigation of intermediate elite strategies is vital for rejuvenating this debate and providing fresh insights into the nature of power across the political landscape (Falconer and Redman, 2009).

There are two reasons to suspect that intermediate elites played a pivotal role in Classic Maya political dynamics. First, most Maya polities were relatively politically decentralized. Power rested in the hands of charismatic divine kings who relied upon theatrical ceremonial displays to create and maintain authority (Blanton et al., 1996; Fitzsimmons, 2015; Houston et al., 2003; Inomata, 2006). Anthropologically, apical rulers with less bureaucratic or administrative control are more reliant on intermediaries to act in brokerage positions to conduct the affairs of state (Gluckman, 1968; Martin, 2009: 213; Newbury, 2003:135; Simmel, 2009:150–156). Consequently, Maya kings probably relied on intermediate elite vassals to serve as intermediaries with commoner populations (Foias, 2013; Jackson, 2013; Sharer and Golden, 2004). Second, the Classic Maya political landscape was composed of nested levels of peer polities (i.e., similarly sized, relatively autonomous centers sharing overt cultural similarities; see Marken and Straight 2007:283; Price, 1977; Renfrew, 1986, Wesson, 1978). Peer polity networks often require ruling elites to compete for the patronage of intermediate elite clients, a requirement which grants intermediate elites no small amount of power (Fourquin, 1976:128; Fortes and Evans-Pritchard, 1940; Marcus, 2006:237; Wolf, 1977). The monumental temples and plazas present at major centers have been seen as the apparatus used by apical rulers to integrate commoners and ideologically unify polities (Demarest, 1992; Inomata, 2006). The fact that Maya intermediate elites were able to command sufficient commoner labor to construct scaled down ceremonial architecture speaks to their political agency and the likelihood that they shared a similar ideological platform and ability to engender commoner loyalty as their apical scions (Fash and Stuart, 1991; Golden and Scherer, 2013:414; Webster, 2002; Yoffee, 1991).

Classic Maya intermediate elites occupied the minor centers in the middle tiers of settlement hierarchies (Bullard, 1960; Conlon and Powis, 2004; Connell, 2003; Iannone and Connell, 2003; Haviland, 1981; Schortman and Urban, 2003; Yaeger, 2003; Yaeger and Robin, 2004). Despite the long history of settlement archaeology in the Belize River Valley (Willey et al., 1965), the variation evident between minor centers in terms of their location, size, and architectural composition remains the source of longstanding uncertainty (Iannone, 2004; Iannone and Connell, 2003). This variability contains crucial information about the strategies which intermediate elites employed to negotiate their political positions.

In this paper, we examine intermediate elite strategies in the Belize River Valley through multivariate analyses of the settlement hierarchy. To unpack the variability present among intermediate elites and understand them relative to apical elites and higher status commoners, we analyze the entire upper echelons of the settlement hierarchy. Based on a hierarchical cluster analysis of traits ($n = 24$) at 35 major centers, minor centers, and high-status commoner households, we propose that the settlement hierarchy has five tiers above lower status commoners, referred to as groups in the rest of the paper. Group 1 includes major centers or polity capitals, which we argue formed the civic-ceremonial epicenters of territorial polities. Intermediate elite minor centers split

into three categories, which include large, multi-component centers (Group 2), medium-sized centers with a single plaza and an ancestral triadic shrine (Group 3), and small centers and high-status commoner households (Group 4). Group 5 is composed of high-status commoner households without an overt ceremonial function. Based on multi-dimensional scaling of 28 traits (including four environmental variables not used for the hierarchical cluster analysis), we define five political strategies used by intermediate elites to negotiate power: (1) ancestor veneration, (2) ceremonial integration of commoners, (3) acting as neighborhood heads, (4) apical elite emulation, and (5) pursuing a ‘frontier’ role. Settlement pattern data provide information about where intermediate elites were located spatially and politically in relation to their overlords and underlings. Elite architectural choices offer a durable expression of their strategies (Awe, 2008). We evaluate the relative success of such strategies in terms of intermediate elite occupational longevity. The framework we present is applicable to any region with three or more tiers of settlement hierarchy.

2. Situating Classic Maya intermediate elite strategies within a broader anthropological perspective

While intermediate elites lay at the heart of ancient political dynamics, they have only recently become the subject of attention in archaeology (Brumfiel, 1994; Elson and Covey, 2006). Traditionally, archaeologists followed a structural functionalist logic in conceptualizing elites living in satellite centers as passive automatons who posed little threat to their overlords and simply functioned to integrate commoners, extract tribute from them, and ensure the stability and continuation of the polity (Alden, 1979; Bernbeck, 2008; Flannery, 1972; Watrous, 1984; Wright and Johnson, 1975). Historically, intermediate elites would act as loyal stalwarts of the apical regime, although this was highly variable even during the apogees of highly centralized empires (e.g., Rome and the Aztec; Hicks, 1982; Jacobson, 2001). Often intermediate elites exercised high degrees of political autonomy, representing factions which destabilized apical political power (Grimal, 1992; Law, 1977; Postgate, 1992:301; Trigger, 2003:201; Webster, 2002:295–326). These possibilities represent either end of a spectrum of possible relationships between intermediate and apical elites which ranges from complicit to acrimonious (Ashmore, 2010; Marcus, 2006:213).

Historical and archaeological information about intermediate elite strategies from ancient and modern empires shows that successful intermediate elites walked a political tightrope, simultaneously appeasing their peers and those hierarchically above and beneath them (Brumfiel, 2006; Doyle, 1986; Marcone and López-Hurtado, 2015; Marcus, 1992:298; Martin, 2009; Morkot, 2001; Morris, 1998; Rudolph and Rudolph, 1966; Wallace-Hadrill, 1989). In some contexts, intermediate elite autonomy and status was drastically undercut upon incorporation by higher political orders. In others, compliancy with apical elites offered intermediate elites greater opportunities to accrue political status and increase security from external threats (Berdan and Smith 1996:215). Sometimes intermediate elites suffered crises of legitimacy in the eyes of commoner subordinates because of their compliance with apical regimes. Roman client kings, for example, were recast as “friends of Rome” and given honors which would carry prestige in their respective kingdoms to remedy this problem (Braund, 1984; Jacobson, 2001). Alternatively, situations develop which require intermediate elites to augment their socio-political stature without invoking the ire of their superiors. Intermediate elites may seek legitimacy in pursuing similar roles to their superiors, or look for alternative sources of power, which may include performing special functions to render their existence necessary to those above and below them (Stark and Chance, 2012:198).

Unfortunately, compared to these imperial contexts, there is a dearth of information available for reconstructing the strategies of intermediate elites in more decentralized political contexts like the

Classic period Belize River Valley. In theory, Classic Maya apical regimes probably had less administrative ability to directly engage in the lives of their subjects than their counterparts in imperial contexts (Berdan and Smith, 1996:210; Blanton and Fargher, 2007). Furthermore, some important factors which structured provincial elite's strategies in large empires, such as geographic distance, probably played a lesser role in small Maya polities (Stark and Chance, 2012:197). Approaches which focus on intermediate elite relationships can be particularly efficacious in reconstructing political dynamics, especially in contexts like Classic Maya polities, in which personal relationships between elites were probably a crucial part of governance (Beekman, 2016; Davenport and Golden, 2016; Houston and Inomata, 2009:150–62). Intermediate elites engage in vertical (apical elites and commoners) and lateral (peer intermediate elites) relationships which offer scope for implementing an array of potential strategies (Eisenstadt and Roniger, 1984:200–201; Lemarchand, 1972:76–79). Strategies are defined as the techniques, policies, and actions of political agents to ensure their longevity (Berdan and Smith, 1996; Stark and Chance, 2012:196). Approaching intermediate elites through their strategies allows us to understand their “actions in terms of broader structural considerations” (Stark and Chance, 2012:193), essentially providing a bottom-up perspective on apical elite policies by showing which strategies subordinate elites were able to pursue within the political structure (Robin et al., 2010; Scott, 1990).

Classic period hieroglyphic texts provide insight into intermediate elite dynamics, titles like *ajk'uhuun* (worshipper or political mediator), *sajal* (provincial lord), *b'aah sajal* (head sub-lord), and *sajalob'* (those beneath him) become increasingly common in the Late Classic epigraphic record of the western lowlands (Foias, 2013; Golden et al., 2008:269; Hammond, 1991:270; Jackson, 2015:245–8; Marcus, 2006:216; Stuart, 1992; Tate, 1992:20; Tokovinine, 2013; Zender, 2004:224–25). Such epigraphy is lacking in the Belize Valley, necessitating archaeological approaches to identifying intermediate elites and their strategies. Archaeologically, minor centers have long been associated with a rural nobility who possessed less wealth, status, and power than the paramount rulers who resided in the major centers (Bullard, 1960:369; Ford, 1981:158; Haviland, 1981; Willey et al., 1965:580). Many minor centers are also located in commoner neighborhoods, in a manner reminiscent of ethnohistoric accounts of the loosely subordinate lineages present in the hinterlands of the *K'iche'* capital of Q'umarkaj (Bullard, 1960:357; Canuto and Fash, 2004; Carmack, 1981:161; Fash, 1983; Hutson, 2016:80; Kintz, 1983b; Tourtellot, 1983a; Walden et al., n.d.; Willey and Leventhal, 1979; Yaeger, 2000). Intermediate elites also lived within polity capitals, but our focus is on the larger elite groups present across the hinterlands of polities (Hammond, 1982; Houston and Inomata, 2009; Marken and González Cruz, 2007).

2.1. Classic Maya intermediate elites and their strategies

We present five strategies which elites of varying statuses employ to gain and maintain power and authority (Marcone and López-Hurtado, 2015). These strategies are not mutually exclusive. Each strategy is situated within its broader anthropological context, then examined in respect to the literature from the Maya lowlands and assigned a series of material correlates which are identifiable in the regional settlement data set. Identification of the various strategies is possible through analyzing architectural and locational variability among the minor centers of the Belize River Valley.

(1) Ancestor Veneration

Anthropologically, people often invest heavily in ancestor veneration when their access to land, resources or authority is called into question, essentially drawing upon their past to justify their position in the present (Kuijt, 2008; Kurnick, 2019:51; McAnany, 2013:96).

Ancestors are particularly important because they form a historical conduit between people and place (Ashmore and Geller, 2005; Buikstra and Charles, 1999; Chapman, 1981; Hageman and Hill, 2016; Kuijt et al., 2008; Renfrew, 1983; Sanders, 1981:359). Consequently, elites might invest in ancestor veneration as a political strategy to reassert their longstanding claims to authority. In Late Shang period China, texts on oracle bones and bronzes show that elites employed increasingly complex ancestral rituals to legitimate their position in the political hierarchy (Keightley, 2001:186).

Evidence of Classic Maya ancestor veneration is ubiquitous from the lowest commoner households to the royal dynasties (McAnany, 2013). Maya elites invested considerable resources in recording and presenting dynastic history and constructing funerary architecture to house ancestors because these practices constituted an important form of propaganda (Freidel and Schele, 1988, 1992). Intermediate elites in particular are often described in Classic period inscriptions as performing dedications to the ancestors (Jackson, 2015). Ancestor veneration is visible in the settlement patterns of the Belize Valley polities in the form of eastern triadic shrine structures (large eastern temples structures with northern and southern wings). From the Middle Preclassic (1000/900–300 BCE) period onwards, the eastern triadic structures at major and minor centers housed high-status interments in crypts and tombs, often with evidence of veneratory re-visitation (Awe, 2013; Awe et al., 2017; Conlon and Moore, 2003; Ebert, 2018; Garber et al., 2004b:61; Healy et al., 2004; Iannone, 1996; Micheletti, 2016; Robin et al., 2012:122; Walden et al., n.d.).

(2) Ceremonial Integration of Commoners

Intermediate elites often construct ceremonial spaces to integrate surrounding commoners. The construction of these structures and the ceremonies held within provide intermediate elites with an ideological platform to cement their position and create relationships of indebtedness with their followers (Godelier, 1986). An example is Greek and Roman *euergetism*, which involved local elites commissioning integrative public architecture such as theaters, amphitheaters, and temples (Cornell and Lomas, 2005).

Classic Maya intermediate elites are often described fulfilling ceremonial roles like scattering offerings, fire drilling, conjuring and playing ball in the inscriptions and iconography (Jackson, 2013, 2015). The title *Chak tok wayaab'* referred to a priestly position whose holders could commission large structures like temples and ballcourts (Estrada-Belli et al., 2009:246–48; Beliaev, 2004). Intermediate elites likely also fulfilled other roles, but these are not reflected in the epigraphic record because of the priority the ritual realm was afforded. That said, the notion that intermediate elites played a ceremonial role is strongly corroborated by the presence of ceremonial structures at minor centers (Chase, 1992; Cheetham, 2004; Connell, 2010; Foias, 2013; Gonlin, 2007; Helmke and Awe, 2013; Joyce and Hendon, 2000; Hendon, 2012; Robin et al., 2012; Walling et al., 2007). These structures served as political stages to compete for and strengthen ties with commoner clients, who likely possessed sufficient agency to choose patrons (Awe et al., 2014; de Montmollin, 1987; Farriss, 1978; Inomata, 2004). We employ architectural correlates, like plaza capacities (Inomata, 2006; Inomata and Tsukamoto, 2014; Ossa et al., 2017), the accessibility of plazas (Joyce and Weller 2007), and the presence of pyramidal temples, *sacheob* (causeways) and terminus groups (causeway groups), and eastern triadic shrines (Connell 2010; Schele and Mathews, 1998; Yaeger, 2000), as indicators of elite investment in the ceremonial integration of commoners. While many scholars have posited a commoner integratory function for the ball game (Daneels, 2008; de Montmollin, 1995, 1997), Stark and Stoner (2017) argue that the diminutive size of many ballcourts probably prohibited non-elites from spectating. Consequently, we use the presence of ballcourts as a rough indicator of integration, but we assess the social class of onlookers. The relationship between accessibility and ceremonial integration is not simple, for

instance, centers with a capacity for hosting public audiences in plaza spaces may still be spatially restricted based on the resident elite's desire to tolerate foot traffic (Joyce and Weller, 2007). We examine the relationship between public integrative potential and control of space at multiple levels of the settlement hierarchy.

(3) Acting as Neighborhood Heads

A third strategy involves intermediate elites acting as the heads of neighborhoods of commoners. Manzanilla (2012:59–62) shows that intermediate elite households at Teotihuacan were located within neighborhoods, and the resident elites would manage aspects of neighborhood life such as economic production and ritual (see also Barba et al., 2007; Murakami, 2016). That said, neighborhood relations between intermediate elites and commoners may not have been cooperative (Pacífico and Vogel, n.d.). Relationships between intermediate elites and commoners may have varied along the network-corporate spectrum and this could change quickly depending on the prevailing political situation (Beck, 2003; Blanton et al., 1996; Blanton, 1998; Blanton and Fargher, 2007; Gilman, 1981; Renfrew, 1974). Sometimes neighborhood elites act as middle men in tributary economies and extract taxes, surpluses and tribute from commoners on behalf of the apical regime (Berdan and Smith, 1996; Costin and Earle, 1989; D'Altroy, 1992; Garraty and Stark, 2002:28; Vaughn, 2006; Wernke 2006; Wright, 2000). In other instances, this role allows intermediate elites to extract more tribute from commoners under the guise of apical elite taxation and skim off the surplus for themselves (Stark and Chance, 2012). Sometimes intermediate elites seek to bolster commoner support by becoming a moral bulwark to protect their underlings from top-down pressures (Alston and Ferrie, 1999; Hsu, 1988; Kim, 2007; Hsu and Linduff, 1988; Scott, 1976; Wallace-Hadrill, 1989; Wolf, 1977). Far from representing charity, the pursuit of strategies which benefit commoners offer a source of power for intermediate elites, who can then rely on commoner support and local resources in their interactions with their superiors (Postgate, 1992:301; Scott, 1990; Scott and Kerkvliet, 1977; Trigger, 2003:201). Residential units with intermediate elite heads can form political segments or factions within societies (Blanton and Fargher, 2012:42; Marken et al., 2017; Nash, n.d.; Sanders and Webster, 1988:53).

Classic Maya settlement studies indicate that intermediate elites often formed “focal nodes” or centers within neighborhoods of commoners (Arnauld et al., 2012:209; Ashmore, 1981:51; Eberl 2014; Folan et al., 2009:68; Hare and Masson, 2012:241; Hutson, 2016:80; Kintz, 1983a; Kurjack, 1974:80–89; Lemonnier, 2012:194). Epigraphically the administrative title *lakam* probably refers to these neighborhood heads (Lacadena García-Gallo, 2008). There is evidence of higher-level intermediate elites serving as middle men in apical elite tributary economies (Chase et al., 2015; Marcus, 2006:216). It is less clear if Classic Maya intermediate elites were obligated to look after their inferiors (Houston et al., 2003; Pendergast, 1992). Lemonnier (2012) suggests that the clustering of commoner households around intermediate elites shows that elites were attracting commoners, although clustering may also reflect commoners without sufficient land working on elite landholdings or some form of indentured servitude (Adams and Smith, 1981; Ashmore, 1981; Freidel, 1981; Robin et al., 2015; Thompson et al., 2018). Ultimately, distinguishing between these possibilities is difficult using settlement pattern data. Based on the distance interaction principle (Drennan and Peterson, 2006; Drennan et al., 2015; Murdock, 1949), we use commoner household clustering around intermediate elite centers to indicate that intermediate elites functioned as neighborhood heads. In some instances, intermediate elites might be present in commoner clusters but not actively engaged in relationships with commoners (Connell 2010; Kurnick, 2016b). Therefore, secondary lines of evidence suggestive of a neighborhood role are necessary, like the presence of neighborhood level integrative structures at intermediate elite centers.

(4) Apical Elite Emulation

Emulation of apical elite styles, practices, and bases for authority can legitimate intermediate elites in the eyes of their subordinates (Alitto, 1979; Higginbotham, 1996; Stark and Chance, 2012). Intermediate elites often aim to become junior versions of apical elites. For instance, during the Pueblo Revolt of 1680 against Spanish colonizers of the province of Santa Fe de Nuevo México, in present day New Mexico (USA), the revolutionary Puebloan leader Popé emulated Spanish leaders by wearing Spanish clothing and riding a white horse (Knaut, 2015). This process is reflected archaeologically in the mimicry of apical elite material culture (DeMarrais, 2005:87; Jennings and Yépez Álvarez, 2001).

Classic Maya intermediate elite emulation of apical elites is evident in the construction of scaled down apical elite architecture, and the erection of carved stone monuments like those evident at major centers (Arnauld et al., 2012; Chase and Chase, 1996; Iannone, 2003; Marken and González Cruz, 2007:142). At Copan, intermediate elites built U-shaped groups similar to apical elite architecture (Maca, 2006). At Xunantunich, in the upper Belize Valley, hinterland elites adopted the ceramic and architectural styles found at the political capital, and the game of *patolli* which was popular at the royal palace (Connell, 2010; Walden and Voorhies, 2017:208–213; Yaeger, 2010). Subordinate elites would often emulate the burial customs of more senior elites (García Moll, 2004; Novotny et al., 2018:655). Equifinality looms large in our interpretations of emulation because the mimicry of apical elites could represent the obedient imitation of respected overlords or duplicitous attempts to undermine apical authority (Emery and Foias, 2012:407; Lohse, 2007). Emulation of apical elites in the Belize Valley is perhaps most visible in intermediate elite construction of pyramids, ballcourts, stelae and altars which are commonly found at political capitals (Conlon and Powis, 2004:75; Helmke and Awe, 2013).

(5) Engaging in a “Frontier” Role

Either through their own volition or historical circumstance, intermediate elites are often found on the peripheries of established polities. Frontiers represent liminal zones which present opportunities for intermediate elites to retain autonomy (Golden, 2010; Liebold, 2005:171; Parker, 2003; Scott, 2009), profit from lucrative economic contacts (Holden, 2008), or act as top-down boundary managers for an apical regime (or more than one; Chase-Dunn and Hall, 1997; Connell and Silverstein, 2006:396–397; Parker, 2003; Perdue, 2009:248). An example being the “Marcher Lords” of the medieval Welsh Marches, whose position in a frontier landscape allowed them to fully exploit their intermediate status, on one level bowing to the will of the English king while simultaneously advancing their own interests (Holden, 2008:219; Lieberman 2010).

Maya archaeologists have paid limited attention to the role of intermediate elites in boundary maintenance (but see Connell and Silverstein, 2006; Driver and Garber, 2004; Fry, 2003; Scherer and Golden, 2009). This is probably because of issues conceptualizing what the frontiers of Maya polities looked like (Anderson and O'Dowd, 1999:594; de Montmollin, 1988:164; Golden and Scherer, 2013; Hammond, 1991; Iannone, 2010). Driver and Garber's (2004) model of settlement systems for the Belize Valley suggests that minor centers were located equidistantly between major polities, and functioned as provincial administrative nodes controlled by apical elites. This top-down logic has been applied to the spacing of satellite settlements around political centers such as La Milpa (Tourtellot et al., 2000), Motul de San José (Emery and Foias, 2012:402, 417), and Copan (Maca, 2006, 2015). At Caracol it seems likely that the local elites on the edges of the city possessed top-down roles as local administrators because of their proximity to the city center (relative to the scale of the polity), the presence of local administrative architecture at these nodes and the large *sacbeob* radiating from the center to these nodes (Chase and

Chase, 2003; Chase et al., 2015). In many other more decentralized contexts, the intermediate elites present on polity frontiers probably engaged in an array of bottom-up strategies which allowed them to accrue more political status or autonomy than their peers located with the immediate hinterlands of a political capital (Connell and Silverstein 2006:396-397). In some instances, intermediate elite centers situated well within the territories of larger political centers had opportunities to ally themselves with external powers, for example a hieroglyphic staircase at the elite Guzmán group in the hinterlands of El Palmar indicates strong ties with Copan, despite the fact that El Palmar was affiliated with the rival capital of Calakmul (Tsukamoto et al., 2015:200). To investigate whether intermediate elites pursued a top down administrative frontier strategy we assess whether intermediate elites located equidistantly between polities possessed special function architecture which facilitated control of boundaries, such as administrative range structures, or large plazas for hosting large activities like markets, which often appear in frontier areas (Jones, 1989:103-106; King, 2015; Reents-Budet, 2001:202; Whittaker, 2004:107). Conversely, if a frontier position afforded elites greater political autonomy or status, we may expect the sites located farthest from polity capitals to possess larger structures, or show more grandiose displays of power such as pyramids, altars or stelae.

3. Classic period political systems in the Belize Valley

The upper Belize River Valley encompasses an area of approximately 125 km² extending about 30 km eastward and downriver from the Late Classic political center of Xunantunich and ending at the Preclassic center of Blackman Eddy (Figs. 1 and 2). The primary natural features dominating the region are the river systems. The confluence of the Macal and Mopan Rivers, into the Belize River, lies just north of the ancient center of Cahal Pech and modern town of San Ignacio. The Belize River then meanders eastward to the coast where it empties into the Caribbean Sea. The topography of the region is characterized by a series of forested limestone escarpments that border the alluvial

bottomlands along the Belize River and its tributaries. The Classic period political landscape was dominated by several major political centers including Cahal Pech, Baking Pot, Lower Dover, Xunantunich, Actuncan and Buenavista del Cayo, each surrounded by minor centers, a term which includes large multi-component monumental sites, large residential *plazuelas* with monumental architecture, and high-status commoner households (Willey et al., 1965). We draw upon previous studies by Belize Valley Archaeological Reconnaissance (BVAR) researchers to define polities in the Belize Valley, these studies employ a range of approaches including settlement densities, gravity models and Thiessen polygons (Awe et al., 2015; Ebert et al., 2016a:291; Helmke et al., 2015; Walden et al., 2017).

Excavations by the BVAR Project and other research teams have uncovered ceramic and radiocarbon evidence of settlement in the Belize Valley dating to the Early Preclassic period (1200–900 cal BCE) at Cahal Pech (Awe, 1992; Ebert, 2017; Ebert et al., 2017), Blackman Eddy (Garber et al., 2004a), Group E at Xunantunich (Brown et al., 2011), and Actuncan (LeCount et al., 2017; Mixter, 2016; Mixter 2017). Regionally, the clearest evidence for the development of a multi-tiered settlement hierarchy appears in the Late Preclassic (300 BCE-CE 300), when the presence of monumental architecture and the first elaborate burials indicate that Cahal Pech (Awe, 2013; Awe and Zender, 2016; Ebert et al., 2017; Horn III, 2015; Peniche May 2016; Novotny, 2015), Baking Pot (Audet, 2006; Hoggarth, 2012) and Blackman Eddy (Garber et al., 2004a, 2004b) had become the seats of small polities. Evidence of variability in wealth and status at the household level is clear from the Middle Preclassic (Ebert, 2017), when some households became larger and more elaborate, with both public and ceremonial architecture. These high-status commoner households were surrounded by smaller commoner households (Awe, 1992; Ebert, 2017), indicating increasing political centralization at some households within the various communities. By the Late Classic period, most polities contained populations of ~3000 people (Awe et al., 1995; Ebert et al., 2016a; Hoggarth, 2012; Walden et al., 2017).

While the Classic period Belize Valley provides a good case study for

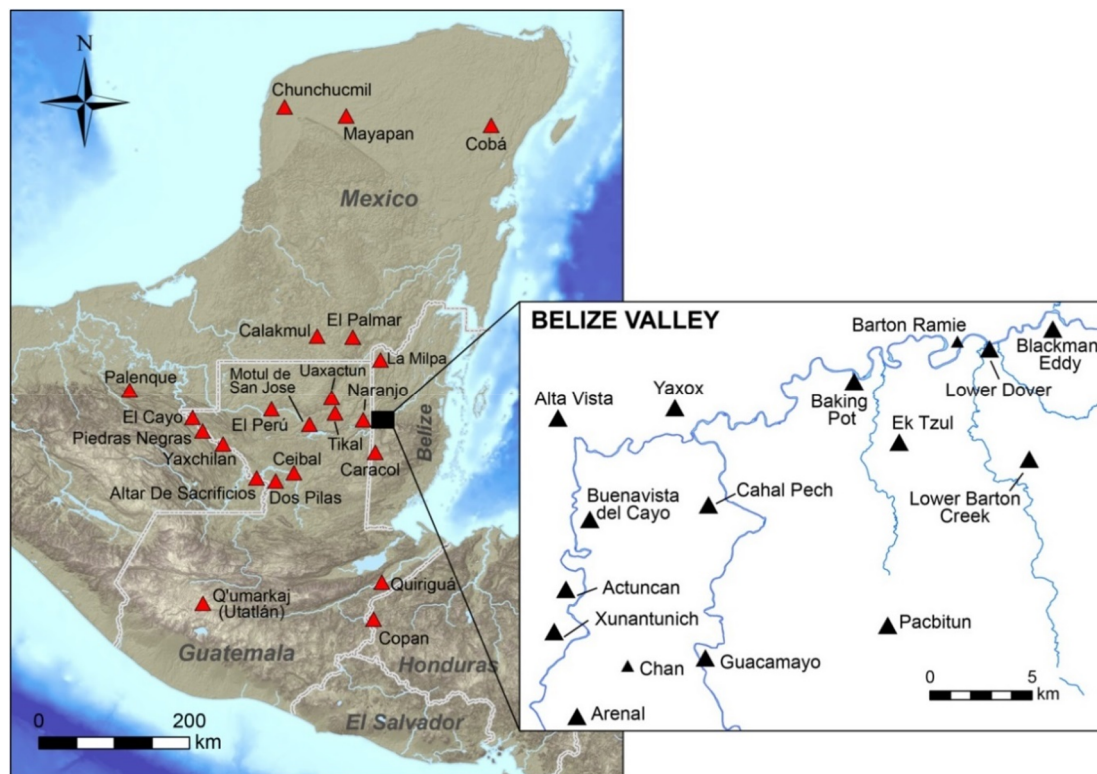


Fig. 1. Map of the Maya region and Belize River Valley.

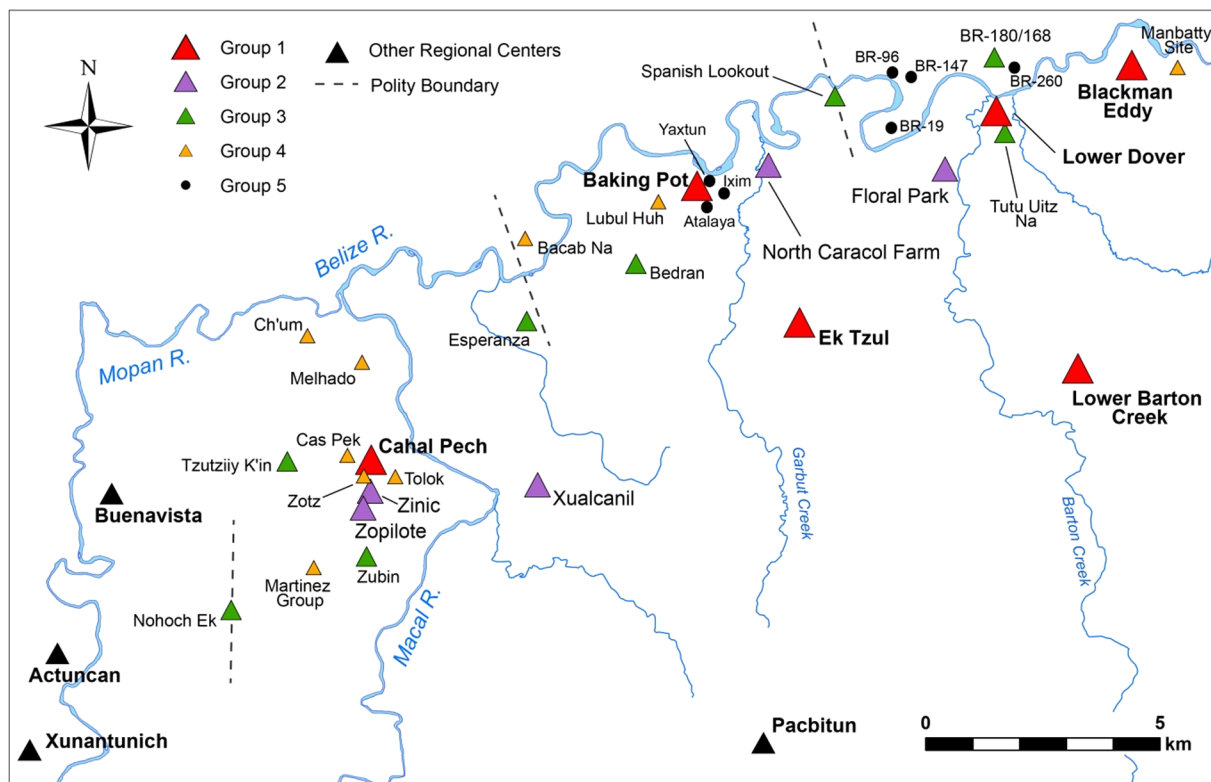


Fig. 2. Map of the Belize River Valley with Groups and political territories outlined.

examining the middle tier of settlement hierarchies, it differs in important ways from other regions of the Maya lowlands (Chase and Chase, 2004). Unlike the central Petén and Pasión regions, major centers in the Belize Valley were independent of one another during the Classic period. Epigraphic evidence indicates that the region intermittently fell under the influence of Caracol and Naranjo during the Classic period, although, the regional major centers exhibit many archaeological traits which are generally associated with political autonomy (Chase, 2004; Helmke and Awe, 2013). Politically, the Belize Valley can be considered an intensified microcosm of the ‘peer polity’ dynamic evident across the Maya lowlands (Martin and Grube, 2008; Marken and Straight, 2007; Mathews, 1991; Sabloff, 1986). The political trajectories of the Belize Valley polities were closely intertwined, rising and falling in a manner similar to the dynamic model (Marcus, 1993, 1998). At the western end of the valley, the dominant political center shifted from Xunantunich Group E during the Preclassic, to Actuncan in the Late Preclassic and Early Classic, Buenavista del Cayo in the Late Classic, and finally back to Xunantunich in the Late to Terminal Classic periods (Leventhal and Ashmore, 2004; McGovern, 2004; Ball and Taschek, 2004). A similar process is evident farther east, where Blackman Eddy developed as the primate center in the Middle Preclassic but was replaced by Lower Dover in the Late Classic period (Table 1; Garber et al., 2004a; Guerra and Awe, 2017; Hoggarth et al.,

2010). This trend is less evident in the politically stable middle valley, which saw the rise of Baking Pot and Cahal Pech in the Early-Middle Preclassic and their persistence into the Terminal Classic period (Audet, 2006; Awe, 1992; Ebert et al., 2017; Hoggarth et al., 2014).

Maya polities were confusingly nested on multiple scales, rendering it necessary to be specific about who we consider to be intermediate elites (Fig. 2). While *k’uhul ajaw’s* could act as intermediaries under *kaloomte’s* (rulers of multi-polity networks or super-states), these figures usually played an apical role at the polity level. *Sajals* and *ajk’uhuuns* were common intermediate elite titles in larger polities (Baron, 2016a, 2016b; Foias, 2013). These titles are not apparent in the epigraphy of the Belize Valley, which suffers a relative paucity of stone monuments with formal writing. In the absence of a large corpus of hieroglyphic texts, archaeological data from settlement survey and excavations takes center stage in our investigation of intermediate elites. Archaeological data indicate that while major centers and their dynastic rulers fell under the sway of external hegemonies at times, they retained sufficient autonomy to govern internal affairs and can be considered apical elites (Helmke and Awe, 2013; LeCount and Yaeger, 2010b; see also Claessen and Skalník, 1978:17; Hansen, 2000). The minor centers in our sample are considered “elite” because they are ten times larger than commoner residential groups, possess high-status burials, epigraphic inscriptions on ceramics, and large monumental structures up to 12 m high (Awe, 1992; Ebert et al., 2016a; Helmke and Awe, 2013; Hoggarth, 2012; Hoggarth et al., 2010; Walden et al., 2017). We suggest the middle tier of the Belize Valley settlement hierarchy contained sites of similar size to tertiary or quaternary centers in larger polities (Golden et al., 2008:256; Haviland and Moholy-Nagy, 1992). The Belize River Valley intermediate elites represented a small proportion (~4%) of society and should not be considered a middle class (Chase and Chase, 1992:11; Marcus, 2006).

The Classic period minor centers contain a wealth of enduring information about intermediate elite political strategies. Most minor centers show evidence of residential occupation by elites in addition to ceremonial functions (Iannone and Connell, 2003). Most Belize Valley

Table 1
Chronology for the Belize River Valley.

Time Period	Date Range
Postclassic	CE 900/1000–1521
Terminal Classic	CE 750–900/1000
Late Classic	CE 600–750
Early Classic	CE 300–600
Late Preclassic	300 BCE–CE 300
Middle Preclassic	900–300 BCE
Early Preclassic	1200/1100–900 BCE

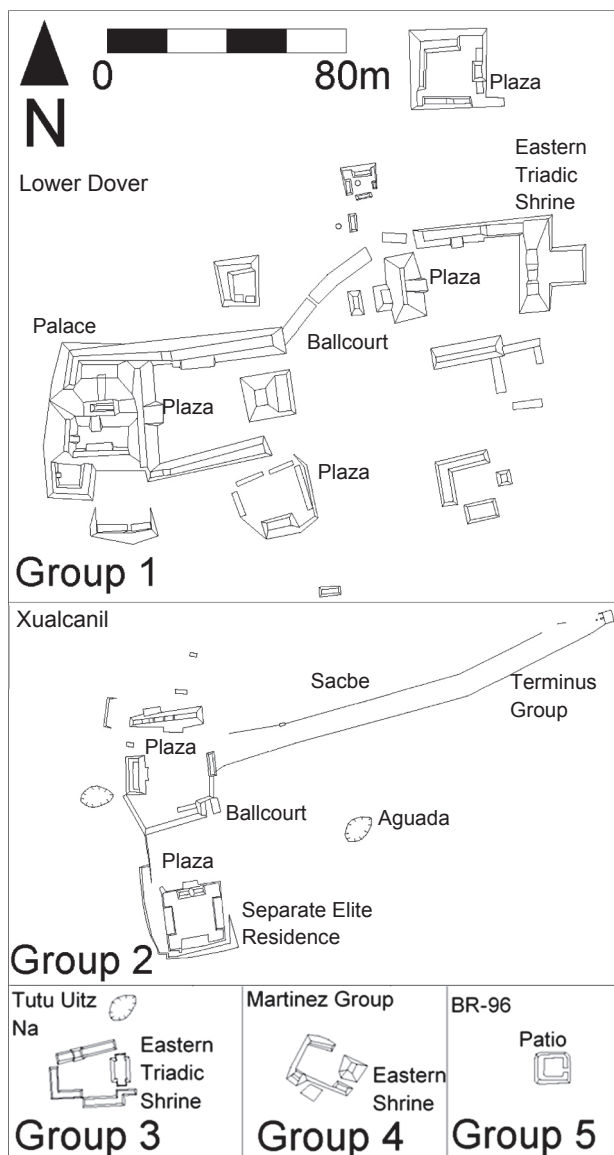


Fig. 3. Example of sites from each Group with important architectural features indicated.

minor centers have pole and thatch superstructures set on masonry platforms. Belize Valley centers possess: pyramidal temples; palaces with corbelled vault masonry; *sacbeob* running between groups; termini groups joined to a center by *sacbeob* (Cheetham, 2004; Kurjack and Garza, 1981); eastern triadic shrines (Awe et al., 2017); water storage *aguadas* (Chase, 2016; Ferrand et al., 2012; Kirke, 1980); ballcourts, and stelae and altars (Fig. 3). In contrast, the small domestic shrines and patios present at high-status commoner households illustrate their inability to integrate commoners (Ashmore, 1981; Haviland, 1988; Lohse and Valdez, 2004; Tourtellot, 1983b, 1988).

4. Methods

We compiled a data set which recorded 28 attributes for a total of 34 sites. To identify patterning among and between settlement tiers, all sites in the BVAR Project area previously categorized as major and minor centers and many high-status commoner house groups were included. Due to the prevalence of high-status commoner households across the region, we cannot claim this sample is comprehensive, but it represents a sufficient number of these sites to act as a comparative

baseline. Variables were chosen based on the strategies outlined above, although some of variables did not reveal any patterns worthy of discussion (see Table 2).

4.1. Chronological/occupational variables

We employed previously published ceramic and radiocarbon data to assign occupational phases to sites (Ebert et al., 2016b). This largely relied on monumental construction as an indicator of political activity. All the sites conformed to one of three trajectories. Sites either developed in the Early-Middle Preclassic and were abandoned in the Early Classic, only appeared in the Late-Terminal Classic, or emerged in the Early-Middle Preclassic and persisted through to the Terminal Classic collapse. Postclassic occupation was singled out as a variable to see how the Classic collapse affected different hierarchical levels (Conlee and Schrieber, 2006).

4.2. Architectural variables

The extents of sites were extrapolated based on previously published data (Helmke and Awe, 2013). Site area included all large monumental constructions spatially joined together. For example, groups attached via *sacbeob* were considered part of a site, whereas unattached commoner residences in the vicinity were not (Helmke and Awe, 2013). Structures, like eastern triadic shrines, ballcourts, *aguadas*, *sacbeob*, termini and pyramids were counted, and the overall site volumes were extracted from LiDAR data. The number of known altars and stelae at each site were counted. Published excavation data were used to extrapolate whether a structure had corbelled vault architecture. In the Belize Valley corbelled vault architecture is synonymous with palatial residences, which were identified using prior BVAR Project literature (Audet, 2006; Awe, 1992). The only instance in which we took an interpretive leap was identifying the northeast courtyard at Ek Tzul as a palace; this has not yet been surveyed extensively (Ebert et al. 2016a). Accessibility was ranked 1–3 (one being highly accessible and three being spatially confined), based on how many openings a group had and how much clearance these openings permitted. For instance, in Fig. 3, the Group 2 center of Xualcanil was ranked as one, whereas the Group 3 center of Tutu Uitz Na was ranked as three. We counted the numbers of plazas (spaces over 600 m²) and structure groups. For example, Lower Dover has eight groups, but just 4 plazas, this is because some of the groups have patios (less than 600 m²), which were not large enough to host sizeable gatherings (Fig. 3). The total plaza area for a site was calculated using LiDAR data.

4.3. Locational variables

Distance to a major center was calculated based on the distances to sites previously identified as major centers. The surrounding commoner density was obtained by counting the number of identified commoner households (low mounds under 2 m in height) in a 500 m radius of the particular site (Ebert et al., 2016a). We classified settlement densities beneath 24 per .8 km² as low, 25–35 per .8 km² as moderate and 36+ per .8 km² as high (Ford et al., 2011). Lastly, four environmental variables were employed in the multi-dimensional scaling, but not in the hierarchical cluster analysis. These were extracted from the LiDAR with the exception of soil zone, which was taken from Birchall and Jenkin (1979) and ranked according to agricultural productivity. These environmental variables possessed little explanatory significance and are not discussed further.

4.4. Analysis

Similarity coefficients were calculated for each pair of cases. Ward's (1963) method of hierarchical cluster analysis provided the most clarity because this method reduces the number of sets to those which are

Table 2
Variables and metrics used in the analysis.

Variable	Type of Measurement	Comment
Periods of Activity	Ranked Ordinal Variable: Preclassic-Early Classic = 1 Late Classic = 2 Middle Preclassic-Late Classic = 3	Timing for construction phases based on radiocarbon dates and temporally diagnostic ceramics
Count of Structures	Interval-Measurement Variable	
Count of Pyramidal Structures	Interval-Measurement Variable	
Height of Tallest Structure	Interval-Measurement Variable: (m)	
Site Area	Ratio-Measurement Variable: m ²	Calculated from LiDAR or published survey data (m ²)
Architectural Volume	Ratio-Measurement Variable: m ³	Calculated from LiDAR or published survey data (m ³)
Site Volume per Area	Ratio-Measurement Variable: Volume divided by area	
Count of Eastern Triadic Shrines	Interval-Measurement Variable	
Corbelled vault	Binary Variable: Presence/Absence	
Count of Sacbeob (causeways)	Interval-Measurement Variable	
Count of Altars	Interval-Measurement Variable	
Count of Stelae	Interval-Measurement Variable	
Count of Aguadas	Interval-Measurement Variable	
Palace	Binary Variable: Presence/Absence	
Count of Ballcourts	Interval-Measurement Variable	
Terminus Group	Binary Variable	Whether a site is a terminus group
Count of Termini	Interval-Measurement Variable	Number of terminus groups attached to a site
Accessibility	Ordinal-Ranked Variable	(1–3) based on number of structures and space between the structures (m)
Distance to Major Center	Ratio-Measurement Variable: (m)	Meters
Surrounding Population Density	Interval-Measurement Variable	Count of house mounds within a 500 m radii of site
Count of Groups	Interval-Measurement Variable	
Count of Plazas	Interval-Measurement Variable	
Plaza Size	Ratio-Measurement Variable	Area calculated from LiDAR or published survey data (m ²)
Postclassic Occupation	Binary Variable: Presence/Absence	Presence of Postclassic diagnostic ceramics or C14 dates from architecture
Distance to River	Ratio-Measurement Variable: (m)	Meters
Elevation	Ratio-Measurement Variable: (masl)	Meters above sea level.
Topographic Zone	Ordinal-Ranked Variable	1 = lowland, 2 = foothills, 3 = hilltop
Soil Zone	Ordinal-Ranked Variable	Soil zones ranked Recent = 4, Acidic = 3, Intermittently Lime Enriched = 2, Constantly Lime Enriched = 1 from Birchall and Jenkin (1979)

mutually exclusive, by considering similarities between all potential pairs and joining them based on maximal values. The resulting cluster tree is a figurative depiction of the similarities between sites based on all 24 variables (Fig. 4). Sites that possess more attributes in common are grouped together. This necessitated the compilation of a dissimilarity matrix based on coefficients for a mixed variable data set. A hierarchical cluster analysis by cases (sites) of this dissimilarity matrix was performed using the Systat 13 software package in order to group the sites into categories which would assist in discerning patterns in the multi-dimensional scaling (Figs. 4–6; Aldenderfer and Blashfield, 1984; Drennan, 2009:309–18).

Next, non-metric multi-dimensional scaling using Systat 13 was used to plot the configuration of dissimilarity scores of values from the dissimilarity matrix. Non-metric multidimensional scaling creates a configuration of points located in a space of one or more dimensions by drawing bi-variate scatterplots of the points' coordinate locations in multiple dimensions, creating a picture of the dissimilarity relationships between sites (Drennan, 2009:285–297). Each point represents a case (site), and they are placed in the multidimensional space so that the closest two points represent the two most similar sites, the second closest two points represent the second most similar pair of sites, and the two points most distant from each other in that space represent the two most dissimilar sites. The scatterplots which are created through the scaling reflect the similarities between different sites based on 28 variables (the 24 architectural variables and the 4 environmental variables). The three-dimensional solution was chosen since the stress values dropped dramatically with this solution (from 0.122 to 0.087, only decreasing to 0.069 with a 4-dimensional solution), suggesting that the majority of variability present in the data set was captured in the 3-dimensional solution. The resulting multi-dimensional scaling plots are used to elucidate patterns related to the most pertinent variables in the results section. Multidimensional scaling was chosen over other analytical possibilities, such as correspondence analysis, because

an approach which examines relationships between cases (rather than relationships between variables) made more sense given the nature of the data set (Everitt, 2005). Furthermore, the non-metric nature of the multidimensional scaling allows us to assign different kinds of variable (ratio, interval, ordinal, nominal, and presence-absence) different, but appropriate mathematical treatments.

5. Results: A five tier settlement hierarchy and patterned variation in architecture

Hierarchical cluster analysis indicates the presence of five distinct groups of sites within the settlement hierarchy of the Belize Valley (Fig. 4, Table 3). Multi-dimensional scaling allowed us to look at different variables within and between groups to identify intermediate elite strategies (Figs. 5–8). The results of our analyses are the product of localized variability in the Belize Valley and do not represent a settlement typology which can be applied elsewhere in the Maya lowlands. However, we do advocate the use of the same methods in other regions.

Group 1 is composed of apical polity capitals (major centers), like Cahal Pech, Baking Pot, Blackman Eddy and Lower Dover. Surrounding centers like Xunantunich, Buenavista del Cayo, Pacbitun and Actuncan would likely fall into this category. Based on the relatively equidistant spacing (5.7 km ±1.7 km) of centers, we argue Group 1 sites were the independent capitals of small territorial polities (Helmke and Awe, 2013, see Flannery, 1998). The analysis placed the centers of Ek Tzul and Lower Barton Creek within this category, suggesting that despite their smaller size, they possessed many of the functions of larger centers and can be considered polity capitals (Awe et al., 2015; Ebert et al., 2016a). Group 1 centers generally have ballcourts, sacbeob and termini, eastern triadic shrines, palaces, corbelled vault architecture, large and moderately accessible plazas (Mean = 7800 m²), pyramidal temples (Mean = 10 m high), stelae, altars, high architectural volumes (Mean = 12,2200 m³), and a very high surrounding commoner

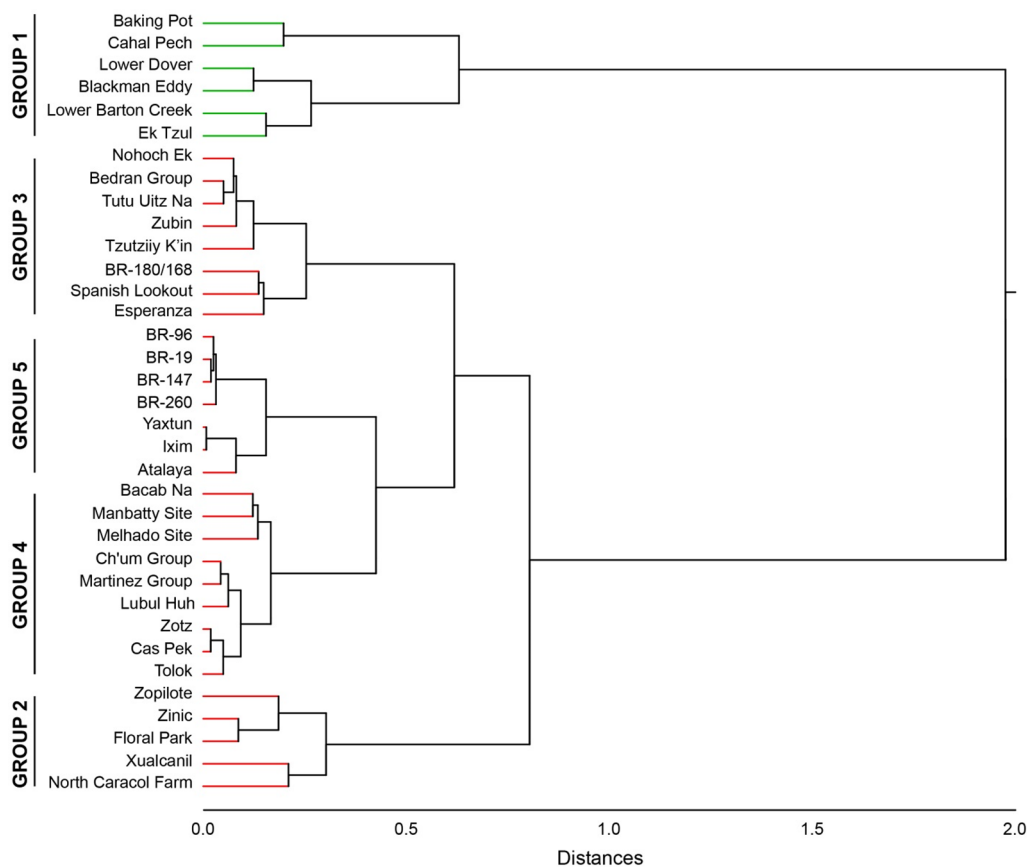


Fig. 4. Hierarchical cluster analysis plot of sites included in analysis.

household density (Mean = 44 per .8 km²). Polity capitals like Cahal Pech and Baking Pot had very large accessible plazas (6000–13,000 m²), to accommodate the population of their respective territory. Group 1 sites also had spatially restricted, secondary plazas which formed the royal palace complexes (Awe, 2008; Helmke and Awe, 2013). These palace structures with corbelled vault architecture are only present at the apical elite level, intermediate elites (below Group 1) probably did not possess sufficient labor and access to skilled stonemasons to construct such elaborate homes (Fig. 7E; Carmean et al., 2011; Tourtellot et al., 1992). Temporal patterns in monumental construction show that most Group 1 political capitals were politically unstable, only Baking Pot and Cahal Pech constructed monuments throughout the trajectory. Other capitals like Blackman Eddy and Lower Dover rose and fell, though the subordinate Group 2 and 3 centers surrounding them remained stable throughout the trajectory (See Fig. 8H).

Group 2 is composed of large intermediate elite groups (minor centers), including Floral Park, North Caracol Farm, and Xualcanil. These centers are located some distance from their respective political capitals (Mean = 2.5 km), but never far enough to be considered autonomous (1.5–3 km; Fig. 8G). These sites have multiple plazas and structure groups, separate elite residences, pyramidal temples (Mean = 9 m high), *sacbeob* and termini groups, ballcourts, altars and stelae, a high architectural volume (Mean = 12,900 m³), accessible and sizeable plazas (Mean = 1800 m²), and a low surrounding commoner household density (Mean = 18 per .8 km²). The other two sites which cluster in this group, Zinic and Zopilote, reflect outliers which are excluded from the discussion because they were part of the Cahal Pech core. Zopilote is a terminus group directly connected to Cahal Pech by a causeway, and Zinic is located just 300 m from the Cahal Pech center.

Group 3 comprises medium intermediate elite groups (minor centers) and includes Nohoch Ek, Bedran, Spanish Lookout, Tutu Uitz Na,

Zubin, BR-180/168 and Tzutziiy K'in. These sites generally comprise a single plaza group (Ashmore, 1981:49; Thompson, 1931), with an eastern triadic shrine (Mean = 5 m high), moderately sized and highly inaccessible plazas (Mean = 1400 m²), sizeable architectural volumes (Mean = 6600 m³), and a high surrounding commoner density (Mean = 37 per .8 km²). These groups are similar to East Structure-Focus Groups at Caracol (Chase and Chase, 1987:55), or Plaza Plan II groups at Tikal (Becker, 1971, 2004). The cluster analysis created a separate sub-group for the larger BR-180/168, Esperanza, and Spanish Lookout centers. It was difficult to gauge the size and original layout of BR-180/168 and Spanish Lookout because of modern agricultural plowing (Weller, 2009; Willey et al., 1965). Larger Group 3 centers, like BR-180/168 which had a separate elite residence may have been transitioning into Group 2 centers. Some Group 3 centers like Esperanza, Spanish Lookout, and Nohoch Ek were located on the fringes of polities on frontiers, but generally Group 3 centers were sited at varying distances from polity capitals (700–4500 m). Like the Group 2 centers, a small number of Group 3 centers such as Tutziiy K'in and Esperanza have altars, but no stelae have been found at this level. Generally, Group 3 centers were laid out as up-scaled versions of commoner households, unlike Group 2 centers, which resemble downscaled polity capitals.

Group 4 consists of a range of different site formats. These include the smallest intermediate elite groups and large high-status commoner houses. The vagueness of Group 4 is no doubt socio-politically meaningful in terms of ancient status and behavior. Group 4 sites commonly comprise several platforms located around a central patio with no discernible 'elite' architecture like eastern triadic shrines. These sites have small plazas/patios (Mean = 680 m²), smaller structures (Mean = 3 m high), little special function architecture (except the examples below), a relatively low architectural volume (Mean = 3000 m³), and a high density of surrounding settlement

Table 3
Sites included in the analysis and their designation.

Site	Original Designation	New Designation	Reference
Atalaya	Plazuela	Group 5	Moore (1997)
Bacab Na	Minor Center	Group 4 (Group 3)	Ford (1990:169, 1991), Hoggarth et al. (2008)
Baking Pot	Major Center	Group 1	Audet (2004, 2006), Audet and Awe (2000, 2005), Hoggarth (2012)
Bedran	Minor Center	Group 3	Conlon (1993), Conlon and Moore (2003), Conlon and Powis (2004), Powis (1993a)
Blackman Eddy	Major Center	Group 1	Garber et al. (2004a, 2004b)
BR-147	Plazuela	Group 5	Willey et al. (1965)
BR-180/168	Minor Center	Group 3	Willey et al. (1965)
BR-19	Plazuela	Group 5	Willey et al. (1965)
BR-260	Plazuela	Group 5	Willey et al. (1965)
BR-96	Plazuela	Group 5	Willey et al. (1965)
Cahal Pech	Major Center	Group 1	Awe (1992, 2013), Awe and Campbell (1991)
Cas Pek	Plazuela	Group 4	Cheetham et al. (1993a), Lee (1996), Lee and Awe (1995), Sunahara and Awe (1994)
Ch'um Group	Plazuela	Group 4	Powis et al. (1996)
Ek Tzul	Small Major Center	Group 1	Awe et al. (2015), Ebert et al. (2016a)
Esperanza	Minor Center	Group 3	Schubert et al. (2001)
Floral Park	Minor Center	Group 2	Brown et al. (1996), Driver and Garber (2004), Glassman et al. (1995), Willey et al. (1965:310)
Ixim Group	Plazuela	Group 5	Hoggarth (2010, 2012), Hoggarth and Fernandez (2011)
Lower Barton Creek	Small Major Center	Group 1	Awe et al. (2015), Kollias (2016), Kollias and Biggie (2016)
Lower Dover	Major Center	Group 1	Guerra (2011), Guerra and Awe (2017), Walden et al. (2017), Wilkinson and Hude (2011), Wölfel et al. (2010)
Lubul Huh	Plazuela	Group 4	DuMenil (2014a, 2014b, 2015), Zweig (2012, 2013)
Manbatty Site	Minor Center	Group 4	Garber et al. (1991:17)
Martinez Group	Plazuela	Group 4	Ebert (2015, 2017), Ebert and Fox (2016)
Melhado Site	Plazuela	Group 4	Willey and Bullard (1956)
Nohoch Ek	Minor Center	Group 3	Coe and Coe (1956), Taschek and Ball (2003)
North Caracol Farm	Minor Center	Group 2	Ehret and Conlon (2000, 2001), Conlon and Ehret (2000, 2001), Golden and Conlon (1996)
Spanish Lookout	Minor Center	Group 3	Willey et al. (1965)
Tolok 1	Plazuela	Group 4	Powis (1992, 1993b, 1994), Powis and Hohmann (1995)
Tutu Uitz Na	Plazuela	Group 3	Petrozza (2015), Petrozza and Biggie (2015), Walden and Biggie (2017), Walden et al. (2017)
Tutzziy K'in	Plazuela	Group 3	Ebert (2015, 2017), Ebert et al. (2016c), Ebert and Dennehy (2013), Ebert and Fox (2016)
Xualcanil (Cayo Y)	Minor Center	Group 2	Iannone (2003), Schwake (2000)
Yaxtun	Plazuela	Group 5	Audet and Awe (2000)
Zinic	Plazuela	Group 2 (but probably a Group 4)	Conlon (1992), Conlon and Awe (1991)
Zopilote	Terminus Group	Group 2 (but part of Cahal Pech core)	Cheetham et al. (1993b), Cheetham et al. (1994, 1995), Cheetham (2004), Ebert (2017), Ebert and Fox (2016)
Zotz	Plazuela	Group 4	Awe et al. (1992)
Zubin	Minor Center	Group 3	Iannone (1993, 1994, 1995, 1996, 2003, Garwood and Hodgson (1993)

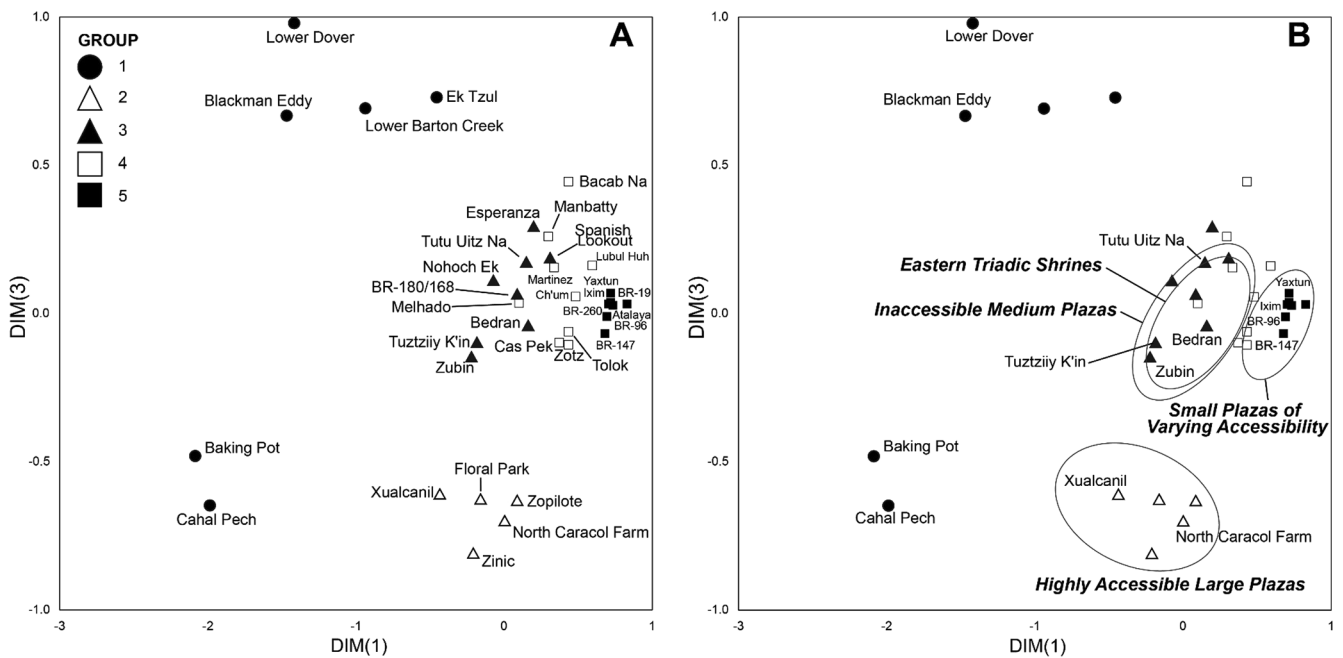


Fig. 5. Multidimensional scaling plots. Plot A shows the sites, their names and groups. Plot B shows the relationships between eastern triadic shrines and plaza size and accessibility.

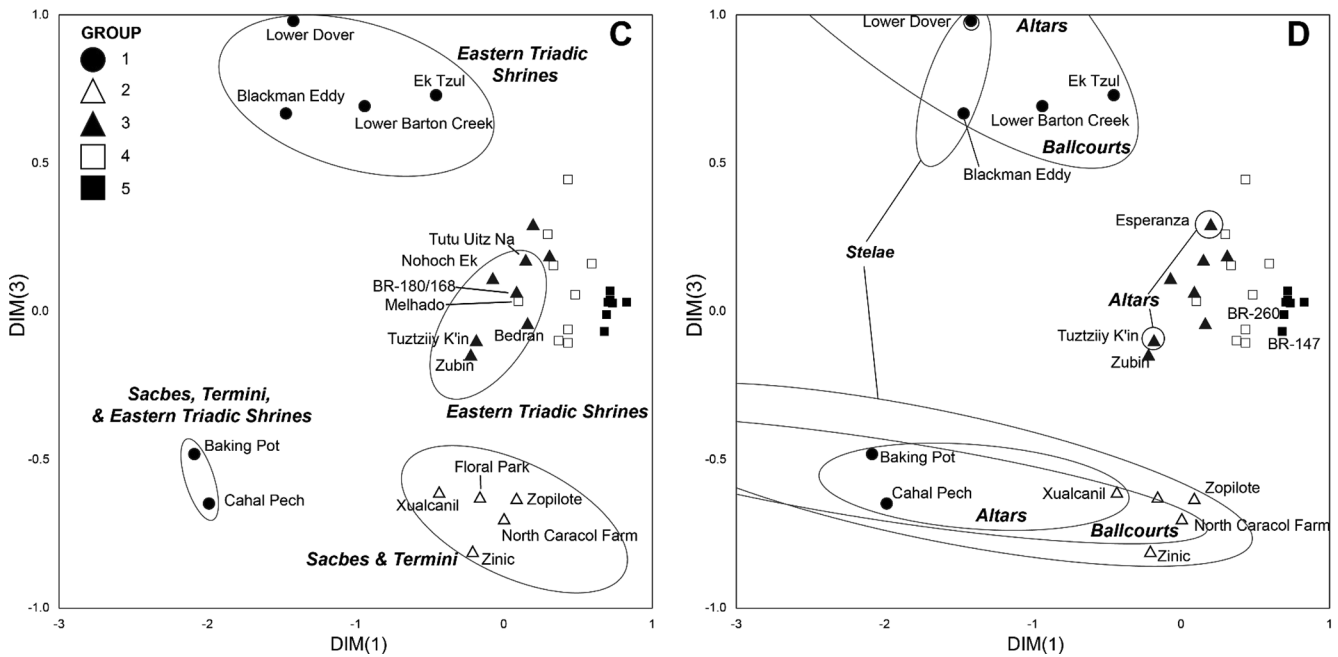


Fig. 6. Multidimensional scaling plots. Plot C shows eastern triadic shrines compared to *sacbeob* and terminus groups. Plot D shows stelae, altars and ballcourts.

(Mean = 42 per .8 km²). The three largest centers in Group 4 (Bacab Na, Manbatty and Melhado) are considered small intermediate elites as they had facilities for integrating commoners. Bacab Na, had a large plaza (3150 m²) but only small structures, and Manbatty and Melhado had pyramidal structures (4–7 m in height) but little other sizeable architecture. Bacab Na is distant from the polity capitals, in a possible frontier position. Many sites in this group like Tolok, Zotz, Cas Pek, Ch'um, and Martinez represent high-status commoner households with residential architecture, small patios and small ceremonial architecture. Groups 4 and 5 are spatially located across the hinterlands of polities (200–4000 m from polity capitals).

Group 5 consists of high-status commoner residences with no ceremonial integrative potential. These groups had the smallest domestic

patios (Mean = 400 m²; Hayden and Cannon, 1982; Killion, 1992), no special function architecture, small structures (Mean = 2.4 m high), low architectural volumes (Mean = 1300 m³), and very high surrounding commoner densities (Mean = 70 per .8 km²). Examples include BR-19, 96, 147 and 260 at Barton Ramie, and Atalaya, Yaxtun, and Ixim at Baking Pot. These were the homes of affluent commoners who had little political or ceremonial power. Group 5 sites are located closer to polity capitals than Group 4 sites (100–2000 m). The presence of Group 4 and 5 sites in commoner neighborhoods seems logical because they represent the higher status commoners which are ubiquitous across mixed-status Classic Maya neighborhoods (Hutson, 2016; Kintz, 1983a; Smith and Novic, 2012:12). The high-status commoner households of Groups 4 and 5 are not considered in detail here because of our

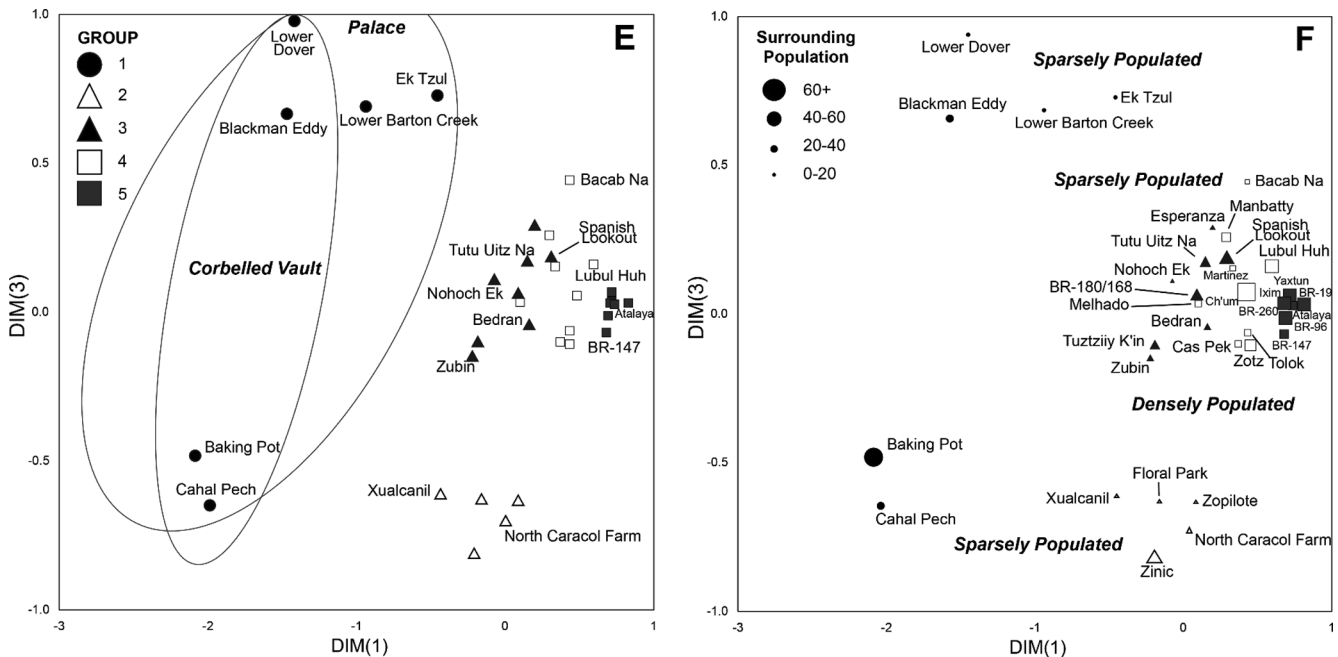


Fig. 7. Multidimensional scaling plots. Plot E shows the relationship between corbelled vault architecture, palaces and Group 1 centers. Plot F shows the relationship between population aggregation and the different Groups.

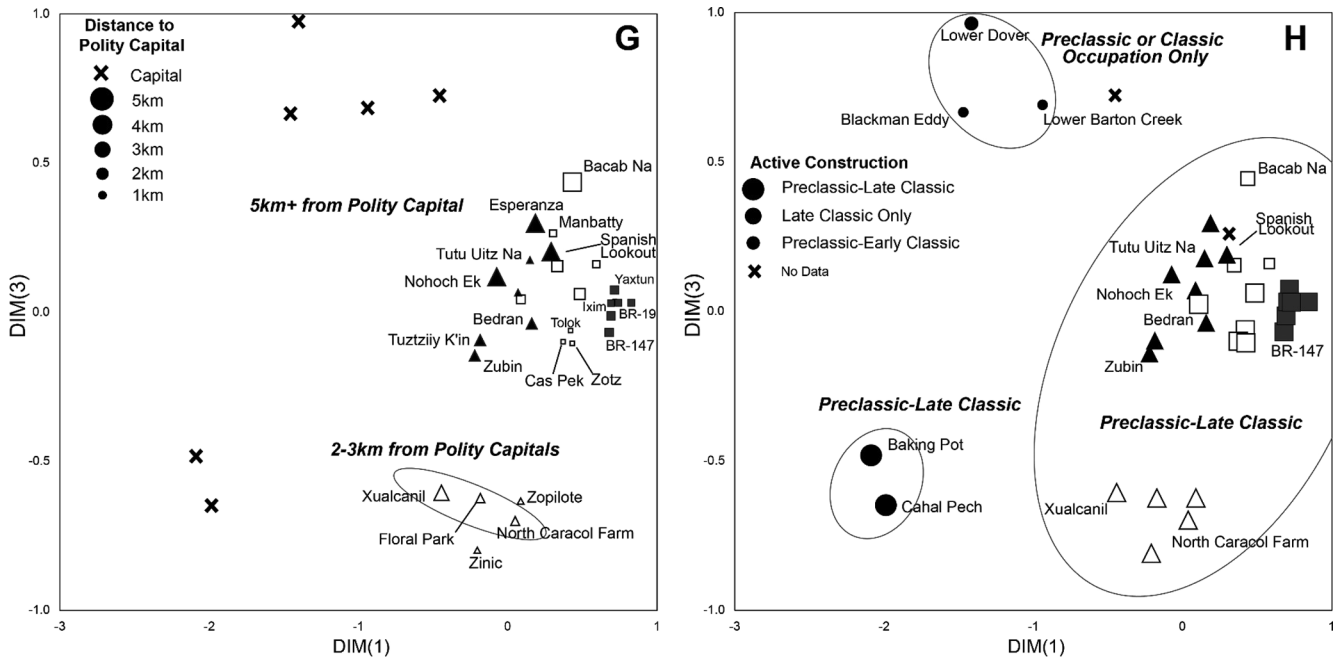


Fig. 8. Multidimensional scaling plots. Plot G shows the distance from polity capitals. Plot H shows the temporal dimensions of monumental construction at the different Groups.

focus on intermediate elites.

6. Discussion: Classic Maya intermediate elite political strategies in the Belize Valley

The application of multi-dimensional scaling allows us to distinguish several clear patterns between variables that help to define the internal composition of the Belize Valley settlement system and provide additional information about the role of intermediate elites within local polities. Despite the difficulties associated with reconstructing ancient territorial units, many scholars have attempted to subdivide the landscape into politically meaningful chunks (Flannery, 1972; Hammond, 1974, 1991; Marcus, 1973; Mathews, 1991). Our statistical analysis indicates six polity capitals (Group 1 sites), were present in the study region, corroborating the aforementioned settlement studies (Awe et al., 2015; Ebert et al., 2016a:291; Helmke et al., 2015). Of these polity capitals, we focus on Cahal Pech, Baking Pot, and Lower Dover, in contrast to recently discovered centers like Lower Barton Creek and Ek Tzul, because their settlement systems are better documented (Awe, 1992; Awe et al., 2015; Audet, 2006; Ebert et al., 2016a; Hoggarth, 2012; Iannone, 2003; Guerra and Awe, 2017; Walden et al., 2017).

The Group 1 political capitals of Cahal Pech, Baking Pot, and Lower Dover commanded territories which each contain a single Group 2 large intermediate elite center. Group 2 centers possess special function architecture like termini, *sacheob*, pyramids, and ballcourts and are generally quite large. Despite this, they have small adjacent commoner populations suggesting that labor for construction was likely corralled from a much broader area (Abrams, 1995; Iannone, 2003). We propose that Cahal Pech was associated with Xualcanil, Lower Dover with Floral Park, and Baking Pot with North Caracol Farm. We suggest Group 2 sites were strongly tied to the polity capitals based on geographical proximity, the ability of the resident elites to command labor from a much larger area, and the lack of eastern triadic ancestral shrines at these sites. The presence of stelae and altars at Group 2 centers like Xualcanil speak to the political power of the resident elites, but because these are uncarved, it remains unclear whether these stelae reaffirmed allegiance to an apical regime, or conveyed prestige upon the resident elite (Ashmore, 1992; Emery and Foias, 2012:407). Stelae and altars

likely required much less labor than ballcourts, *sacheob* and pyramids; therefore their presence at Group 2 centers is not very remarkable. Group 2 centers may have first emerged as independent centers and were then later incorporated under their respective polity capitals. In contrast to Group 2 centers, the Group 1 polity capitals had multiple Group 3 centers within their territories. For instance, Tutu Uitz Na and BR-180 fell under the aegis of Lower Dover, while the settlements of Tutziiy K'in, Zubin and possibly Nohoch Ek were located within the Cahal Pech polity. The Bedran and possibly Esperanza and Spanish Lookout centers were located within Baking Pot's territory. The quantity of Group 3 sites within a single polity suggests that a different relationship existed between apical elites and Group 2 and 3 intermediate elites.

Our analysis demonstrates that the Belize Valley intermediate elites had a high degree of occupation longevity, especially compared to apical elites. Approximately 82% of intermediate elite groups were active from the Middle Preclassic through to the Terminal Classic, compared to only 33% of polity capitals (Fig. 8H). The long-term stability and resilience of intermediate elites may have resulted from their flexibility in utilizing relationships with local commoners and apical elites to perform a political balancing act (Connell, 2003; Hayden and Cannon, 1982; Yaeger, 2010:247). Group 3 intermediate elites in particular may represent "Houses" or lineages and these forms of social organization possess high degrees of socio-political flexibility and durability (Beck, 2007; Borić, 2007; Gillespie, 2000; Lévi-Strauss, 1982). Settlement pattern data does not provide much clarity on whether intermediate elite groups were occupied by different families over time (Connell 2010; McAnany, 2013), but as an institution, the intermediate elites were a mainstay of the political landscape. Conlee and Schrieber (2006) argue that one metric of intermediate elite compliance or resistance to an apical regime may be their longevity after the collapse of the apical regime. Unlike other sub-regions of the Maya lowlands (Lamoureux-St-Hilaire et al., 2015; Manahan, 2004; Palka, 2003), there is little evidence of Early Postclassic occupation at elite or commoner contexts in our study region (Hoggarth et al., 2014; Hoggarth et al., in preparation). Consequently, the majority of intermediate elite families saw a dramatic decline in their power during the Late Classic collapse of the Belize Valley polities.

(1) Ancestor veneration

Ostentatious displays of ancestor veneration are often associated with legitimization in decentralized political contexts (Metcalfe and Huntington, 1991; Parker Pearson, 1999:87; Schwartz, 2007:47). Group 3 intermediate elites constructed scaled down eastern triadic shrines to legitimate their authority through ancestor veneration (Awe et al., 2017; Barnhart, 2002; Iannone, 2003; McAnany, 2013; Fig. 5B). We argue that Group 1 apical elites and Group 3 intermediate elites were both engaged in a political strategy of elite legitimization through ancestor veneration. Legitimacy might have been a priority for elites at these levels as these were the most internally competitive tiers because there are multiple Group 1 polity capitals in the Belize Valley, and multiple Group 3 centers nested within each polity. In contrast, none of the Group 2 sites possess eastern triadic shrines but instead have a ceremonially integrative function related to ballcourts, pyramids, *sacbeob* and termini (Fig. 6C). The fact there was only one Group 2 center in each polity, combined with the presence of large special function architecture, despite a general lack of surrounding commoner labor, suggests a special relationship between Group 1 polity capitals and Group 2 intermediate elites. This special relationship likely meant that Group 2 intermediate elites did not need to legitimate themselves through ancestor veneration, or that Group 2 intermediate elites may have buried their dead at the polity capitals, which would have conferred substantial prestige. This seems plausible at Xualcanil (Iannone, 2003), but less likely at Floral Park which possesses a small residential mortuary shrine in its elite residential group (Brown et al., 1996).

(2) Ceremonial integration of commoners

The presence of ballcourts, *sacbeob*, termini, eastern triadic shrines, plazas and pyramids at Group 2, 3 and some Group 4 centers strongly corroborates the notion that intermediate elites were integrating commoners in ceremonies (Chase, 1992; Hageman and Lohse, 2003). Elites on different levels of the political hierarchy all fulfilled an integrative role to garner support and legitimate their authority, meaning that apical elites could not monopolize ceremonial sources of power. This corroborates epigraphic evidence which shows intermediate elites playing a ceremonial role in other regions of the Maya lowlands (Marcus, 2006). Group 2 intermediate elites were constructing much larger and more varied structures than Group 3 elites, but have much smaller local commoner populations surrounding them (Fig. 5B and 6C and D). We suspect that Group 2 elites may have obtained access to commoner labor through their close association with the apical regimes located at the polity capitals. The elites residing at Group 2 sites controlled processional *sacbeob* and ballcourts which were used to bring people together. We argue that construction of these facilities was sponsored by their apical elite patrons because it seems unlikely that apical regimes would allow the unauthorized construction of venues like ballcourts, *sacbeob*, and termini groups in their immediate hinterlands, and because the Group 2 intermediate elites lacked sufficient commoner populations nearby to construct them. The patronage of apical elites in this instance almost certainly confirms that Group 2 centers complemented polity level integration and stability. Furthermore, because Group 2 intermediate elites were reliant on commoner manpower provided through the patronage of apical elites, it is unlikely this manpower could then be subverted for armed insurrection against their apical elite. Group 2 intermediate elites might have been similar in rank and role to the epigraphically attested *chak tok wayaab'*, who were able to commission pyramids, ballcourts and *sacbeob* (Estrada-Belli et al., 2009: 246–48; Beliaev, 2004). Golden and Scherer (2013) posit that as populations expanded in the Late Classic period, apical elites could no longer directly interface with all their constituents at a face to face level (if they ever did), necessitating intermediate elite fulfillment of this function. Group 2 centers might have been a local response to this very problem.

Ballcourts are a characteristic feature of Group 2 sites. Ballcourts have commonly been used by Mesoamerican archaeologists to assess how centralized polities were. Often this argument relies on the presence of ballcourts as a metric of decentralization. For instance, Golden and Scherer (2013:412) show that the more centralized Yaxchilan polity only contained ballcourts within its civic-ceremonial center, compared to neighboring Piedras Negras where ballcourts existed at secondary centers. Others assume the opposite, for instance de Montmollin (1995:160) suggested that the proliferation of ballcourts into the hinterlands of polities may reflect attempts on the part of the apical elite to manage internal conflicts between agitated junior elites. The presence of ballcourts at Group 2 centers in the Belize River Valley corroborates de Montmollin's interpretation, as we know these groups had a special connection with apical elites and probably served an integrative function. The next question is who they were attempting to integrate. Stark and Stoner (2017) have suggested that the small size of many Classic period ballcourts indicates that the onlookers were of elite status. If this were true then it would suggest a different power dynamic than if ballcourts served to integrate commoners. In the Belize Valley most ballcourts are small. Spatial analysis of their associated architecture and surrounding plaza spaces show they could accommodate a maximum of 100–200 people based on suggested capacities (Inomata, 2006; Walden et al., n.d.). The polities of the Belize River Valley Maya had populations of 3000–4000 people, of which about 200 could be construed as elite (Walden et al., 2017). It seems plausible that ballcourts may have integrated intermediate and apical elites within polities. The possibility that the ballcourts at Group 2 centers may have been more focused on elite integration, does not mean that the other architectural features of Group 2 centers also filled this role, for example, the large and highly accessible plazas and *sacbeob*, which could easily accommodate many more people than were present nearby. *Sacbeob* and terminus groups have long been considered to have played administrative, economic, and ceremonial roles (Folan et al., 1983:53; see also Ashmore, 1992; Keller, 2010; Kurjack, 1974). Following Cheetham (2004:126), Belize Valley *sacbeob* and termini groups likely fulfilled a ceremonial function involving processions to integrate commoners.

In contrast to the Group 2 centers, the elite residences and eastern triadic shrines located at Group 3 centers could easily have been constructed by their surrounding neighborhood populations (Golden and Scherer, 2013: 414; LeCount and Yaeger, 2010b). Group 3 centers had greater concerns about legitimating themselves politically than Group 2 elites, based on their prioritization of ancestor veneration at eastern triadic shrines to materialize lineage claims to the land. The potentially precarious situation of Group 3 intermediate elites is further reflected by the accessibility of their plazas. Group 2 and Group 3 centers both possessed sizeable plazas for aggregation (600–6000 m²), but the Group 2 plazas were far more accessible than the Group 3 plazas, which were actually the least accessible in the region. Some Group 3 plazas like Tutu Uitz Na saw modifications over time which served to paradoxically increase capacity while rendering them less accessible (Walden et al., 2018). Group 3 centers possessed plazas which could probably hold their respective neighborhood population, serving a neighborhood level integrative function. These were likely inaccessible because their residents only had a single plaza which functioned in a jointly private and public capacity depending on the occasion. Furthermore, Group 2 centers like Floral Park, Xualcanil, and North Caracol Farm all possess separate elite residences with their own private plazas adjoined to the ceremonial group, much alike to Group 1 polity capitals.

(3) Acting as neighborhood heads

Group 3 centers consistently have sizeable surrounding populations, which we argue, based on the distance interaction principle (Drennan and Peterson, 2006), shows that they were involved in webs of local interaction with commoners and likely served as intermediate elite

neighborhood heads, in a similar way to epigraphically documented *lakam* (Fig. 7F; Lacadena García-Gallo, 2008). This relationship starkly contrasts with Group 2 centers which lacked even moderate commoner clustering. Group 3 intermediate elites may have pursued relationships which varied along the network-corporate continuum, but our coarse grain settlement data does not offer insight into this dynamic (Adams and Smith, 1981; Lemonnier, 2012; Pendergast, 1992; Rathje 1983; M. Smith, 2011). Evidence of economic relationships tying Group 3 elites and commoners together was lacking (Manzanilla, 2012), although the ditched field system surrounding Bedran suggests that some elites managed agriculture (Ebert et al., 2016c). The eastern triadic shrines and plazas, which could accommodate nearby populations, indicate that Group 3 neighborhood heads were integrating local commoners in ancestor veneration ceremonies (Walden et al., 2017, n.d.), leading us to posit that that these centers represented elite lineages or possibly “Houses” in the Levi-Straussian sense (Duncan and Hageman, 2015; Gillespie, 2000; Hageman, 2004; Lévi-Strauss, 1982). Unlike Group 2 elites who were reliant on their apical elite patrons to provide manpower, the Group 3 centers had sufficient surrounding neighborhood populations to construct their homes and eastern triadic shrines. In theory, these attached populations could have been drawn upon in military matters if political disputes came to a head (Iannone, 2003). The arrangement of multiple Group 3 centers, each with a subordinate commoner population around it indicates that this internal tier was decentralized. Hypothetically, these units represent factions which collectively identified with a specific ancestral lineage based at the Group 3 center (Blanton and Fargher, 2012; Brumfiel 1994; Gonlin, 2007:89).

(4) Apical Elite Emulation

Evidence of apical elite emulation is both overt and slightly problematic among the intermediate elites of the Belize River Valley. Firstly, intermediate elites clearly possess architecture usually associated with apical elite political capitals. Group 2 centers possess ballcourts, pyramids, termini and *sacbeob*, while Group 3 centers possess eastern triadic shrines. The presence of such features means that intermediate elites might not simply be emulating apical elite architecture but also their prevailing apical strategies of commoner integration and ancestral veneration (McAnany, 2013). This interpretation is problematic however, as these correlates of emulation may be more illustrative of elite trends in “high culture” across the lowlands, than the direct mimicry of apical elite construction styles or political strategies (Joyce, 2000). The evidence for emulation is not specific enough to the polities in question to say that intermediate elites were emulating local apical elites, or any specific elite. Instead, intermediate elites were constructing the same structures which were being constructed all over the Maya lowlands at the time. While these structures and architectural forms were traditionally considered hallmarks of apical elite status, this was largely due to a longstanding, biased focus on apical elite contexts. In order to claim intermediate elites were emulating apical elites we need to be certain that apical elites were constructing ballcourts, *sacbeob*, termini and eastern triadic shrines before intermediate elites, which currently seems likely but requires investigation. The same issue rears its head when we ask whether intermediate elite ancestor veneration or ceremonial integration of commoners were emulations of apical elite strategies? Answering this question also requires ascertaining whether apical elites employed these strategies before intermediate elites, or whether shared power sources developed in tandem. Ancestral ritual seems ubiquitous across all social classes from at least the Middle Preclassic (McAnany, 2013). Therefore, we are hesitant to claim that the practices reflect emulation. Our data do show that Group 2 and 3 intermediate elites were clearly tied into broader socio-political networks, and could construct the types of buildings common across the Classic period lowlands (Ashmore, 1992; Awe, 1992; Garber et al. 2004a; Kurjack,

1974).

(5) Managing the frontiers of polities

Driver and Garber (2004) propose that some minor centers were positioned along political boundaries to provide top-down control of trade and regulate borders (See also Driver et al., 1997). Based on equidistant spatial positioning between polity capitals (4 km ± .4 km), Nohoch Ek, Spanish Lookout, Esperanza, and Bacab Na may have fulfilled this role (Fig. 8G). These four centers could be interpreted as top-down border maintenance stations, or as the homes of more autonomous intermediate elite families (Chase and Chase, 1998; Smith, 2003:130). Discerning between the two scenarios is difficult, because our data do not speak to an overt “frontier role” at these groups. These groups do not possess special administrative architecture or features not present at their counterparts located within the hinterlands of polity capitals. Esperanza, Nohoch Ek and Spanish Lookout are Group 3 centers and share many similarities with other Group 3 sites located within the immediate hinterlands of Group 1 polity capitals. Esperanza possesses an altar, which are less common at sites located closer to polity capitals and may therefore speak to a modicum of autonomy, but this is ambiguous. Bacab Na is located between Baking Pot and Cahal Pech, and has a far larger plaza than any of its Group 4 peers. This may indicate a special frontier role as a ceremonial or economic aggregation point (Cap, 2015; Chase and Chase, 2003; King, 2015), but this interpretation is problematized by the fact Bacab Na is located on the north bank of the Belize River, near the Yaxox and Alta Vista centers, which also have large plazas, suggesting this reflects a local architectural style (Ford, 1990, 1991:40). The spatial patterning of sites located equidistantly between polity capitals definitely corroborates Driver and Garber (2004), but without further evidence of special frontier functions we cannot clearly say whether the intermediate elites present at these sites pursued a frontier strategy. Excavation at these sites would produce the data necessary to examine this issue.

7. Conclusions

We have shown that understanding intermediate elite strategies provides a novel window into political dynamics and integration within Maya polities (Walden and Cervantes, n.d.). We employed hierarchical cluster analysis to create a precise and sensitive five tier settlement hierarchy for the Belize River Valley. Multidimensional scaling has allowed us to distinguish the correlates that cause sites to group together in the hierarchical cluster analysis. These correlates offer a basis for investigating the strategies which intermediate elites pursued. Of these strategies, we find solid evidence of intermediate elites venerating ancestors, integrating commoners in ceremonies and acting as neighborhood heads (strategies 1–3), we find weaker or more ambiguous evidence of intermediate elites emulating apical elites and managing frontiers (strategies 4–5). Our analysis has shown that the polities of the Belize River Valley had multiple internal tiers. At the apical elite level, the competing peer-polity capitals can be characterized as decentralized. Group 2 centers seem to have been closely tied to apical elites and served to integrate and internally centralize the polities. At the third tier, the Group 3 centers represented competing neighborhood heads who were tied to local populations and formed an internally decentralized level, likely forming the “weak point” in top down apical elite governance in their respective polities (Marcus, 1993:164). The intermediate elites were caught in webs of top-down and bottom-up relationships which structured the range of strategies which were possible (Giddens, 1984; Tung and Cook, 2006). By “peopling” the middle of the settlement hierarchy with agentive intermediate elites (Robin 2003; also see Potter and King, 1995), “[evoking] the image of identifiable groups of persons rather than impersonal entities” (Marcus, 1992:296), we have provided a perspective on political centralization which does not reify abstract types and is sensitive to local variability

and the agency of individuals (Iannone, 2002; Marken and Fitzsimmons, 2015). Traditionally, scholars' preconceptions about whether intermediate elites were compliant middle managers, or recalcitrant faction heads was influenced by whether they subscribed to the notion that polities were 'strong' centralized territorial entities, or "weak" decentralized city states (Chase, 1992; Chase and Chase, 1992, 1996; Demarest, 1996; Murtha, 2015; Peuramaki-Brown, 2013: 578; Webster, 1992). Intermediate elites have received little attention as agents of political change (Bernbeck, 2008:541), but elucidating their strategies has allowed us to peer inside the "black box" of Maya polities, to examine the different nested levels of relationships which promulgated stability and instability (Hammond, 1991; Parkinson and Gyucha, 2012).

The approach can be employed in any context with three or more tiers of settlement hierarchy, and can be used to examine the strategies of apical elites and high-status commoners, not just intermediate elites. Our sample size from the BVAR Project region is relatively limited compared to settlement systems documented elsewhere in the Maya region (Canuto et al., 2018; Chase et al., 2011; Chase et al., 2014). We believe the patterns outlined require corroboration from a larger data set, we hope this paper encourages collaboration and the analysis of adjacent regions to better inform larger regional typologies. Future BVAR Project research will focus on excavation to refine the intermediate elite strategies outlined here and to elucidate other strategies which could not be investigated with settlement pattern data (e.g., economic strategies). Ongoing excavation will allow the reconstruction of diachronic change at intermediate and apical elite and commoner levels, allowing us to understand historically contingent relationships between the different levels of Maya polities.

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Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jaa.2019.101074>.

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