

**BUILDING NEGOTIATION: ARCHITECTURE AND
SOCIOPOLITICAL TRANSFORMATION AT CHAU HIIX,
LAMANAI, AND ALTUN HA, BELIZE**

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To Mom, Dad, Molly, and Melissa--for everything.

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BUILDING NEGOTIATION: ARCHITECTURE AND SOCIOPOLITICAL TRANSFORMATION AT CHAU HIIX, LAMANAI, AND ALTUN HA, BELIZE

This dissertation examines the relationship between changing spatial configurations in the built environment and sociopolitical organization in the three ancient Maya communities of Chau Hiix, Lamanai, and Altun Ha, Belize. The research explores the proposition that manipulation of the built environment was particularly important in mediating between inter- and intra-community social and political segments during the turbulent Terminal Classic period (ca. A.D. 800 and 1000).

The research design guiding the project facilitated the testing of several hypotheses. Among these is the prediction that architectural developments at long-lived Chau Hiix would more closely mirror those at Lamanai, a site neighboring Chau Hiix that was inhabited into the period of Spanish Conquest, than at Altun Ha, another neighbor that was largely abandoned after the 9th century A.D. Changing patterns of access to elite residential and civic-ceremonial architectural contexts is one of the most significant findings at the three locations. These diachronic changes were tracked using quantitative spatial analyses (including methods adapted from the work of Thomas Markus, Jerry Moore, and Bill Hillier and Julienne Hanson) and more interpretative analysis of Maya cityscapes. Research findings include a tendency for buildings at Lamanai and Chau Hiix to become progressively restricted prior to about A.D. 800 before becoming increasingly accessible after this point. Movement towards more inclusive, architecturally-focused patterns of sociopolitical interaction is postulated to have contributed to (or to index a process that explains) the persistence of certain Belize Maya communities after the period of widespread site abandonment following the 9th century Maya “collapse”. These data emphasize the complexity of the Terminal Classic period by illustrating how contrasting community trajectories were not only the result of distinct strategies of manipulation of material culture but also almost certainly a consequence of distinct social processes operating in different parts of the Southern Maya Lowlands.

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CHAPTER 1

INTRODUCTION

In this dissertation I set out to investigate the informative capacities of the pre-Hispanic Maya built environment in three communities in modern-day Belize. In so doing, I seek to critically examine three inter-related notions. The first of these is the view that architecture is a reflection of cultural institutions. Scholars have long maintained that the built environment provides significant insight into various domains including social and political organization. Such a perspective tends to assign architecture a passive role: the built environment is viewed as byproduct of cultural activity. This is a fairly conservative approach. Settlements and individual buildings undoubtedly do this. It is the degree to which various institutions are reflected in different cultural contexts that is the focus of debate. While buildings obviously impart information, it is determining the kinds of information they broadcast, to whom, and whether the information broadcasting is intentional or incidental that is the tricky part.

A second concept explored below is the issue of civic-ceremonial architecture as a medium manipulated by social segments in which to enact change. This view attributes architecture a much more active role in social relations. Buildings create settings that can initiate and institutionalize sociopolitical transformations. They can thus be conceived as strategic resources and contexts of negotiation. This view obviously assigns architecture an active role in social relations and represents a less conservative approach. Maya archaeologists have tended to view the organization of space as epiphenomenal and have been hesitant to acknowledge its potentially more active properties. This dissertation examines this assumption and proposes that spatial subdivisions evident in the built environment instead played an important role in shaping actions, constraining possibilities, and determining patterns of interaction between the various social groups composing Classic Maya society.

The third issue to be examined is whether changing patterns in the built environment are a reliable indicator of change in socio-political institutions. This project sets out to evaluate the

hypothesis that the pre-Hispanic Maya built environments of Belizean communities examined herein exhibit each of these capacities.

Architecture and Social Relations at Chau Hiix, Lamanai, and Altun Ha, Belize

Although I did not appreciate their significance at the time, the data that would eventually determine the direction of this study were recovered at Chau Hiix seven years ago. In 1998, excavation of the center's primary civic-ceremonial structure (Structure 1) exposed remains of a corbel vaulted "gallery" set perpendicular to the building's central stairway. This Building was consistent with predictions David Pendergast had made based on the structure's surface contours and it proved similar to features he had identified at the neighboring centers of Lamanai and Altun Ha, Belize (Pendergast n.d., 1986a, personal communication to Pyburn). These architectural parallels were subsequently noted (Andres 2000a; Andres and Pyburn 2004). However, apart from general suggestions concerning the feature's potential significance relative to changing architectural access patterns (Andres 2000a), there was little basis for functional interpretation.

A second significant discovery came in 1999 during investigations of the function and developmental sequence of monumental architecture in the site center. Excavations were placed at locations determined useful in investigating issues of Classic period political economic organization outlined in a proposal submitted to the NSF (Andres 2001). Clearing of organic debris from a masonry concentration on the north side of the main platform revealed the remains of a previously unrecognized but substantial structure (Structure 150). The building's size and unusual form suggested parallels with structures provisionally identified as market compounds at Sayil, Seibal, and Tikal (e.g., Fry 1979:500, 509; Jones 1996:87; Tourtellot 1988a:234). The 2001 excavations were consequently designed to evaluate this interpretation and to consider the political economic implications of the presence of such a facility at Chau Hiix. Investigations quickly determined that Structure 150 did *not* meet the criteria proposed for a Classic period

market complex. Excavations, however, exposed one of the most areally extensive buildings encountered at the site, revealed a variety of associated materials, and significantly altered our conception of spatial patterns in the site center at Chau Hiix in its later periods of occupation.

Occupying a formerly open space, Structure 150 apparently barred access to the main platform and reduced visibility into the Main Plaza from northern neighborhoods. The gallery constructed across Structure 1's stair suddenly appeared less of an anomaly than part of a pattern emerging in the built environment at Chau Hiix. This movement toward Late Classic and Terminal Classic enclosure of the main platform was also evident in other changes taking place in the main group between A.D. 700-800. While important in their own right, the Chau Hiix data took on added significance when considered relative to similar observations at Lamanai and Altun Ha (Pendergast 1986a, 1992). These inter-community parallels suggested developments at long-inhabited Chau Hiix were part of a broad pattern evident at multiple locations in northern Belize during the Classic-to-Postclassic transition. While frequently noted and suggested to reflect changes in sociopolitical organization, this architectural trend had been subject to only the most general interpretations (Leventhal in Crisell 1997:12; Pendergast 1992:63). It was the opportunity to document, compare, and explore the significance of these architectural developments in three neighboring communities that consequently provided the impetus for the present study.

Organization of the Discussion

This initial chapter introduces the spatial and temporal parameters of the discussion. It briefly considers the physical environment of northern Belize; examines the forms and locations of Lamanai, Chau Hiix, and Altun Ha; and seeks to define the Terminal Classic period in the southern Maya Lowlands in general and in northern Belize specifically. It also discusses the architectural sample and the research methods employed in the analysis.

Chapter 2 develops a definition of the built environment, reviews the approaches that have traditionally been applied to the Maya built environment, and discusses the various cultural domains generally suggested to be illuminated by Maya architecture. In addition to providing a critique of Maya architectural studies, this section considers patterns suggested to characterize the architecture of Maya site centers at different points in time. For the purposes of this dissertation, the discussion particularly focuses on the Terminal Classic period.

Chapter 3 is dedicated to an examination of different forms of spatial and architectural analysis. Since few attempts have been made to apply formal, replicable analyses to Maya architecture, this section begins by considering the range of approaches that have been employed by archaeologists and art historians working in other cultural and temporal contexts. The discussion also traces the relatively brief history of spatial approaches to architecture in the Maya area. The chapter concludes with an in depth discussion of space syntax analyses developed by Hillier and Hanson (1984) and others since it is certain of these methods that are applied to the architecture at Lamanai, Chau Hiix, and Altun Ha.

Chapter 4 considers theoretical discussions of material culture (with an emphasis on Thomas 1996; Scott 1990; and Girshick Ben-Amos 1999) in evaluating the hypothesis that monumental architecture played an active role in sociopolitical transformation and social negotiation during the Classic-to-Postclassic transition. The focus is then narrowed to consider theoretical approaches to space and built environments. This section concentrates on the power implications of monumental architecture as a means of bounding and defining social and political space (e.g., Foucault 1984; Giddens 1984; Lefebvre 1991).

Chapter 5 presents the architectural data that are comparatively analyzed in the final chapter. Since different forms of data are available from Lamanai, Chau Hiix, and Altun Ha each is subject to somewhat different reporting procedures. As suggested above, the Altun Ha architectural data are derived from previously published sources, Lamanai is represented by a mixture of published and unpublished information, and much of the data from recently completed

investigations at Chau Hiix are reported in detail for the first time. Since massive amounts of architectural data have been recovered at Lamanai, Chau Hiix, and Altun Ha and comprehensive reporting far exceeds the scope of this dissertation, the discussion focuses on spatial patterns specific to particular time periods. These patterns are defined using a variety of methods of spatial analyses, including various types of graphs, sight-line analyses, and gamma maps or access diagrams.

Chapter 6 focuses on interpreting the architectural changes evident at Lamanai, Chau Hiix, and Altun Ha from the perspective of the theoretical works discussed in Chapter 4. Spatial patterns evident in the communities' Late Classic-Early Postclassic period built environments are discussed in terms of the insight they provide into changing social and political institutions. Attention is also devoted to considering how specific architectural changes may reflect the communities' variant histories. Ultimately, the discussion posits that Terminal Classic period built environments at Lamanai and Chau Hiix reflect spatially distinctive patterns of behavior that contributed to the communities' longevities.

Spatial Parameters of the Investigation

This examination of the Maya built environment focuses upon the three neighboring pre-Hispanic communities of Lamanai, Chau Hiix, and Altun Ha, all of which fall within the northern portion of the modern-day country of Belize (Figure 1.1). In order to appreciate factors potentially contributing to Lamanai, Chau Hiix, and Altun Ha's variant histories, it is necessary to consider the physical environment of Belize as a whole and the locations of these centers specifically.¹ This section also briefly reviews the history of investigation of pre-contact Maya centers in Belize and considers factors traditionally suggested to distinguish Belize Maya centers from those in other parts of the Maya area.

¹ This discussion of the physical environment of northern Belize is adapted from Andres (2000a).

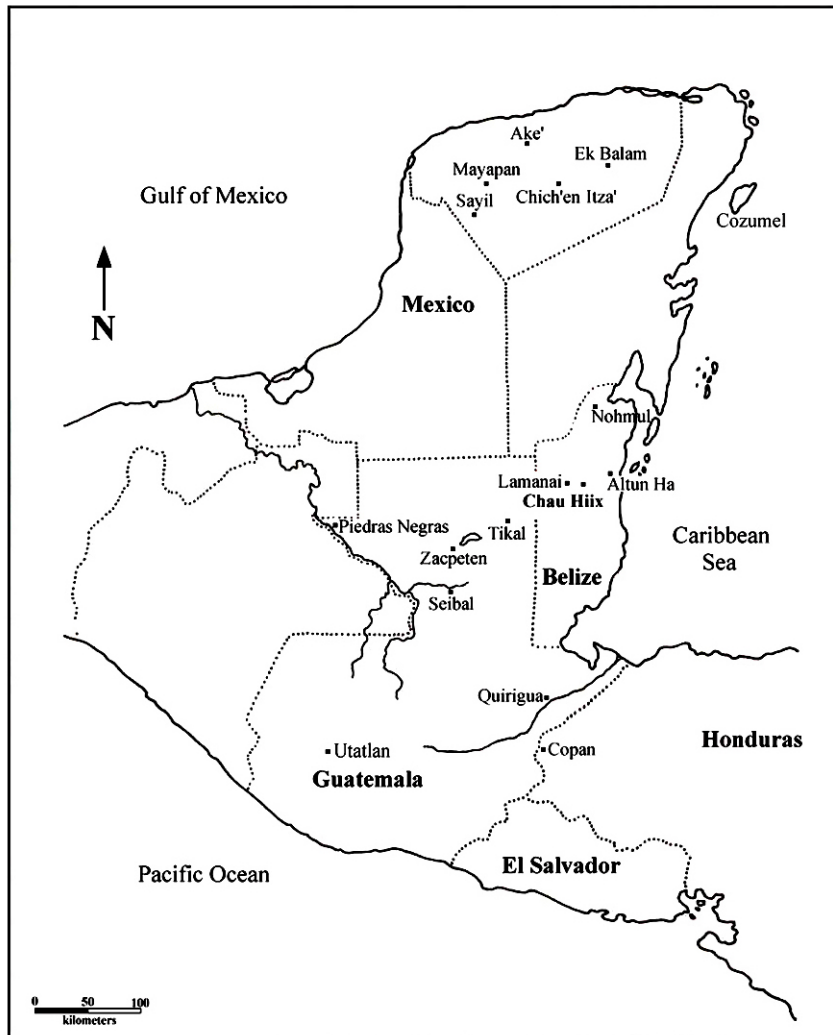


Figure 1.1. Map of the Maya Lowlands showing the locations of sites discussed in the text.

While Belize only covers an area of approximately 22,700 square kilometers (8,866 square miles), it is an environmentally complex region (Beletsky 1999). Several important studies describe the physical environment of Belize in considerable detail (e.g., Beard 1955; Wright et al. 1959). Although dated, these studies remain the mainstay of ecological work in the country and are the basis for scholarly descriptions of the physical environment of northern Belize (e.g., Hammond 1985; Lambert and Arnason 1978; Pendergast 1979). The following ecological characterizations of northern Belize are derived from these classic ecological studies and more recent descriptions developed in association with various archaeological projects (e.g., Graham and Pendergast 1989; Hammond 1985; Lambert and Arnason 1978; Pendergast 1979; Rice 1993).

Physiographically, northern Belize is a part of the heavily karsted, Cretaceous limestone plateau of the Yucatán Peninsula (Lambert and Arnason 1978:34). Most of the region lies less than 150 meters above sea level and no landforms in northern Belize exceed 300 meters above sea level (Hammond 1985:13). The geology of northern Belize is defined by two distinct formations: the Río Hondo and the San Pablo Ridges. The former is a northeast to southwest oriented formation lying north and west of the Río Hondo. The latter runs parallel to the Río Hondo Ridge and lies 10 kilometers to its southeast (ibid.). The low-lying areas between the two ridge systems are the location of perennial and seasonal swamps. The topography west of the San Pablo formation is drained by the Río Hondo, while the area east of the ridge forms the watershed of the New River (Hammond 1985:14).

The vegetation of northern Belize is closely linked to local geology and hydrology (Hammond 1985:22). The northern part of the country, where the three sites considered by this project are located, fall within the Dry Tropical Lowland zone (Wright et al. 1959) which is characterized by broadleaf deciduous or semi-evergreen tropical forest (Lambert and Arnason 1978:34; Beard 1955). This region has a marked 3-4 month dry season extending from January to May (although this is variable, as anyone who has carried out fieldwork in Belize is well

aware). While no one study comprehensively discusses the vegetation of northern Belize, combined reference to Wright et al. (1959), Hammond (1985), Lambert and Arnason (1978), Pyburn (1994), and Pendergast (1979) provides a reasonably complete summary of the soils and associated vegetational assemblages in the areas immediately surrounding Lamanai, Chau Hiix, and Altun Ha.

Lamanai, the largest of the three communities, is located on the western shore of the New River at the point at which it expands into the New River Lagoon (Figure 1.2) (Pendergast 1981a, 1986a). As such, the center occupies a basically lacustrine setting and has the most immediate relationship of the three sites to a large, permanent body of water. The New River Lagoon served as a major artery for commerce, communication, and transportation, and furnished a wide variety of aquatic resources, including fish, turtle, and shellfish (Graham and Pendergast 1989; Pendergast 1992). An extensive vegetational mapping program (Lambert and Arnason 1978) carried out in association with the archaeological investigations of the Royal Ontario Museum means some of the most detailed botanical data from northern Belize originated from the site. This study defined six vegetation zones in the area surrounding the center: Shoreline, Cohune Ridge, Ruin, High Bush, *Bajo* (or seasonal swamp), and Pine Ridge (Lambert and Arnason 1978: 35-40). The fact much of the area was probably cleared and modified in prehistory raises questions regarding the predictive value of the modern vegetation in reconstructing the pre-Hispanic environment. However, an absence of architecture in certain zones and high quality soil in others suggests environmental heterogeneity was a primary determinant of locations of settlement and agricultural activity at Lamanai. While close examination of these zones may seem overzealous, they are significant because certain of them are present at Chau Hiix and Altun Ha, where they similarly exerted a strong influence over settlement, agricultural, and resource procurement patterns.

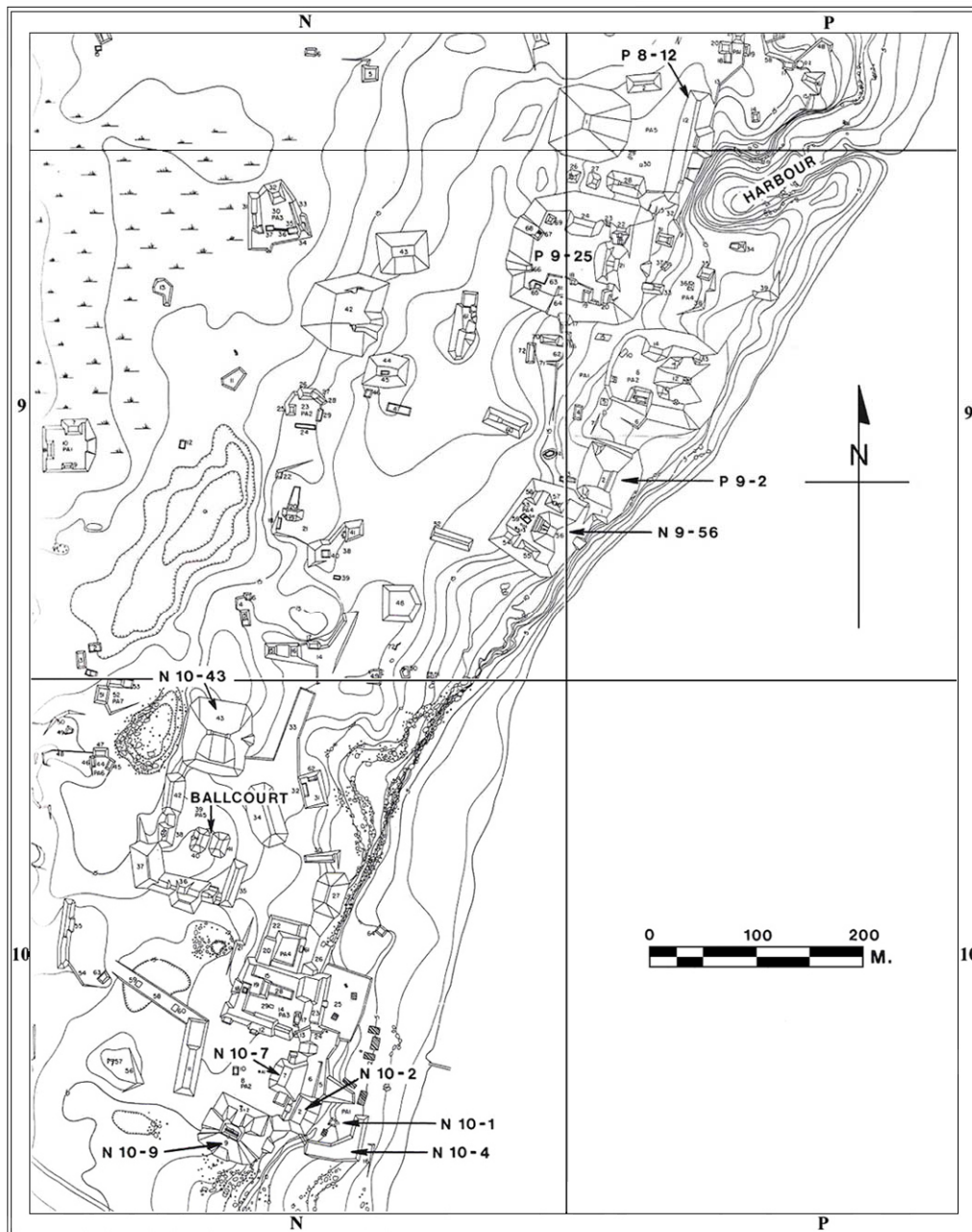


Figure 1.2. Map of Lamanai, Belize. Contour interval is one meter (after Pendergast 1981a:33, Fig. 3).

As discussed by Pendergast (1981a), Lamanai is characterized by a north-south oriented ribbon of settlement that follows the margins of the New River Lagoon (Figure 1.2). Generally undeveloped shoreline zones immediately east of the monumental precincts are swampy, low-lying areas inundated up to seven months of the year. These areas tend to support hardy, low-stature species capable of withstanding extreme environmental conditions (Lambert and Arnason 1978:35). Several Cohune Ridge zones are reported just west of the site. Although stands of *Orbignya cohune* may represent disturbance species, they are strongly associated with moist, fertile, well-drained soils (Lambert and Arnason 1978:38). The soils studies conducted by Lambert and Arnason (1978:38) indicate these are some of the most agriculturally productive areas in northern Belize and the researchers suggest these zones are likely to have been farmed during the pre-Hispanic era. A large *bajo* (seasonal swamp) serves to define the northwest extent of settlement at Lamanai (ibid.). The vegetation of this area tends to be low stature (less than 15 meters) and occurs on poorly drained, mottled clay soils in low-lying areas. These zones are home to spine- and thorn-covered species such as *Bactris major*, *Crysophylla argentea*, *Pisonia aculeata*, and *Aechmea magdelanae* which must withstand hard-baked soil during the dry season and inundation during the rainy months of the year (Lambert and Arnason 1978:39). Despite the strongly seasonal nature of *bajo* environments, the authors indicate those at Lamanai were suitable for agriculture (1978:40). Unpublished reports of raised fields in the area north of the site indicate *bajos* at Lamanai were likely used in this way (Elizabeth Graham, personal communication 2002). The final environmental zone discussed by Lambert and Arnason (1978) that is relevant to pre-Hispanic activity is the Pine Ridge. Found on the eastern side of the New River Lagoon, these environments produce little to no evidence of settlement, were most likely resource procurement zones, and are probably little changed from a thousand years ago. Pine Ridge environments tend to be sparsely forested due to their association with loamy sand soils with little overlying humus (Lambert and Arnason 1978:40). These sandy, slightly acidic soils drain quickly and consequently support mainly xerophytic species (Lambert and Arnason

1978:39). Pine Ridge is characterized by open grassland interspersed with *Pinus caribaea* (pine), *Quercus* spp. (oak), *Malpignia glabra* (crabboe), *Curatetla americana* (sandpaper tree), *Brysonima crassifolia* (nance dulce), and *Acoelorrhaphe wrightii* (pimenta palms) (Hammond 1985:23; Lambert and Arnason 1978:39).

Chau Hiix is located at an intermediate position 15 kilometers east of Lamanai and 25 kilometers west of Altun Ha (Figure 1.1). If an east-west oriented line is drawn between Lamanai and Altun Ha, Chau Hiix falls slightly south of this line. Chau Hiix lies on the western shore of Western Lagoon near its southern end (Figure 1.3). As at Lamanai, settlement at Chau Hiix developed in linear fashion along the lagoon edge (Pyburn 1994:5). The continuous settlement distributed along this five kilometer north-south axis is concentrated in “satellite” groups or nodes of substantial civic-ceremonial architecture (ibid.; Goldsmith 2005; Sering 2002). Western Lagoon is now subject to pronounced seasonal fluctuations. However, multiple lines of evidence indicate the residents of Chau Hiix invested tremendous amounts of energy in modifying the lagoon to control the local hydrology (Pyburn 2003). These efforts included construction of an extensive complex of dams, wells, canals, and raised fields directly adjacent to the site center (ibid.). Chau Hiix would also have had direct access to approximately 12 square kilometers of high quality agricultural land (Pyburn 1998a:277-280). Even without this extensive landscape modification, the community had abundant water resources at its disposal. Western Lagoon is fed by Spanish Creek which would have made water available year round. Furthermore, Spanish Creek is a tributary of Black Creek, which in turns feeds the Belize River (Pyburn 2003). During most of the year, the community’s location would have allowed residents of Chau Hiix passage to the Caribbean and Petén via the Belize River. The local creek system would also have permitted access to Lamanai by canoe (Pyburn 1994:5, 2003). Recent settlement pattern work suggests agricultural activities extended well beyond the confines of the lagoon onto the rich soils of the Cohune Ridge zone on which the settlement lies. This is suggested by extensive terracing of the surrounding ridges (Cuddy 2000; Pyburn and Goldsmith personal communication).

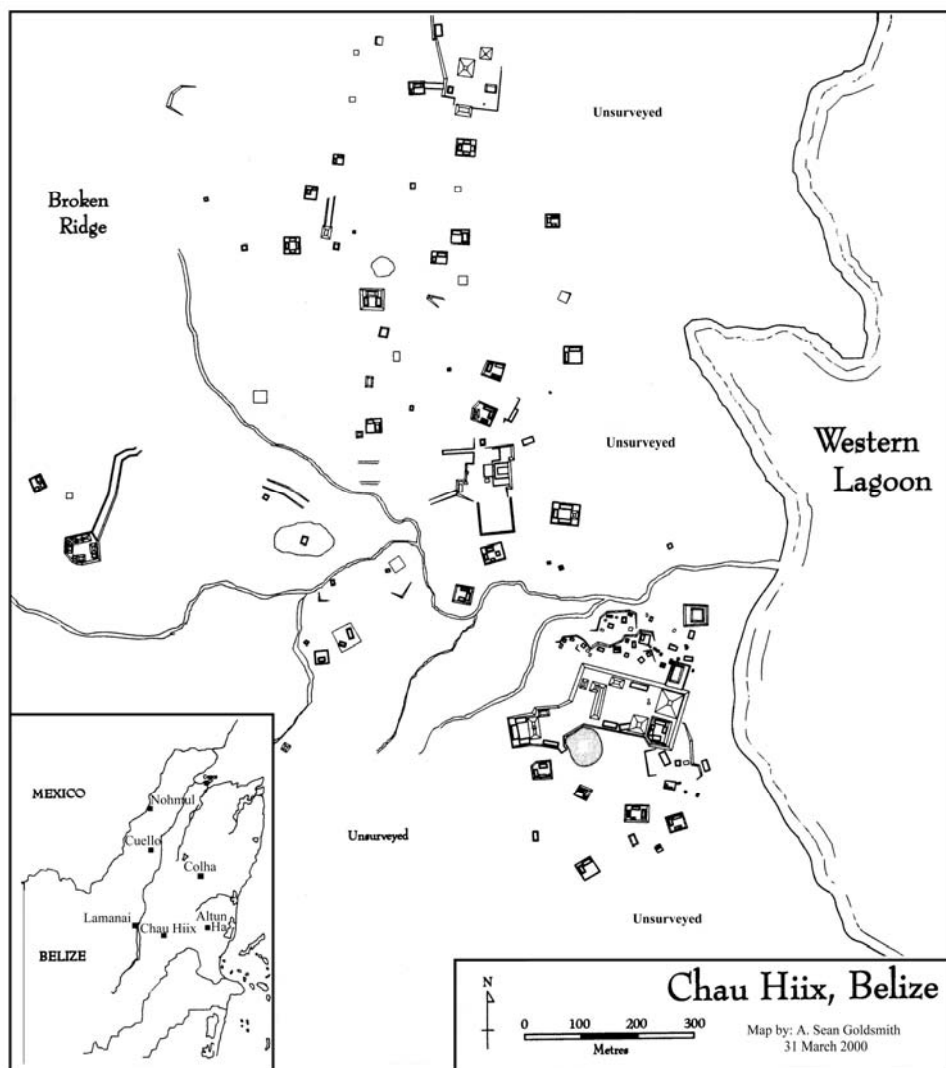


Figure 1.3. Map of the site center at Chau Hiix, Belize (map by A.S. Goldsmith).

Reconnaissance carried out by Leslie Sering and A. Sean Goldsmith indicates visible settlement at Chau Hiix stops two kilometers west of the site center at the boundary with the Pine Ridge (Sering 2002). (This is the zone west of the New River Lagoon discussed above relative to Lamanai). This fairly desolate area was apparently uninhabited and may have acted as a buffer between the communities. Settlement at Chau Hiix tapers off as one moves north of the northern end of Western Lagoon. Spanish Creek marks the current estimate of the southern extent of the pre-Hispanic Maya community.

Altun Ha lies 40 kilometers east of Lamanai and 25 kilometers east of Chau Hiix. Settlement here is not as dramatically defined by geographic features and demonstrates a more concentric layout than that at Lamanai (Pendergast 1979) or Chau Hiix (Figure 1.4). The site is nevertheless ecologically bounded to the south and west by Pine Ridge zones and to the east by inhospitable littoral mangrove swamps (Pendergast 1979:7). Marine resources were clearly important to the community's residents and the site is described as "effectively coastal" (ibid.). However, Altun Ha has a less immediate relationship with significant permanent bodies of fresh water than either Lamanai or Chau Hiix: it lies 8.3 kilometers west of Midwinters Lagoon and approximately 12 kilometers from the open sea (Pendergast 1979:7). No evidence has been reported of landscape modification (causeways or canals) that would have provided direct access to the coast. Residents of Altun Ha apparently relied on a series of springs adjacent to the central precinct and a more remote stream for potable water. While Altun Ha falls within the previously discussed Dry Tropical zone (Wright et al. 1959), its vegetation has been so altered by historic farming and logging activities that the scrubby secondary succession probably bears little resemblance to the pre-contact period environment (Pendergast 1979:8). Pendergast's (1979) excavations basically confirmed Wright et al.'s (1959) soil characterizations, documenting thin humic layers underlain by relatively infertile sandy clay loams. Altun Ha consequently exhibits the lowest quality soils of the three sites. Altun Ha's possible lack of an agricultural base sufficient to support the community may have strongly defined its relationship with other

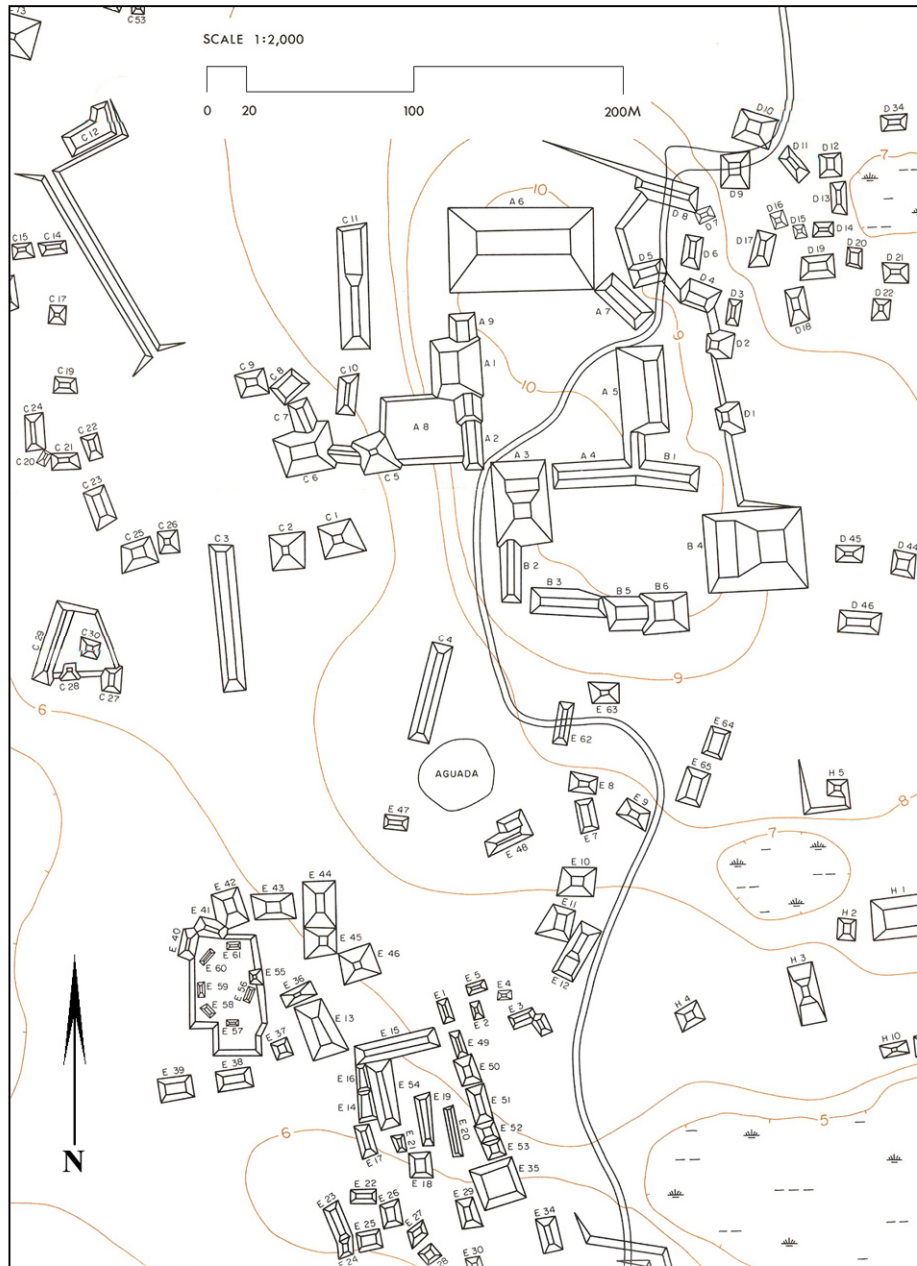


Figure 1.4. The site center at Altun Ha, Belize (excerpted from Pendergast 1979: Altun Ha Base Map, Map 2).

communities. Specifically, Altun Ha's agriculturally poor setting has prompted suggestions that it may have relied heavily upon imported subsistence items (Pyburn 1998a:277-280). As hypothesized by Pyburn (*ibid.*, 1998b:120), the disparity in agricultural potential between Chau Hiix and Altun Ha and the unnecessarily elaborate agricultural features at the smaller center may indicate that Classic period Chau Hiix was a production center that fell under the control of its more powerful neighbor.

Community Scales and Configurations

The physical locations selected for development clearly influenced settlement forms at Lamanai, Chau Hiix, and Altun Ha. At Lamanai, the volume of monumental architecture and pattern of expansion were such that major civic-ceremonial structures were strung out along a 1.5 kilometer stretch of the New River Lagoon by the end of the Classic period (Pendergast 1992:66). While it can be argued that certain building groups at Lamanai are less emphatically structured than those at other sites², several major plazas (e.g., Plazas 2 and 5) have fairly pronounced north-south axes (Figure 1.2). The settlement at Chau Hiix is superficially similar to that of Lamanai, though close examination indicates the site center architecture is concentrated in a much smaller area. And while the settlement of "greater" Chau Hiix is arranged in a linear fashion along Western Lagoon, the central precinct is oriented perpendicular rather than parallel to the shoreline. This orientation invested the central group with a strong east-west axis (Figure 1.3). The community of Altun Ha is dominated by two impressive architectural groupings (Groups A and B) oriented at right angles to one another (Figure 1.4). Group A has a pronounced north-south orientation, while Group B developed along a well-defined east-west axis. cursory examination suggests Altun Ha's development was not as obviously influenced by environmental factors as Chau Hiix and Lamanai. However, the community is bounded to the south and west by Pine Ridge and to the east by mangrove swamp (Pendergast 1979:7). As Pendergast (1979:16)

suggests, the distribution of *bajos* in fact had a substantial impact on the settlement pattern: an unusually high number of buildings are concentrated on the habitable terrain immediately adjacent to the central precinct. Planning clearly varied across time and space at Altun Ha. While significant planning is evident in Groups A and B, Pendergast (1979:17) notes that “...beyond the Central Precinct the diversity of composition and form is so great as to suggest development through expediency rather than....planning.” In particular, he (ibid.) emphasizes a decidedly non-Petén-like disregard for consistency in the orientation of buildings and groups.³ While the settlement at Altun Ha clearly did not develop free of constraints, comparison with Lamanai and Chau Hiix indicates the community assumed a more symmetrical and concentric form than either of its neighbors.

Chau Hiix, Lamanai, and Altun Ha vary in size as they do in configuration. While there is no standardized method for comparing the size of Maya centers, a variety of approaches provide a general sense of scale. The measures most commonly employed by Mayanists include population estimates, building numbers, measurements of communities’ areal extents, architectural volumetrics, plaza counts, and architectural diversity assessments (e.g., Abrams 1994; Adams and Jones 1981; Carmean 1991; de Montmollin 1995:72). These indices have been calculated to various extents at the three centers. Population estimation is a source of controversy in the Maya area: there is disagreement over the number of structures that served residential functions, the archaeological visibility of residences, contemporaneity, and the average number of individuals who would have resided in them (e.g., Rice and Culbert 1990). However, during the Late Classic period (A.D. 500-800), Lamanai may have had about 4,000 residents (Loten 1985:86) and Altun Ha was probably home to about 2,700 people (Pendergast 1979:24-25). Settlement mapping at Chau Hiix is on going, but use of conservative methods suggests a

² In some cases, this may be a reflection of Lamanai’s Terminal Classic and Postclassic vitality and the unusual amounts of architectural activity taking place during these periods in the site’s history.

community of at least 2,000 individuals during the Late Classic period. Settlement survey has documented approximately 720 structures at Lamanai (Pendergast 1984:5), 516 structures at Altun Ha (Pendergast 1979:16), and 375 visible structures at Chau Hiix (Goldsmith, personal communication 2004).

While definition of community boundaries numbers among the many challenges of settlement pattern work in the Maya area (e.g., Pendergast 1979:15; Rice and Culbert 1990:20), basic appreciation of the areal extents of Lamanai, Altun Ha, and Chau Hiix has been gained. Mapping at Lamanai indicates the center covered an area of approximately 4.5 square kilometers (Pendergast 1984:5) and research at Altun Ha suggests the community encompassed 2.33 square kilometers (Pendergast 1979:15).⁴ Mapping efforts by Michael Lane, John Douglas, Tracy Sweely, Leslie Sering, Tom Cuddy, and Sean Goldsmith suggest that Chau Hiix extended over an area of at least 2.5 square kilometers (e.g., Sering 2001:77; Pyburn, personal communication 2005). The monumental architecture at Lamanai, Altun Ha, and Chau Hiix covers approximately 1.25, 0.5, and 0.3 square kilometers, respectively.⁵ While volumetric estimates of construction material incorporated into monumental architecture are currently unavailable, Lamanai has by far the largest number of monumental constructions and its largest buildings dwarf those at Altun Ha and Chau Hiix (compare Figures 1.2-1.4). Altun Ha clearly ranks second to Lamanai in number and size of monumental buildings. Chau Hiix is a distant third despite the substantial size of its central acropolis (Figure 1.3) (Pyburn 1991). A drawback of architectural volumetrics is the failure of estimates to take into account non-architectural human-made features. The massive complex of agricultural features associated with Chau Hiix, for example, incorporate tremendous amounts of labor and materials (Pyburn 1994, 2003). Estimates that disregard such features

³ This aspect of the center is striking since material culture at Altun Ha suggests it was otherwise much more closely linked with Petén than either Chau Hiix or Lamanai. Pendergast (1979:17) attributes this divergence to “idiosyncrasy in local world view.”

⁴ According to Pendergast (1979:15), the 2.33 square kilometers mapped by the ROM at Altun Ha represent the “full densely occupied portion of the site.”

clearly misrepresent a community's investment in the built environment. Plaza or courtyard counts are a final method often employed in assessing the size of Maya centers (Adams and Jones 1981). Courtyards are generally defined as paved areas with inward-oriented architecture on at least two sides (Adams 1981:217). Both residential and ceremonial architecture assumes courtyard- and plaza-oriented configurations in Maya centers and analysts such as Adams (1981) suggest it is necessary to distinguish between the two when undertaking volumetric estimates. It is the courtyard groups composed of elaborate buildings "which would require formal architectural skills, a mass of manpower beyond the extended family level, and access to material mass beyond that needed for minimal family housing purposes" that are generally tallied (Adams 1981:217). Courtyard counts at the three centers yield values of at least nine for Lamanai, five for Altun Ha, and at least two for Chau Hiix (Groups A and B) (see Figures 1.2-1.4 and Adams 1981:240, Table 9.8). Though necessarily rough, these combined estimates indicate that Late Classic period Lamanai was unquestionably the largest of the communities, Altun Ha was intermediate in size, and that Chau Hiix was the most diminutive.

The relationship between community size and political importance is often perceived to be a close one by Mayanists (e.g., Adams 1981).⁵ Belize was clearly a dynamic and politically complex region during the pre-Hispanic period and scholars have demonstrated an interest in the scale and configuration of individual centers and in reconstructing inter-community political organization (e.g., Awe et al. 1991; Adams 1982; Ball and Taschek 1991, 2001; Dunham 1990; Hammond 1975; Houk 2000; Pyburn 1997). These pursuits offer a unique perspective because of the significant number of Belizean communities that remained viable following the abandonment of many centers in neighboring Petén (e.g., Andres and Pyburn 2004; Pendergast 1981a; Masson 2000; Chase and Chase 1988). Similarities in material culture and Lamanai, Chau Hiix, and

⁵ This is a rough estimate of the extent of central precincts that does not take into account architectural contemporaneity.

⁶ See Pyburn (1997b) for a discussion of the potentially misleading nature of such assumptions.

Altun Ha's physical proximity suggest intensive political interaction between the three communities (Andres and Pyburn 2004).

Northern Belize as an Area of Investigation

[Belize has traditionally] played the role of quiescent periphery to lowland Guatemala's active core...Now, however, the vast amount of data at hand refutes very forcefully the categorization of Belize as constantly the recipient, never the source... (Pendergast 1993a:22).

As David Pendergast suggests, Belize has fallen victim to simplified core-periphery models that have often been employed in the Maya area (e.g., Rathje 1971, 1972). As a consequence, the region was traditionally dismissed as a backwater or "frontier" zone relative to central Petén (McAnany 1989:4; Pendergast 1990a:171). Recent research in northern Belize, however, has demonstrated the area was densely settled in pre-Columbian times and supported an impressive number of significantly sized civic-ceremonial centers (Chase 1990; Ford 1990; Pyburn 1990, 1998; Hammond 1985; Pendergast 1979, 1981a). As discussed in greater detail below, certain of these communities, furthermore, weathered the turbulent Terminal Classic (A.D. 800-1000) and retained populations well into the Postclassic period (A.D. 1000-1450) (e.g., Andres and Pyburn 2004; Chase 1990; Pendergast 1990a:172).

While linked to central Petén during the Classic and Late Classic periods, certain Belizean centers appear to have been affected differently by the events of the Terminal Classic period (Andres and Pyburn 2004; Chase and Chase 2004:16-20; McAnany 1989:5). Perhaps most significant are demographic differences between Belize and central Petén. While research has demonstrated that parts of Petén maintained fairly substantial populations (e.g., Rice 1988; Rice and Rice 1990:125), the wider spread distribution of Postclassic population in northern Belize is gaining increasing attention (Rice and Culbert 1990:24).

Despite its diminutive size, there is currently more archaeological research being carried out in Belize than in any other part of the Maya area (Freidel 1986b:20; Pendergast 1993a:9). Excavation, reconstruction, and consolidation activities associated with a substantial tourism

development initiative funded by the Inter-American Development Bank (IDB) and currently underway in Belize are likewise recovering significant archaeological information. Together, these activities are generating a tremendous amount of under analyzed architectural data. While scholars are generally conscientious about reporting research results from individual centers, very few have pursued in-depth regional studies examining architectural patterns emerging from comparison of data at multiple locations. This fact, combined with the often-noted yet little examined relationship between monumental architecture and social relations in the Maya area makes consideration of these issues at Chau Hiix, Lamanai, and Altun Ha important and timely. As discussed in Chapter 2 and 3, preliminary examinations of architecture and social relations have been undertaken at isolated locations in Belize (e.g., Awe et al. 1991). However, scholars have yet to focus on architectural development as an index of changing social relations within and between Maya communities presumed to have been members of the same or related interaction spheres.

Chau Hiix, Lamanai, and Altun Ha have been investigated to different extents, different amounts and types of information have been recovered at the sites, and these data have been reported to different extents and in different contexts. Altun Ha is the most thoroughly reported of the three, with the research findings available in monograph form (Pendergast 1979, 1982, 1990b). The situation at Lamanai is more complicated since research is ongoing, because excavation results have been reported in a variety of contexts, and because a comprehensive report is in preparation. Discussion of the built environment at Lamanai is consequently based on a combination of published information and excavation notes generously made available by Dr. Elizabeth Graham, Director of the Lamanai Archaeological Project. At present, the status of research results from Chau Hiix most closely resembles that of Lamanai. The architectural data derived from excavations at Chau Hiix have been reported in a variety of formats, including interim reports (Andres 2000b; 2002b; 2002c; 2004; Wille 2004; Wrobel 2000b), doctoral dissertations (Cook 1997; Cuddy 2000; Goldsmith 2005; Wrobel 2004), MA theses (Andres

2000a; Meier 2003), grant proposals (Pyburn 1994; Andres 2002d; Wille 2003), unpublished manuscripts (Andres n.d.b.), contributions to edited volumes (Andres and Pyburn 2004; Pyburn 1997b), journal articles (Andres n.d.a.; Pyburn 1991, 1997b, 1998a, 1998b, 2003; Pyburn et al. 1998), and numerous conference papers (e.g., Andres and Fry 1997; Andres and Pyburn 1999; Andres and Wrobel 2000; Andres 2002a; Andres et al. 2004; Cook 1996; Cook and Pyburn 1995; Cuddy 1997; Goldsmith 2001, 2004; Pyburn 1997a; Pyburn and Andres 2000; Wille and Fry 2002; Wrobel 1999, 2000a; Wrobel and Pyburn 2001). This dissertation draws on these sources as well as on data derived from a series of architectural investigations carried out by various individuals in the site center at Chau Hiix between 1992 and 2003.

Temporal Parameters of the Investigation

Chronological Definition of the Terminal Classic period

As defined by Sharer (1994:48), the Classic period extends from ca. A.D. 250-900. The Classic is generally divided into the Early Classic (A.D. 250-600), the Late Classic (A.D. 600-800), and the Terminal Classic (A.D. 800-1000) (ibid.; Rice et al. 2004:8). This project is inherently diachronic to the extent it examines changing patterns in the Maya built environment. However, it is the events associated with the Classic-to-Postclassic transition that are of particular interest within the context of the present study. This period warrants attention as a critical time of cultural transition in Maya history. Due to the differing nature of events at Lamanai, Chau Hiix, and Altun Ha it is also the period for which the available data have the most obvious relevance. As discussed in greater detail below, Altun Ha was largely abandoned at the end of the Classic period (ca. A.D. 850) (Pendergast 1979). The community's architectural sequence was consequently terminated at this point. In contrast, Lamanai and Chau Hiix retained populations and construction persisted into the Postclassic period at these sites. As a result, Late Classic developments are reflected at all three centers; the Terminal Classic concludes the divergence of Altun Ha from Lamanai and Chau Hiix; and the Postclassic reflects architectural activity at these

latter locations only. Therefore, while addressing diachronic change, this dissertation focuses particularly on the Terminal Classic.

The Terminal Classic is an enigmatic period in pre-Hispanic Lowland Maya culture history. Traditionally, the period has been equated with the so-called Maya “collapse”. Overly simplistic, Petén-centric views of cultural development in the Maya area once suggested the Terminal Classic marked the “fall” of Classic Maya civilization (Thompson 1954). Early scholars pessimistically viewed this period as the Maya “denouement” and referred to subsequent events as the “death of a civilization” (Proskouriakoff 1955). Studies approached the Terminal Classic as characterized by widely disastrous developments in both the northern and southern lowlands (*ibid.*). The past several decades of research have made it abundantly clear that the events of this period are far more varied and complex than suggested by mid-twentieth century scholars (Rice et al. 2004:8).

Traditionally, the beginning of the Terminal Classic period was placed at A.D. 800 in both the northern and the southern Maya lowlands (Andrews 1981). However, the onset of the Terminal Classic is now suggested to occur at different times in these regions and its dates are subject to ongoing adjustment. The past decade has seen a shift from a starting date of A.D. 800 to A.D. 925 in the north (Bey et al. 1997:239). While scholars once maintained that most Classic period sites in the northern lowlands were abandoned by A.D. 1000, the break between the Classic and Postclassic period traditions is now placed between the abandonment of Chichén Itzá and the founding of Mayapán around A.D. 1200 (Sabloff and Henderson 1993:5 in Bey et al. 1997:239).

The beginning of the Terminal Classic in the south (ca. A.D. 800) coincides with the rapid abandonment of many Maya centers in Petén (Chase and Chase 1985:9). It is, however, important to appreciate the regional variability that characterizes this period. While certain Belizean sites, such as Altun Ha and La Milpa, closely followed the demographic patterns typical of central Petén sites (Hammond et al. 1998; Pendergast 1979, 1982, 1990b), the end of the Late

Classic is not as dramatically marked in much of northern Belize. More typical community trajectories are reflected by Barton Ramie (Gifford 1976), Colhá (Hester et al. 1980; Potter 1980; 1982), and Nohmul (Pyburn 1990). While visibility of these centers' populations and levels of construction activity eventually diminished, Nohmul and Barton Ramie achieved peak populations during the Terminal Classic and were continuously occupied into the subsequent Postclassic period (Fry 1990:300, Fig. 14.2; Pyburn 1990). The communities of Lamanai, Marco Gonzalez, and Santa Rita Corozal exhibit different patterns still. As suggested by research at these locations, these communities continued to thrive, in some cases supporting larger Postclassic than Classic period populations. Overall, these centers demonstrate few perceptible differences between Classic and Postclassic levels of activity (Graham and Pendergast 1989; Pendergast 1986a:227, 1992; Chase and Chase 1988). In short, while A.D. 800 is considered the beginning of the Terminal Classic period for the purposes of this study, it is important to recognize that the trajectories of southern lowland Maya communities diverged by this date.

As becomes apparent when comparing community patterns in the southern lowlands, it is also difficult to link a single set of dates to the end of Terminal Classic/beginning of the Postclassic period (Graham 1987:76). While providing a rough basis for temporal divisions, Postclassic ceramic complexes have been assigned different dates at different northern Belizean centers. Barton Ramie's *New Town* phase begins just prior to A.D. 900 (Gifford 1976:46), Colhá's *San Antonio* phase at A.D. 900 (Chase and Chase 1985:12), Cerros' Early Postclassic about A.D. 850 (Walker 1990:41), and Cuello's *Tecep* phase is also suggested to begin about A.D. 850 (Hammond 1991:4). Lamanai ceramics tend to exhibit considerable Classic-to-Postclassic continuity (Graham 1987:80). As ceramic markers of the Lamanai Middle Postclassic period (*Buk* Phase) may begin to appear as early as A.D. 1050 (Graham 1987:81), a date of closer to A.D. 950 seems reasonable for the beginning of the site's Postclassic tradition. Due to these differences, some scholars favor dates closer to A.D. 900 (Chase and Chase 1985:9) while others suggest A.D. 1000 or slightly later is a more appropriate starting date for the Postclassic period

(Hammond 1989; Masson 2000:1; Willey 1986:21). Due to the intermediate dates proposed for Lamanai and the prominence of the community in the present discussion, A.D. 950 seems a reasonable compromise date for the conclusion of the Terminal Classic period in this part of northern Belize.

The Events of the Terminal Classic period

As previously suggested, the Terminal Classic period (A.D. 800-950) has traditionally been defined on the basis of its association with the “collapse” of Maya civilization in the Southern Lowlands (Culbert 1973). Initial perceptions regarding the scale and uniformity of this complex series of events have been subject to substantial scrutiny and revision during the past twenty years (e.g., Marcus 1993, 1995). Thirty years ago, a variety of processes, including the wide-scale abandonment of centers, the end of monumental construction activities, discontinued use of the long-count and writing systems, and abandonment of the tradition of stelae dedication were suggested to broadly define the Terminal Classic period (Adams 1973a:22). The fact these events were interpreted as taking place in a very short period of time reified the Maya “collapse” as a single cataclysm. Many explanations have been assigned prime-mover status and have run the gamut from overpopulation to foreign invasion and natural disasters to civil strife (e.g., Culbert 1988; Thompson 1954). As several historical studies of Maya archaeology in general observe, there has been a marked tendency for interpretations of the Terminal Classic to be conditioned by fieldwork locations, researchers’ theoretical orientations, and contemporary social issues (e.g., Marcus 1983, 1995; Pyburn 1997b; Sabloff 1990; Wilk 1988).

More recent research has fragmented the notion of a monolithic collapse and has demonstrated that distinct events were taking place in different places during this 150-year interval. Gradually it has become evident that the period’s supposedly definitive characteristics are in fact relative. Of the long list of activities suggested to have ended during the Terminal Classic, the tradition of monument dedication is the only one that actually ceased absolutely.

And even in this case, termination of the practice was limited to the Southern Lowlands: hieroglyphic texts continued to appear on stelae, altars, and buildings in Yucatán for several hundred years and indigenous writing systems were in use in the north at the time of European contact.

Recent archaeological work in poorly known regions of the Maya area is transforming traditional views of the Terminal Classic. Settlement pattern work has confirmed that certain centers were unquestionably abandoned early in this period (Pendergast 1979). However, there is also widespread recognition of population movement and the founding of new communities (Graham and Pendergast 1989; Rice 1988). While there is evidence some sites were rapidly depopulated (Inomata and Triadan 2003), population loss was clearly more protracted at other locations (LeCount 1999). Work in Guatemala's Petexbatún region has documented extensive fortifications that strongly suggest the communities were abandoned in association with military conflicts (Demarest 1997; Demarest et al. 1997; Inomata 1997). While hieroglyphic texts suggest similar events took place elsewhere (Webster 1993), unambiguous archaeological evidence of warfare has generally failed to surface in other regions.

Combined archaeological-paleolimnological studies in areas such as central Petén and on the southeast Maya periphery indicate a direct relationship between peak populations, deforestation and soil loss, and abandonment of the region's Classic period communities (Abrams and Rue 1988; Rice 1997; Rice and Rice 1984). Other areas, however, suggest different patterns. Paleoecological investigations in the Pasión region, for example, discourage a view of environmental degradation at the time of the "collapse" and osteological studies of the area's residents show no evidence of a decline in health (Wright 1997a:194; Dunning in Wright 1997a:194; Wright 1997b). At many locations, the archaeological visibility of members of the Maya elite class was dramatically reduced at the end of the Late Classic (e.g., Webster and Freter 1990). However, varying patterns of activity in different communities mean that while some elites may have become "significantly irrelevant" (Tourtellot 1993:227), those of other centers

remained influential (Pendergast 1992). In short, there is mounting evidence the Terminal Classic was characterized by widely contrasting patterns. Changing views of this period can be linked to more sophisticated conceptions of social change among Maya archaeologists, the flood of new data originating from previously uninvestigated parts of the Maya area, and a shift away from exclusive focus on large centers.

The Terminal Classic period in Belize

While some Belizean centers experienced large-scale abandonment at the Late Classic-Terminal Classic boundary (e.g., Hammond et al. 1998; Pendergast 1979, 1982, 1990a), the region as a whole demonstrates a greater degree of Classic-to-Postclassic demographic continuity than many parts of Petén. Smaller Belizean centers in particular show less extreme population fluctuations during the Classic-to-Postclassic transition (Fry 1990:294, 296; Masson 2000; Pendergast 1990b:170). The ongoing nature of research at many locations means issues of continuous versus discontinuous occupation are incompletely understood. Nevertheless, Belize as a whole responded in a less extreme manner to the stresses of the Terminal Classic than did central Petén (McAnany 1989:5; Pendergast 1990a:170).

While the factors responsible for the varying patterns of events in Petén and northern Belize are difficult to explain, scholars have suggested that basic organizational differences may have been at play. Fry (1990:295), for example, suggests the possibility that Belizean settlements “not so intimately tied to the Classic political system were less disrupted by the political and economic changes of the turbulent Late Classic-Terminal Classic boundary.” Pyburn (1996, 1997b, 1998a) has made similar observations regarding Maya political organization in general and the profound differences separating Chau Hiix and Lamanai from Altun Ha specifically. As she indicates (1996:267), the value of “local strategies and multilevel systemic variation” may have been ignored in an effort to create a “uniform pan-Maya political economy, intended to increase cohesiveness and government control.” The likelihood that Altun Ha was an active

participant in the increasingly rigid Petén-centric system would explain why the community collapsed at the same time as centers in the Guatemalan heartland (Pendergast 1992). The possibility that Lamanai and Chau Hiix were more politically peripheral, less hierarchically structured, less dependent on foreign sources of power, and possessed more than a purely ideological power base would explain why the communities remained viable into the Postclassic (Pyburn 1998a). This dissertation seeks to evaluate possible sociopolitical differences reflected in the architecture at these three locations in an effort to improve understanding of inter-community variability during this critical period in the history of Lowland Maya culture.

Methodology

The mutually determining nature of space and society has been asserted by a number of scholars who argue that social relations are structured in spatial configurations that influence forms of social interaction (Ferguson 1996:11, Hillier and Hanson 1984; Foster 1989; Moore 1996). Such views form the basis of Hillier and Hanson's (1984) theory of "space syntax." Building on formal architectural analyses in use since the 1950s, Hillier and Hanson (1984) proposed the application of a series of measures, including access analysis of buildings and settlements to gain insight into spatial dimensions of social relations. Applications of space syntax have been demonstrated to hold significant potential for testing hypotheses of social and political organization in a variety of archaeological contexts (e.g., Foster 1989:42; Moore 1992, 1996). However, such an approach is almost completely unprecedented in the Maya area (see Liendo Stuardo 2003 for the sole exception). This study applies these analytical techniques to the monumental architecture of Lamanai, Chau Hiix, and Altun Ha to document changing spatial patterns in the built environment that may help explain the communities' radically different trajectories.

While the sites of Lamanai, Chau Hiix, and Altun Ha have been the focus of extensive archaeological investigation, differences in research designs, the variable scale and location of

excavations, and characteristics of the built environment specific to each community (e.g., different construction histories perhaps linked to functional differences and issues of architectural preservation) mean that the data from each location are variable. They are, however, comparable. To make fullest possible use of the range of data available from the three sites, analysis focuses on the ground plans of single buildings (“gamma” analyses) as well as on site layouts (“alpha” analyses)(Hillier and Hanson 1984). Such an approach combines analysis of buildings with attention to their open space structure, as advocated by Ferguson (1989:173) and others (e.g., Adams 1989:158).

In the case of Lamanai, Dr. Elizabeth Graham and Claude Belanger have generously granted me access to architectural data from the Ottawa Complex, an unusually large and well-preserved residential compound in the site center. Elizabeth Graham, David Pendergast, Claude Belanger, and Stanley Loten have painstakingly documented the group’s architectural development with a series of detailed plans recording changing room layouts between the Early Classic and Postclassic periods. It is these plans which serve as the basis for connectivity measures and others methods of spatial analysis dealt with in Chapters 3 and 5.

Prompted by Pendergast’s (1992) insightful discussion of the relationship between architecture and traffic flow at Altun Ha, this dissertation draws upon Pendergast’s and Loten’s corpus of architectural data (e.g., Pendergast 1979, 1982, 1986a, 1990a, 1992) to undertake alpha and gamma analyses of dynamic patterns of access to buildings and spaces in the community’s epicenter. These analyses provide a basis for comparison with developments at Chau Hiix and Lamanai.

Due to expedient construction practices and re-use of materials by Postclassic builders, structures at Chau Hiix lack the legible floor plans present at Lamanai and Altun Ha. Gamma analyses consequently hold little informative potential relative to the site’s known buildings. The long and unusual architectural history of Chau Hiix nevertheless provides a perspective unavailable at most locations. Changing access to plazas and courtyards associated with the

placement and alteration of buildings on the main platform suggests a growing Classic period preoccupation with social exclusivity and a subsequent Postclassic reversal of this pattern (Andres 2002a, n.d.a.). Excavations placed in the site center architectural features in 2003 made it possible to evaluate this hypothesis by providing the data necessary to conduct diachronic convex and axial analyses of open space structure (e.g., Hillier and Hanson 1984:90-94; Ferguson 1996:103-114). These excavations and their results are reported in Chapter 5 (also see Andres 2004, n.d.a., n.d.b.). Ultimately, the discussion combines space syntax with more traditional (subjective) approaches to architecture in an effort to consider Maya centers in three dimensions as experiential aesthetic spaces rather than solely as vertically perceived plan views.⁷

⁷ This paraphrases suggestions offered by an anonymous reviewer of Andres (2001).

CHAPTER 2

MAYA BUILT ENVIRONMENTS

Introduction

As the most massive category of material culture, architecture offers insight into multiple areas of human activity. While differential preservation and patterns of reuse limit the extent to which the archaeological record reflects ancient built environments, studies of manipulation of space clearly contribute to understandings of modern and archaeological cultures alike. The following examines the informative potential of the pre-Hispanic Maya built environment. In so doing, this chapter develops a definition of the built environment, discusses the ways Mayanists commonly approach Maya architecture, and examines the various cultural domains generally suggested to be illuminated by Maya architecture. This section also considers distinctive patterns suggested to characterize the built environment of numerous Maya site centers during different periods. Particular attention is focused upon architectural changes taking place during Terminal Classic period (A.D. 800-950/1000).

The Built Environment as an Avenue of Investigation

As defined by Lawrence and Low (1990:454), the term “built environment” broadly describes “any physical alteration of the natural environment.” Rapoport (1990:19) ascribes narrower meaning to the label, equating it with “systems of settings including fixed-feature and semi-fixed feature elements.” The subject matter of built environment studies therefore includes buildings and their constituent features, spaces defined or bounded by human activity, assemblages of buildings and spaces (settlements and site plans), and artifacts (Lawrence and Low 1990:454; *ibid.*). Mayanists have generally approached built environments in two ways. While not articulating as clear a definition as today’s scholars, more traditionally inclined art and architectural historians viewed Maya built environments as the sum of a variety of constituent elements. Kubler (1961), for example, suggested Maya architecture can be broken down into a

series of standardized constituent units such as platforms, pathways, precincts, ballcourts, buildings, and voids. Sophisticated applications of this approach are evident in the work of George Andrews (1975). While useful in providing an architectural vocabulary and a rough basis for comparison, this perspective tends to oversimplify the complexity of Maya built environments by fragmenting architectural conglomerates and emphasizing inter-community homogeneity. The past 25 years have seen Mayanists adopt increasingly comprehensive and anthropological views of the built environment. Webster (1998:5), for example, has usefully suggested built environments can be conceived as “the sum total of all purposeful human modifications of the landscape.” Such a definition has become fairly standard and is appropriate within the context of the current discussion. As discussed in detail below, it is the intermediate “open air” spaces (plazas and courtyards), created within, between, and around Maya buildings that are one of the most noteworthy, distinctive, and functionally important features of Maya constructed environments (e.g., Kubler 1961; Miller 1998:187; Ringle and Bey 2001).

While cultural conceptions of space have received less attention than the topics of time and voice (Lawrence and Low 1990:453; Rodman 1992:640-641), interest in the spatial dimension has grown in anthropology. Cultural anthropological contributions include emphasis of the socially constructed and contested nature of space (e.g., Appadurai 1988; Gupta and Ferguson 1992; Kahn 1990; Kent 1990a; Low 2000; Pader 1993; Rodman 1992) and biological anthropologists are increasingly devoting attention to the significance of spatial organization in human evolutionary studies (e.g., Egenter 2001; Sept 1992). Archaeological considerations of spatial organization have expanded greatly in breadth, figuring prominently in studies of households (Blanton 1994; Donley-Reid 1990; Kent 1990a, 1990b; Sanders 1990; Saunders 1990; Smith and David 1995; Wilk and Ashmore 1988), gender (Gilchrist 1988, 1996), access analyses of monumental structures (Blanton 1989; Fairclough 1992; Foster 1989; Gilchrist 1989; Moore 1996; Stuardo Liendo 2003), considerations of site layout and development (Ashmore 1989, 1992; Awe et al. 1991; Houk 2000; Hutson et al. n.d.; Kovacik 1999; Sinopoli and

Morrison 1995), and in archaeologies of landscape (Brady and Ashmore 1999; Koontz et al. 2001; Smith 1999; Tacon 1994, 1999; Thomas 1993, 1996, 2001; Townsend 1992; Van de Guchte 1999).

Classic Maya Architecture

Maya architecture reflects many of the qualities of pre-Hispanic Maya culture that originally captured the imagination of Europeans who visited Central America in the nineteenth century. Due to its scale, permanence, beauty, and functionally enigmatic qualities, it became an immediate focus of attention (Stephens 1841:309-320), and this interest in Maya architecture persists today in both popular and scholarly contexts (e.g., Ingle 1989). The built environment provides an important vantage point from which scholars have offered reconstructions of multiple dimensions of Classic Maya society. Architectural remains are central to studies investigating questions ranging from collapse and revitalization (Dahlin 1976; Fry 1985) to warfare (Demarest et al. 1997; Inomata 1997; Webster 1993) to colonization (Dunham et al. 1989; Houk 2000:160) in the Maya area. Monumental architecture has generally been treated on a site by site basis and it is the buildings and building groups at the largest, most intensively investigated sites (e.g., Tikal, Palenque, Copán, Chichén Itzá, Altun Ha) that are best known. While a few truly regional, stylistic studies of Maya architecture have been undertaken (e.g., Potter 1977; Pollock 1980; Andrews 1975, 1995; Gendrop 1998), the majority of these focus on the built environment of the Central and Northern Maya Lowlands. More synthetic studies of monumental architecture in the south have concentrated on the identification of widespread site planning principles (Ashmore 1989, 1992; Ashmore and Sabloff 2002), definition of settlement determinants (Brady 1997; Demarest et al. 2003; Dunning 1989; Fedick 1989, 1997; Ford 1990; Webster and Freter 1990), issues of architectural meaning and function (Fash et al. 1992; Harrison 1970 1986; Houston 1998; Inomata and Houston 2001; Christie 2003). When it comes to recent behavioral reconstructions, Mayanists have tended to draw on the most visible elements of built

environments to provide insight into areas of social structure, ideology and cosmology, political organization, and political economy.

Social Organization

Elaborate masonry constructions found in and around Classic Maya site centers also serve as an important basis for reconstructing multiple aspects of pre-contact Maya social organization. Architectural and mortuary data have been used in combination to consider the appropriateness of applying normative corporate group (lineage based) models to the Classic Maya (Freidel and Schele 1988, 1989; Gillespie 2000; Haviland 1981, 1988; McAnany 1995:26; Wilk 1988) and the size, location, and elaboration of residential structures are frequently considered relative to questions of social heterogeneity in pre-contact Maya communities (Ashmore 1988:161; Fash 1983; Kurjack 1974; Haviland 1992; Hendon 1991, 1992; Pyburn et al. 1998; Sanders 1989; Sharer 1993; Tourtellot 1988, 1993:230-232; Tourtellot et al. 1992; Webster 1992). Correlations between architectural investment and the richness of associated burials are a basis commonly used to identify high status individuals in the archaeological record (e.g., Chase 1992:34; Chase and Chase 1994; Pendergast 1982). Recent examinations of the form and function(s) of “palace” structures (e.g., Inomata and Houston 2001; Christie 2003) have served to reinforce the concept of hierarchical structure of Classic Maya society and point to a proliferation of elites in the Late Classic period southern Maya lowlands (Chase and Chase 2001; Culbert 1988, 1991; McAnany 1993; Harrison 2003). In short, over the past 30 years archaeologists have relied heavily on the obtrusive end of the architectural spectrum in pursuing questions regarding the composition of pre-contact Maya communities, analyzing patterns of social stratification, and exploring the prominence of various Maya social groups through time. These studies have proved productive. However, a preoccupation with the architecturally associated texts and iconographic programs preserved at a limited number of Maya sites has diverted attention from the role that spatial distinctions surely played in most ancient Maya communities. It is the

perspective of this project that Maya planners commonly combined architectural voids and barriers to influence the construction, maintenance, and negotiation of social relationships in Classic Maya society and that this issue is worthy of examination.

Architecture and Ideology

Monumental buildings mask the will to power and the arbitrariness of power beneath signs and surfaces which claim to express collective will and collective thought (Lefebvre 1991:143 in Webster 1998:36).

Broadly defined as a “set of beliefs that provides members of a group with a rationale for their existence” (Conrad 1992:160), ideology is obviously basic to the operation of social systems and a central focus in the study of New World cultural development (e.g., Conrad and Demarest 1984; Carneiro 1992; Conrad 1992; DeMarrais et al. 1996; Kolata 1992). In the Maya area, interest in ideology has developed hand in hand with advances in epigraphy and iconographic interpretation. Many such studies approach monumental architecture as a class of material culture influenced by ideological and cosmological domains (e.g., Ashmore 1989; Brady 1997; Demarest 1992; Freidel 1992; Freidel et al. 1993; Schele and Miller 1986).

Mayanists reconstructing ideology commonly focus on site-center architecture as a source of insight into a tradition of religiously based Classic period Maya kingship. Through iconographic study of the Late Preclassic period (300 B.C.-A.D. 250), scholars of architectural sculpture have gained insight into the developing institution of semi-divine kingship. The replacement of images of deities with depictions of rulers displaying supernatural paraphernalia on facades is often cited as supporting this view (Ashmore 1992:279; Freidel 1981, 1985; Schele and Freidel 1990; Reese-Taylor and Walker 2002:95). As reflected by texts affixed directly to buildings, massive structures also functioned as political statements commemorating the accessions and military conquests punctuating the political “careers” of Classic period rulers (Demarest 1992: 136; Freidel and Schele 1989; Freidel 1992; Miller 1988:158).

In addition to serving commemorative functions, “temples” and “palaces” are interpreted as settings of elite political ritual (e.g., Demarest 1992:148; Freidel 1981; Miller 1988; Schele and Freidel 1990:105). The impressive public displays apparently associated with these buildings probably both confirmed elite status and served as a source of political power (Conrad 1989; Demarest 1992:148; Sanders and Webster 1988:534). Some scholars have gone so far as to posit these structures helped naturalize elite power by serving as locations where Maya rulers were viewed as communicating with ancestral deities (Brady 1997; Freidel 1992; Freidel and Schele 1989:241; Miller 1988:158-159, 1992:161-163).

Broader ideological and cosmological studies have combined the aforementioned approaches with spatial analyses of settlements. By identifying patterns in Maya site layout, Ashmore (1989, 1991, 1992), for example, suggests Classic Maya use of space- evident in the placement, orientation, and juxtaposition of specific spaces and building types- embodies Classic period conceptions of the cosmos. While Tikal-centric, Ashmore’s (ibid.) model proposes that civic-ceremonial precincts were central to the position of Maya elites. Specifically, the placement of stelae bearing images of rulers in architectural enclosures symbolically associated with the heavens may have emphasized the divinity, omnipotence, and indispensability of Maya sovereigns (Ashmore 1989:272, 279). Such views ultimately posit that the built environment was a key resource in the naturalization of Maya elite power.

Maya Architecture and Politics

Monumental architecture has likewise figured prominently in both regional site-specific investigations of Classic period political activities. At Copán and Palenque, scholars suggest that elaborate architectural programs provide a basis for tracing the development of prominent political regimes (Miller 1988, 1998; Sanders 1989; Schele 1974, 1986; Fash 1998). This ability to move back and forth between buildings and patronage statements can be tremendously illuminating, providing dates for dedication events (Cheek 1986: 68-69; Schele 1974, 1986),

suggesting the use of architecture for specific political purposes (Fash et al. 1992; Sanders 1988), revealing historic references to earlier individuals and regimes (Fash 1998:254), and providing a basis for arguing that monumental constructions were sited as explicit political statements (Miller 1998; Sharer et al. 1992). The construction of buildings for which specific functions, such as council houses, have been suggested on formal, iconographic, and epigraphic grounds, may also indicate changes in the power structure of Classic Maya polities (Fash et al. 1992).

Straddling the boundary between studies of households and civic-ceremonial architecture are the previously mentioned investigations of the residences of Maya elites (e.g., Andrews and Fash 1992; Christie 2003; Cook 1997; Harrison 1986, 1999; Inomata and Houston 2001; Sharer et al. 1992). Recent studies have employed a combination of historic, iconographic, and architectural evidence to gain insight into the composition of royal households (Houston and Stuart 2001), the use of space by political elites (Harrison 1999; McAnany and Plank 2001; Webster 2001), and archaeological identification of presumed political facilities (Martin 2001).

Architectural data have also figured prominently in regional reconstructions of Maya political organization: the presence vs. absence of common building types (Ball and Taschek 1991; Chase and Chase 1996; de Montmollin 1995:123, 217-220; Pyburn 1997b), the function of architectural groups as backdrops for political ritual (Demarest 1992; Pendergast 1998), the contemporaneity of multiple “palace” structures as possible indications of power-sharing (Sanders 1989; Webster 2001:155-156), and patterns of access and visibility afforded by monumental constructions (Fash 1998:239) figure into debates of Classic Maya politics.

Architecture and Political Economy

Finally, the built environment has been suggested to provide insight into Classic period political economy. On one level, the construction and maintenance of site center architecture is approached as evidence of control and mobilization of surplus by Maya elites (e.g., Abrams 1994:77; de Montmollin 1995:74-75; Haviland 1992; Laporte 1993:312). Patronage of massive

buildings is clearly a form of conspicuous consumption, which contributed to royal power and prestige (ibid.). Historic evidence, such as the elite title identifying a Classic period ruler as “He of the Five Pyramids”, supports such views (Ashmore 1989:279). The volume of monumental construction events, presumably reflective of *corvée* labor, is often cited as evidence of the power of Maya rulers (Cheek 1986; McAnany 1989:7). Similar connections between the built environment and political economy are almost certainly reflected in the construction of massive *sacbeob* at locations such as Coba and Xunantunich. The segmental construction of causeways noted in these instances has been suggested to reflect episodes of tributary labor (Folan 1983:82; Keller 1994:84). Although their function remains unclear, *sacbé*s probably possessed functions that cross-cut political and economic domains. In this sense, they are likely to have served both as symbols of political domination of one community by another and to have facilitated economic interactions between neighboring centers (Chase and Chase 1996:807; Schele and Freidel 1990; Suhler et al. 1998; Robles C. and Andrews 1986:70)

While issues of Maya political economy are most commonly considered relative to site-center architecture, they are also reflected in the construction of pre-Hispanic agricultural features. These impressive features take a variety of forms, including terraces (Healy et al. 1983) and complexes of raised and channelized fields present in Pulltrouser and Cobweb Swamps (Jacob 1995; Harrison 1990; Harrison and Turner 1978; Turner 1983), along the Rio Candelaria and the Rio Hondo (Hammond et al. 1985:203-213; Pohl et al. 1990), on Albion Island (Pyburn et al. 1998; Pohl and Bloom 1998), and in the vicinity of Lamanai (Lambert and Arnason 1978: 40), La Milpa (Scarborough et al. 1995), Rio Azul (Culbert et al. 1990) and Chau Hiix (Pyburn 1998b; Pyburn 2003). Large-scale manipulation of hydrology was also common, as indicated by artificial dams and reservoirs, sluice gates, watersheds, and check dam terraces identified at a variety of locations (Beach and Dunning 1997; Pyburn 2003; Scarborough 1998; Scarborough et al. 1995). Like buildings, these features most likely involved *corvée* labor and may reflect the

intervention of powerful neighboring communities (Pyburn 1998b:277-280; Pyburn et al. 1998:53).

Architecture as an Index of Social Change

In the majority of studies relating to the four aforementioned topics, monumental construction is implicated as evidence of temporal continuity in Classic period elite institutions (e.g., Sharer et al. 1999; Webster 1998:36). The linkage of successive political regimes through the super-imposition of buildings (Agurcia Fasquelle n.d.; Fash 1998:235; Freidel 1992:124-125), the symbolic situating of structures relative to earlier constructions (Ashmore 1989, 1991, 1992; Webster 2001:148-149), the construction of iconographic ties between buildings (Fash 1998:236), and the placement of tombs relative to existing ones (Chase and Chase 1998:305-306), are all common Classic period patterns. While novel examples of architectural manipulation are documented (Fash 1998:235-236; Miller 1998:194), these are usually viewed as prerogatives of influential individuals (Miller 1998:194) rather than correlates of social structure. Consistent with such views, periods of intensive construction are interpreted as corresponding with peaks in political power (*ibid.*). Site center architecture and associated texts are seen as efforts to naturalize elite power by placing rulers in ancient and “unbroken” sequences of politico-religious authority (Fash 1998: 253-254). While this position is clearly legitimate, alternative approaches to Maya architecture remain to be developed.

In a limited number of cases, Maya civic-ceremonial precincts are interpreted as evidence of significant sociopolitical change. Freidel’s (1981) previously cited study of architectural sculpture at Cerros is one such example. Architectural investigations of social change have also been undertaken by Laporte (1993), Cheek (1986), and Pendergast (1992). On the basis of a diachronic study of the Mundo Perdido complex at Tikal, Laporte (1993:312-313) finds architectural evidence of “fundamental change in...ritual structure” at the site. He asserts Late Classic period construction indicates a replacement of architecturally focused astronomical ritual

with concentration of power in a “one-person” political tradition (indicated by the construction of tombs in buildings that previously lacked them--Laporte 1993:310-312). This argument ultimately maintains that the sudden abandonment of Mundo Perdido corresponds with the concentration of construction activities at other locations and that these events signify deliberate “action to prove authority, and could reflect political and ideological problems in the government of the eighth century in Tikal” (Laporte 1993:317). The notion that peak periods of architectural activity may reflect efforts of insecure elites to compensate for compromised authority during times of social instability rather than evidence of unwavering political dominance is a possibility that has not escaped the attention of other scholars (e.g., Webster 1998:36-39). Laporte’s (1993) work is noteworthy, however, because it marshals considerable evidence in support of this rarely articulated view. Laporte’s perspective is also buttressed by its parsimonious nature: it dovetails nicely with the apparent trajectory of the majority of Late Classic period communities in Petén.

Cheek (1986) has also considered the sensitivity of monumental architecture to social change. Assigning volumetric estimates to the well-dated construction of central Copan, Cheek (1986:50) maintains that the “scale of the work and its rhythm or periodicity [were] important variables... [reflecting] the larger social processes controlling the organization of work and distribution of resources at the site.” By relating construction data to demographic studies of the surrounding settlement, this research suggests construction activity accelerated at a greater rate than population growth during the Late Classic period, with the implication that labor demands substantially increased at this point in the community’s history (Cheek 1986:70).

Pendergast (1986a, 1992) likewise indicates that the Classic-to-Postclassic transition at Lamanai and Altun Ha is marked by social transformation evident in monumental architecture and other forms of material culture. Specifically, he notes the extent to which architecturally defined spaces at Altun Ha (abandoned ca. A.D. 750) move from being from “unrestricted” to increasingly “introverted” (Pendergast 1992:63). This pattern contrasts with that at continuously occupied Lamanai, where architecture becomes increasingly accessible after the Late Classic.

Terminal Classic buildings at Lamanai apparently possessed a more openly communicative function, reflecting (renewed) displays of highly visible architectural sculpture (Pendergast 1986a:231; Graham and Belanger, personal communication 2002). While conservative is his assessment, Pendergast (1986:231) proposes these developments reflect the emergence of a “semipublic, residence-related religious practice” in the Terminal Classic period community. Pendergast suggests this changing orientation may have contributed to the community’s “successful staving off of Classic collapse” (ibid). Finally, von Falkenhausen (1985) and Leventhal (1996, 1997) have made suggestions similar to Pendergast’s regarding the likelihood that architectural changes generally reflect ceremonial and socio-political transformations.

As indicated by these examples, studies of the dynamic between architecture and social relations possess considerable informative potential. This discussion assumes the perspective that application of novel theoretical approaches and underutilized analytical tools to architectural evidence of social change within and between Maya communities promises fresh insight into large-scale political, economic, and social transformations in pre-Hispanic Maya society.

Architecture and Social Relations

Theories of power, space, and material culture are discussed at length relative to the built environment in Chapter 4. However, brief consideration of one such perspective is necessary to provide a vantage point from which to discuss the architectural changes described below. Julian Thomas’ (1996) work is significant because it provides a useful framework for examining the Maya built environment. Following Foucault, Thomas (1996:141) notes that objects are not merely social products or reflections, but are active in the sense of being “integral to social relationships.” While not going so far as to assert that artifacts possess intentionality, Thomas argues that objects have “personalities” because they are engaged in webs of social relationships determined by the artifacts’ attributed characteristics. This quality, combined with their tangibility, serves as a “reminder of the interconnected nature of the world” (Thomas 1996:153).

According to this view, objects assume a still more socially active role, functioning as a “medium through which social activities and social change were enacted” (Thomas 1996:146; see Girshick Ben-Amos 1999 for a similar perspective). Central to Thomas’ work is his discussion of the role of material culture in constructing contexts where actors’ identities are subject to evaluation and negotiation (1996:169-170). While acts that bring people and objects together clearly possess contexts, Thomas suggests it is the acts themselves that are responsible for creating these contexts (ibid.). Repeated use of specific locales renders them memory triggers and locations where assembly of artifacts “structures the settings of interpersonal conduct” (Thomas 1996:170). Thomas (1996:171) asserts a strong relationship between objects and actions, suggesting artifact assemblages are critical to “establishing the *forms* of social interaction [taking] place at a given place and time.” Thomas primarily considers portable items in his writings. However, his observations are clearly applicable to the built environment as well. As the most obvious form of pre-Hispanic Maya material culture, site center architecture probably reflects a significant negotiative function. It is useful to consider the broad patterns of architectural development generally suggested to characterize the southern Maya lowlands as evidence that buildings may have mediated between different Maya social groups in different ways at different points in time.

Patterns in Maya Built Environments

Some of the earliest monumental constructions in the Maya lowlands were initiated at the communities of El Mirador, Nakbe, Wakna, and Tintal in northern Petén in the late Middle Pre-Classic period (600-400 B.C.) (Hansen 1998:63). Though massive, buildings of this period are not known to support elaborate, high relief façade sculpture. Such a tradition emerges abruptly around 350 B.C., with the incorporation of monumental art into architectural programs (Hansen 1998:81-82). While a relatively small number of studies have considered the function(s) of Pre-Classic period civic-ceremonial buildings (c.f., Joyce 1991; Love 1999; Ringle 1999), architecturally associated activities may have included large-scale events related to the

centralization of political power (McAnany 1995:132; Scarborough and Robertson 1986:155; Freidel and Schele 1989:242). To this effect, participation in Preclassic construction campaigns may well have contributed to social solidarity by “tying disparate groups together into a coherent whole” (McGuire and Schiffer 1983:281; Schele and Miller 1986:105 in Abrams 1994:92). The layout of Late Preclassic buildings and civic-ceremonial precincts tends to be open and accessible. Certain Late Preclassic buildings, such as Uaxactun Structure E-VII sub, took the form of low constructions with axial stairways on all sides (Figures 2.1 and 2.2). Massive pyramidal structures were certainly present during the Late Preclassic. However, these buildings generally lacked masonry superstructures (Harrison 1986:50). While some of these buildings seem to have supported perishable superstructures, others appear to have had entirely open summits. These qualities of Late Preclassic buildings and civic-ceremonial precincts have prompted suggestions that such spaces were sites of large-scale, socially inclusive activities (Fry 1985:134). While these data require further consideration, they strongly suggest construction events and activities associated with completed complexes served to structure social relations (see Potter 1998 for a parallel discussion dealing with the American Southwest).

A major shift in architectural function is proposed during the Early Classic period (A.D. 200-500). Maya rulers are suggested to become increasingly prominent in the archaeological record as the focus of an elaborate tradition of ceremonialism and funerary ritual reflected in architecture, monuments, sculptural programs, and portable artifacts (Freidel 1985; Freidel and Schele 1988). The placement of inscriptions on stelae and buildings during this period figures prominently in this transformation (Freidel and Schele 1988:549-550). The growing self-absorption and efforts of Maya rulers to assume god-like qualities may be architecturally manifested in the conflation of images of deities and portraits of rulers on facades (Freidel 1981). During the Early Classic period, building groups begin to display signs of enclosure and access to some courtyards appears to become increasingly restricted (Potter 1985:142). Early Classic

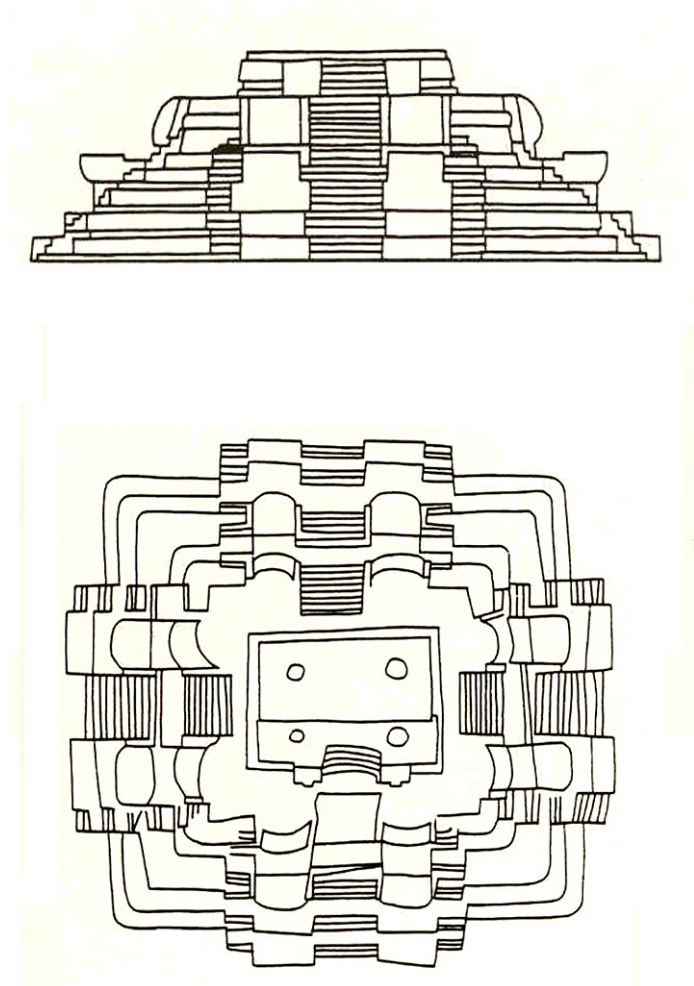


Figure 2.1. Plan and elevation of Structure A-VII sub, Uaxactun, Guatemala during the Late Classic period (after Andrews 1997).

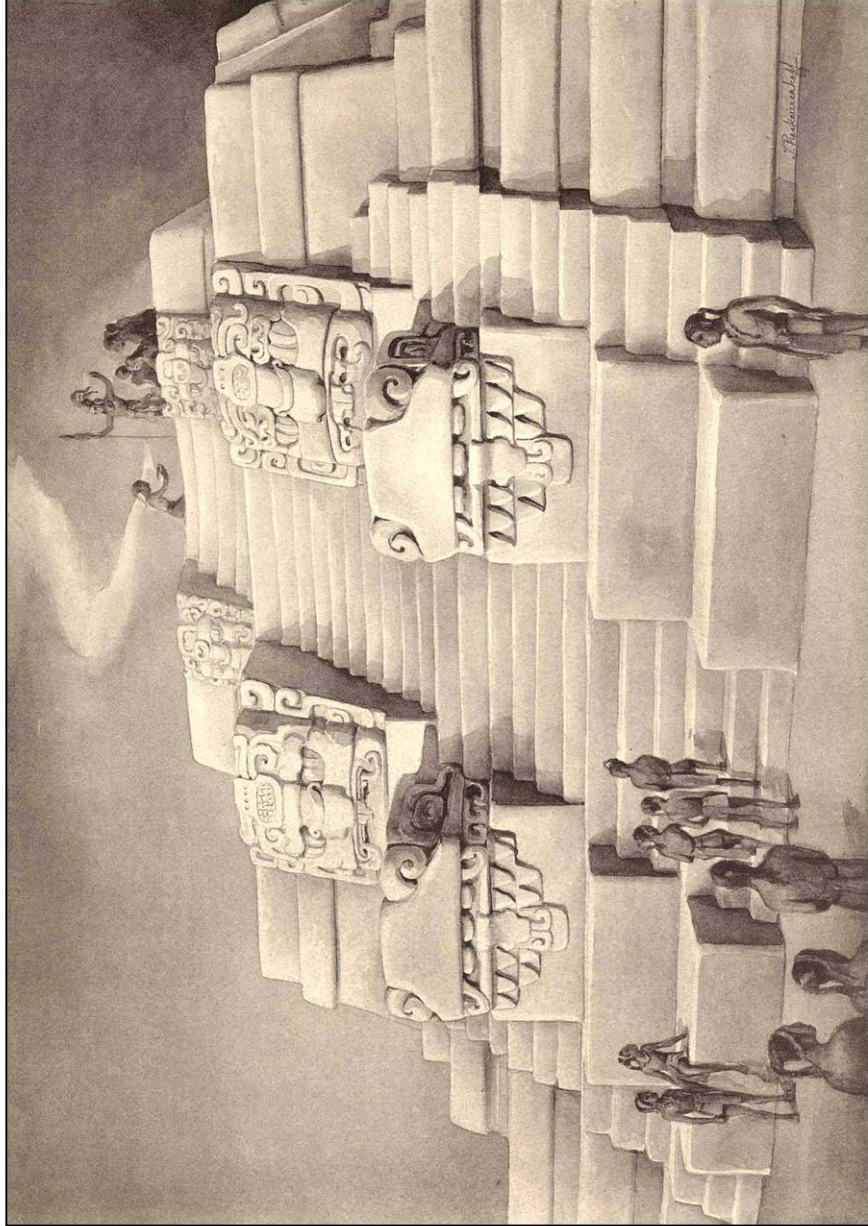


Figure 2.2. Reconstruction of Structure E-VII sub, Uaxactun, Guatemala (after Proskouriakoff 1963:5).

structures in community epicenters, for example, tend to be placed closer to one another than buildings in earlier periods (von Falkenhausen 1985:115-116).

Changing Spaces

Monuments commemorating Maya rulers and royal lineages erected between A.D. 517 and 790 (Lowe 1985:24, 213-215) suggest divine kingship remained the central focus of much archaeologically-visible Classic period elite activity. Architectural data, nevertheless, have been interpreted to suggest practices associated with monumental structures shifted at the end of the Early Classic period. Architectural enclosure of space is suggested to have become increasingly obvious during the Late Classic period (e.g., Pendergast 1982). This dissertation examines a variety of factors to evaluate this proposition, including the addition of ancillary buildings to existing structures, the elevation of single buildings and entire architectural groups, the subdivision of plazas, the reduction and elimination of access-ways, construction of new inward-focused buildings, and remodeling of existing structures with apparently similar results. These developments warrant particular attention because they are prevalent at many Maya centers during the Late Classic period, including Lamanai, Chau Hiix, and Altun Ha, which are the focus of this study.

Ancillary structures. David Pendergast (1982, 1992) is one of a handful of scholars who have commented extensively on the tendency of Maya centers to reflect increasingly restricted access during the Late Classic period (also see Fry 1985). On the basis of his investigations of the monumental precincts at Altun Ha, Pendergast (1992:62-63) notes that Late Classic remodeling of buildings effectively altered pedestrian traffic flow to their summits. In the case of Structure A-1, for example, Early Classic access patterns to the building's superstructure were significantly re-organized through addition of a sizable block of construction over the building's upper stairs. As discussed by Pendergast (1992), this construction redirected traffic flow from the front to the sides of the building (compare Figures 2.3 and 2.4). Such a change would not only have

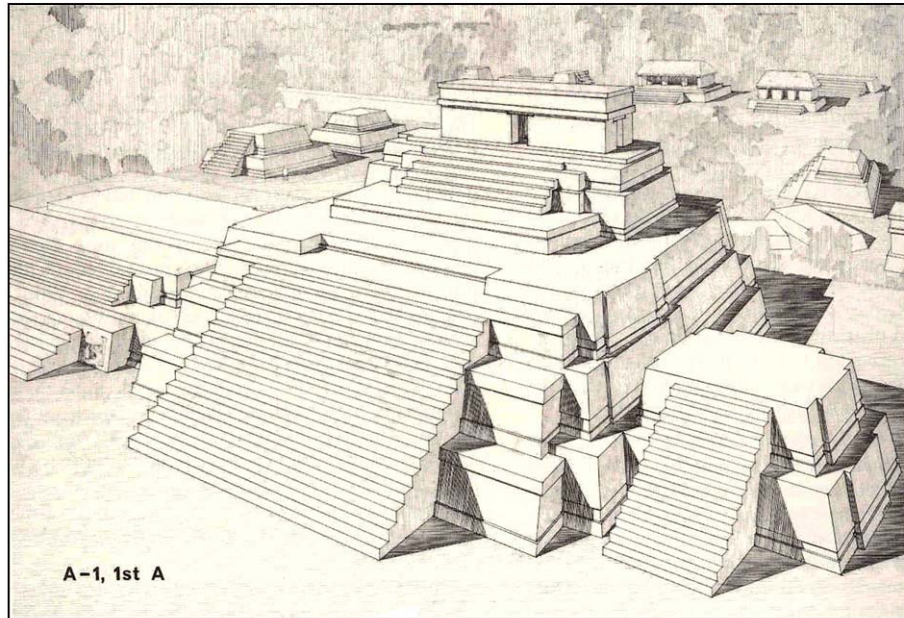


Figure 2.3. Structure A-1(1st A), Altun Ha, Belize during the middle Early Classic period (about A.D. 500)(after Loten in Pendergast 1979: Fig. 27).

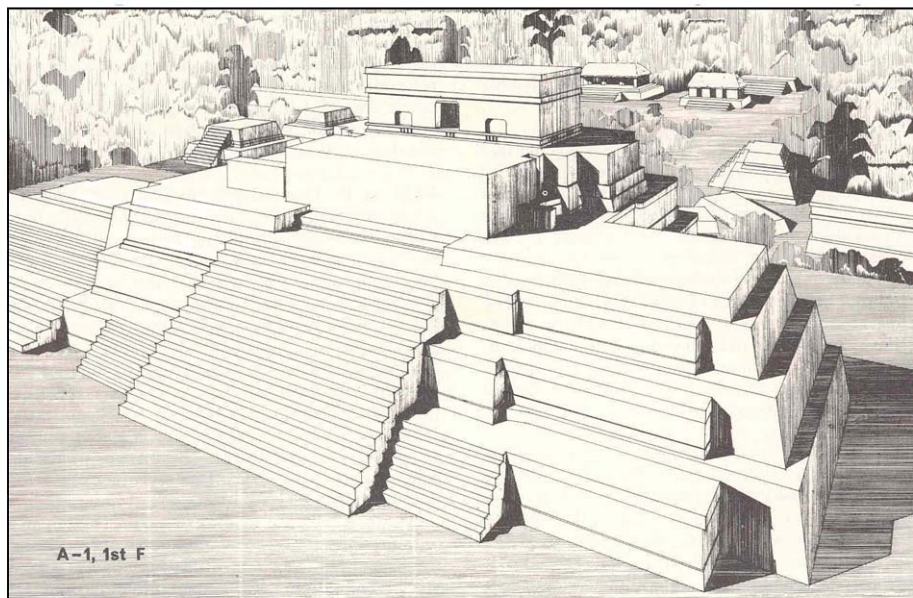


Figure 2.4. Structure A-1 (1st F), Altun Ha, Belize during the Late Classic period (7th century A.D.)(after Loten in Pendergast 1979: Fig. 28).

restricted access to the summit, but may have been intended to conceal those ascending the structure from spectators in the plaza below (*ibid.*). A similar situation is documented relative to Structure B-4 at Altun Ha. In this case, the Early Classic building was dominated by an open and visually accessible façade. However, construction of an ancillary structure across the central stairway during the Late Classic transformed it into a much more “introverted” building (Pendergast 1982:142-144; 1992:63 and see more extensive discussion in Chapter 5). Similar changes are evident in the case of El Castillo (Structure A-6) at Xunantunich and in the Caana complex at Caracol, Belize (Figure 2.5) (Chase and Chase 2001:113).

Investigation of changing patterns of access to the community center has been a guiding principle of research at Xunantunich in the Belize Valley. While the results of these efforts have not been widely published, this work is important to the present investigation. Xunantunich is an interesting case partly because of the center’s late origin- the bulk of the ceremonial architecture was rapidly constructed during the Late Classic period (Figure 2.6). As at Altun Ha, the primary civic-ceremonial structure (Structure A-6) at Xunantunich was initially designed with an open northern facade. This plaza-oriented side of the building originally consisted of upper and lower outset stairways separated by a medial terrace (Leventhal 1996:11). During the later part of the Late Classic (A.D. 800-900), however, a vaulted range structure (Structure A-26) was constructed on this terrace and the upper central stairway was replaced by terraces (Church 1996; Leventhal 1997:5-6). In spatial terms, this addition is interpreted as having much the same effect as the units discussed by Pendergast (1986, 1992): the building (1) blocked visual access to El Castillo’s summit from the plaza to the south, (2) channeled foot traffic through a roofed portal at the center of the addition, and (3) re-routed people bound for the summit around the sides of the building by way of two late flanking stairways (Leventhal 1996:11; 1997:5-6). Units added on either side of the upper stairway at this time furthermore seem to have transformed the staircase from an outset to an inset feature (Leventhal 1996:11-12). Although not specifically discussed by Leventhal, the newly built range structure would also have incorporated fairly private interior spaces that

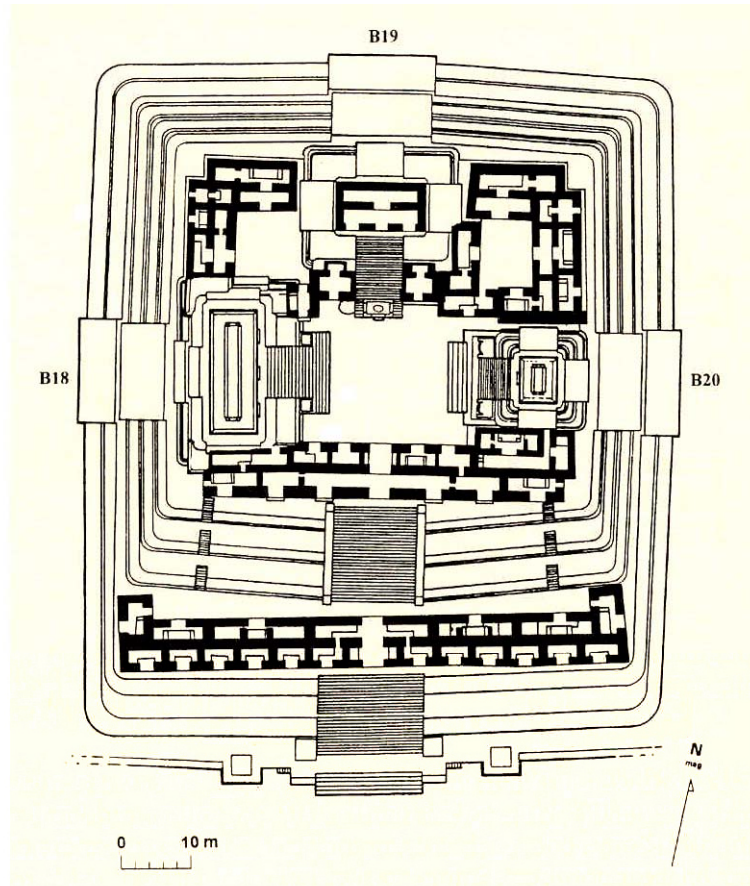


Figure 2.5. The Caana palace complex, Caracol, Belize showing the range structure added to the southern terrace of the substructural platform at the end of the Late Classic period (after A.D. 760) (after Chase and Chase 2001:110, Fig. 4.3).

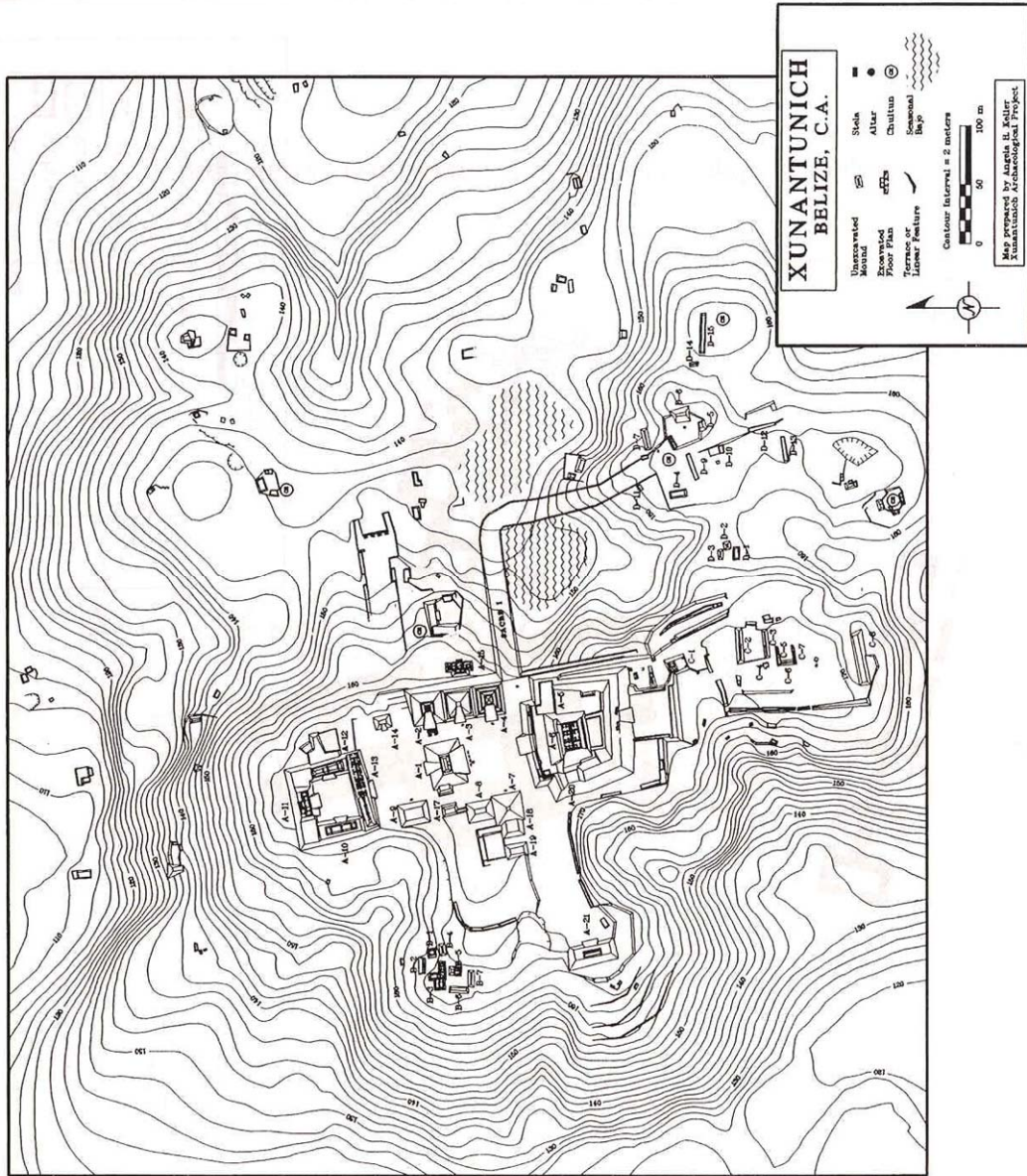


Figure 2.6. The site center at Xunantunich, Belize (after Keller 1997: Fig. 1).

augmented the larger building's increasingly introverted character (see Pendergast 1992, for example). A similar effect was achieved through the addition of Structure A-26, another range structure, on the southern side of El Castillo (Leventhal 1997:7). Virtually identical cases are evident at Lamanai and Chau Hiix where comparable architectural units were added to the facades of existing civic-ceremonial structures (see discussion in Chapter 5).

Noteworthy parallels characterize buildings in the central Maya Lowlands during the Late Classic period. For example, at Edzná and Ikil in the Chenes Region, traditional stepped pyramidal structures had rows of rooms added to their formerly solid terrace faces (Figures 2.7a and 2.7b) (Andrews 1997:281-285). While the function of the ancillary construction units is poorly understood, enclosure of these spaces suggests the buildings came to be associated with increasingly private activities during the Late Classic period.

Elevation of single buildings. A pattern that becomes increasingly evident in Maya monumental architecture during the Late Classic period is an emphasis of verticality. While new buildings were certainly established during this time period, there was a decided tendency for Late Classic construction projects to expand existing structures (Figure 2.8). This practice served to make buildings less accessible by elevating them ever higher in the air and placing more distance (and an increasing number of stairs) between their summits and the plazas below.

Extensive investigation of the North Acropolis at Tikal revealed that while the bulk of the construction is Early Classic, buildings such as Structure 5D-33-1st were dramatically expanded during the Late Classic period (Coe 1959). The construction of adjacent buildings, including Temples I and II in the Great Plaza at Tikal was also undertaken during the Late Classic period. While the ascent to Temple II is dizzyingly steep, the builders of Temple I went to even greater lengths to emphasize the towering height of this neighboring building. In addition to raising Temple I forty-seven meters in the air, its architects placed the superstructure on a nine-tiered substructural platform (Figure 2.9a). This design, together with the building's more linear

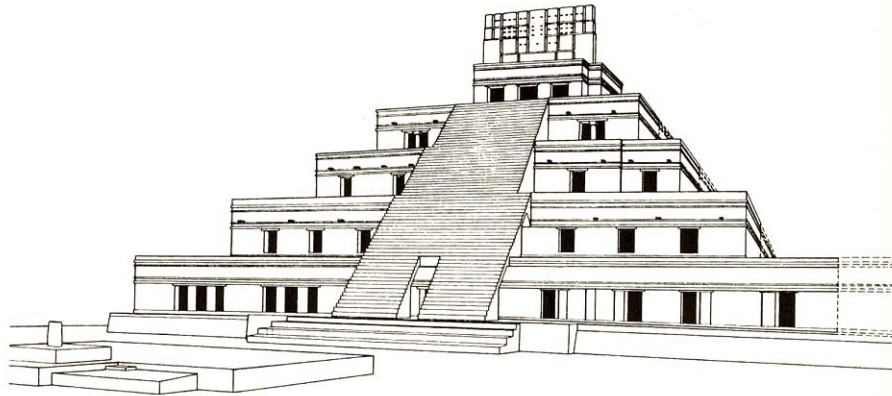


Figure 2.7a. Reconstruction of the Temple Mayor, Edzna, Campeche, Mexico during the Late Classic period (after Andrews 1997:Fig. 15).

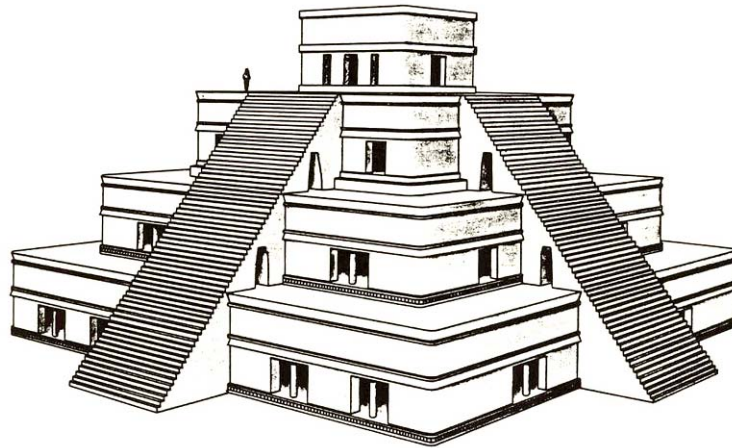


Figure 2.7b. Reconstruction of Structure 1 at Ikil, Mexico during the Late Classic period (after Andrews 1997:Fig. 16).

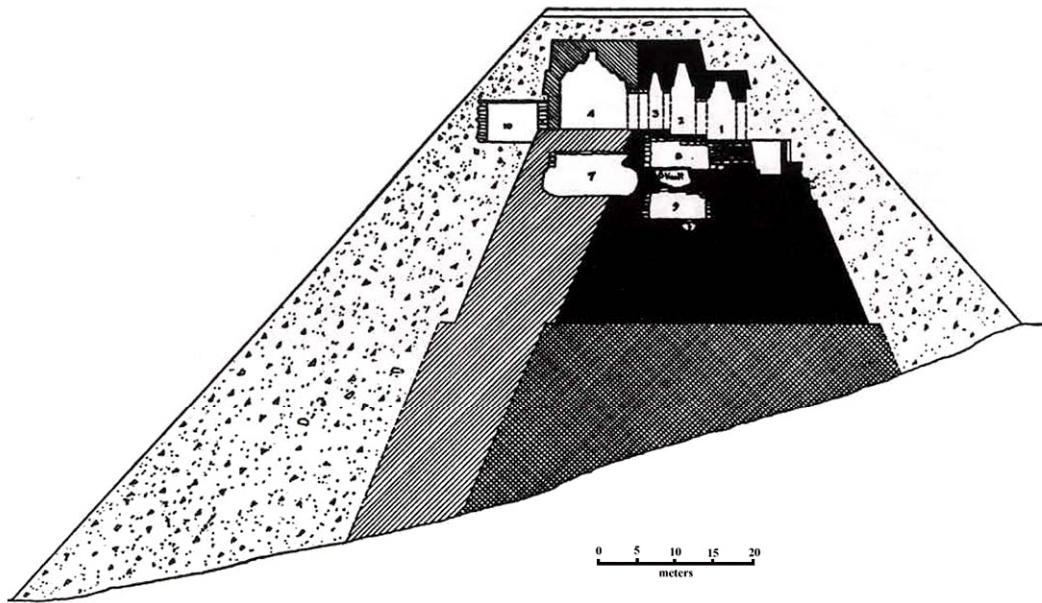


Figure 2.8. Section drawing of civic-ceremonial structure at Holmul, Guatemala, showing Late Preclassic, Early Classic, and Late Classic period architectural components (after Merwin and Vaillant 1932:Fig. 13 in Von Falkenhausen 1985).



Figure 2.9a. Temple I, Tikal, Guatemala (photograph by C.R. Andres).

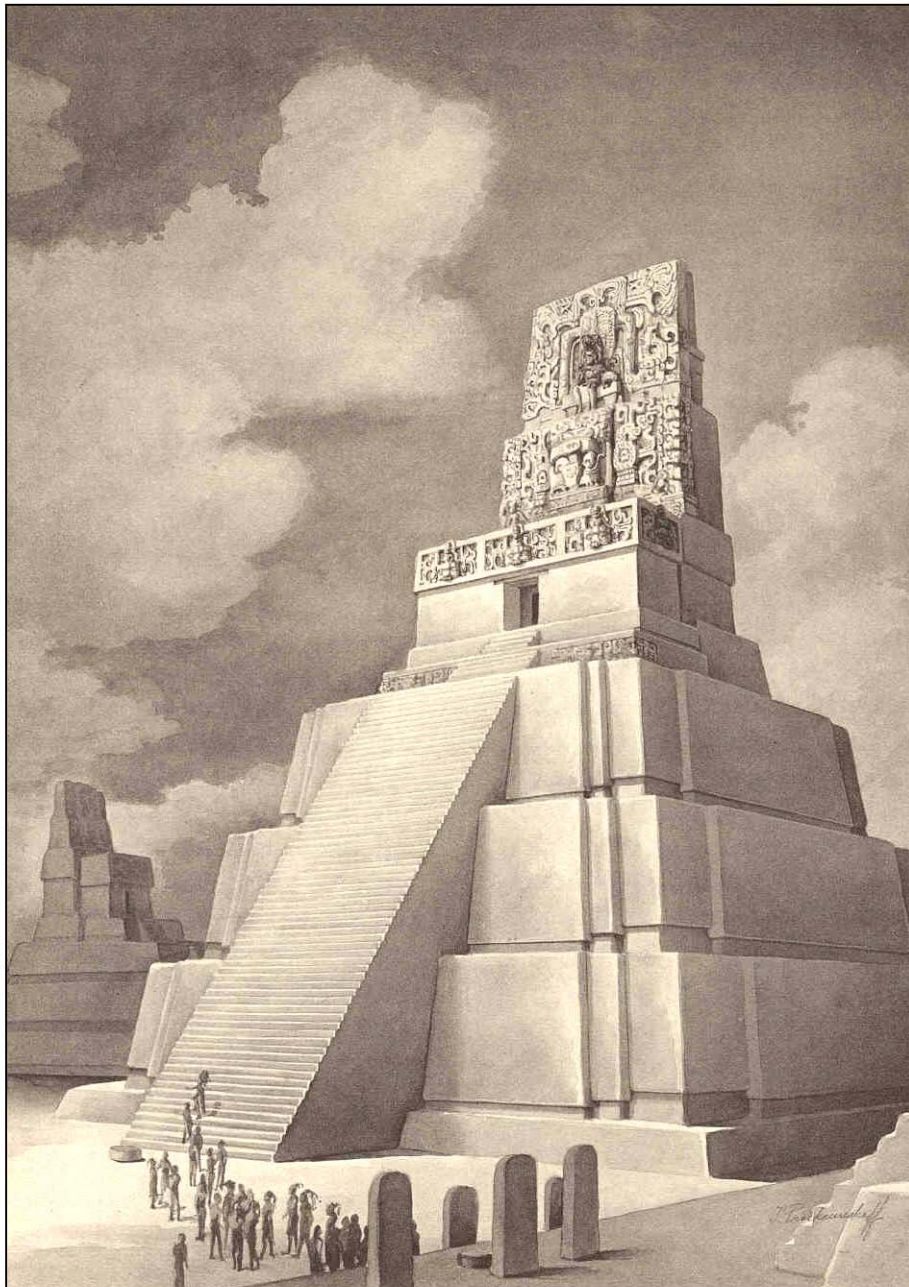


Figure 2.9b. Reconstruction of Temple II, Tikal, Guatemala (after Proskouriakoff 1963:9).

proportions, served to emphasize its height and represents a significant departure from the two or three tiered substructures of the Early Classic period (Figure 2.9b) (Sharer 2001:160).

Subsequent Late Classic period civic ceremonial structures at Tikal were taller still, with Temple IV, dedicated in A.D. 741, reaching 70 meters in height (Sharer 2001:169). So exaggerated did this emphasis of height become in Late Classic period Petén that it has been referred to as the “vertical” style (Harrison 1986:50).

Widespread use of corbel vaults during the Late Classic period served to emphasize the height of buildings. For example, while the upper facades of Early Classic period buildings typically incorporate a sloping surface, the facades of Late Classic period superstructures incorporate more vertical surface planes (von Falkenhausen 1985:132). This contributed to an exaggerated sense of height. The thick spine walls typical of certain vaulted superstructures were also able to support the substantial roof combs that characterize Late Classic period construction at places like Tikal. These features not only served as anchors for elaborate architectural decoration, but greatly increased building height, in some cases more than doubling the vertical dimensions of superstructures (Figure 2.9a). Emphasis of building height was more exaggerated in some regions of the Maya area than others. In central Petén, a sense of greater-than-actual height was achieved through the construction of superstructures with single doorways. As noted by Harrison (1986:50) in a comparison of the Temple of the Inscriptions at Palenque (3 doorways) with Temple II at Tikal (1 doorway), single as opposed to triple doorway arrangements contributed to an illusion of height, as well as restricting entry, in Late Classic period Maya architecture. (In this particular case, the latter appears significantly taller than the former even though the reverse is in fact true).

While increasingly elevated superstructures of buildings at Tikal would have been difficult to access (Figure 2.10), they clearly incorporated interior spaces and were associated with stairways that provided access to these rooms. However, this was not the case at all locations. This emphasis of height at the expense of usable space was taken to an extreme in the

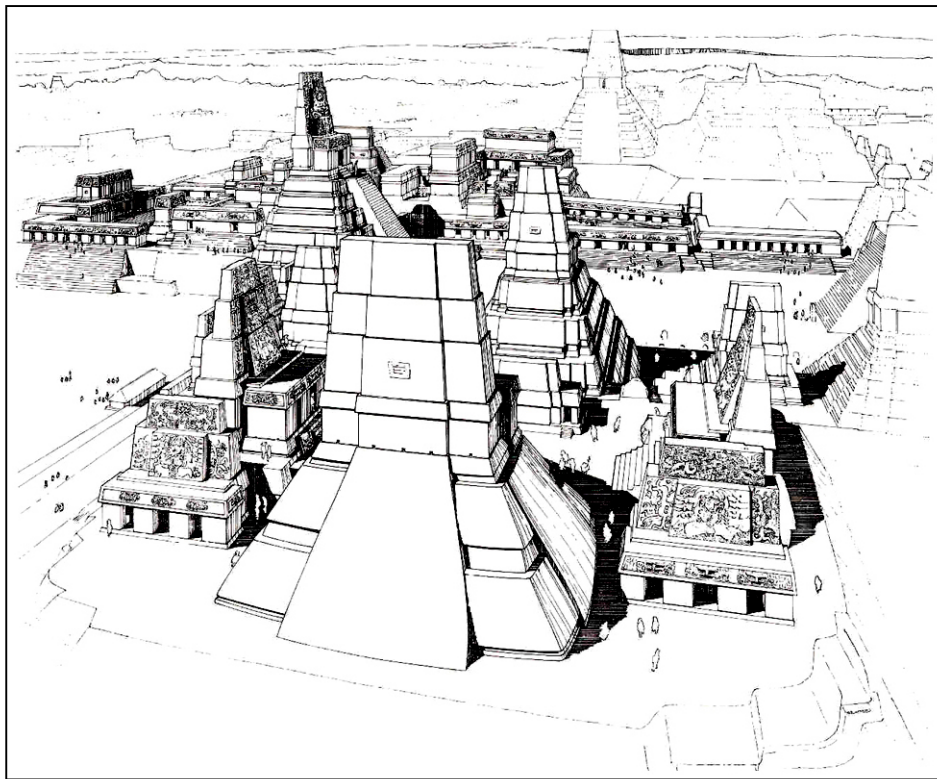


Figure 2.10. Reconstruction drawing of central Tikal during the Late Classic period (after Loten in Harrison 1999).

Late Classic period central lowlands. Buildings characteristic of the Chenes and Rio Bec architectural traditions at sites such as Xpuhil recall the form of temple structures in south, but were impossible to access (Figure 2.11). In such cases, precipitous stairways are present as only representations on the vertical facades of solid masonry towers (Andrews 1997). While these buildings include references to terraces, stairways, superstructures, doorways, and roofcombs, these features combine to form purely effigy structures. The buildings emphasize the extent to which aesthetics and the symbolic properties of the built environment appear to have taken complete precedence over construction of usable architectural space. Developments such as these suggest cases where the “communicative functions” of buildings were at least as important as their “activity functions” (terms borrowed from Blanton 1989:413). These buildings may also reflect altered patterns of negotiation between different Maya social groups. Despite their elaborateness, the facades may actually be something of a compromise on the part of those who commissioned them. In this sense, they may represent an effort to continue broadcasting certain messages in situations where the ability of local elites to recruit the labor necessary to construct full-scale versions of the “depicted” temple structures was diminishing. The resources invested in the effigy facades suggest they contributed an essential quality both to the buildings they adorned and the larger contexts (the architectural groups) of which they were parts.

Construction of multi-story architectural complexes represents an additional means by which greater height was achieved during the Late Classic period (Figure 2.12). As suggested by von Falkenhausen (1985:124) mastery of use of corbel vaulted construction was the basis for this practice that began to emerge in central Petén during the Late Classic period. Multi-storied vaulted structures occur in the Central Acropolis at Tikal where they range between two (Structure 5D-65) and five (Structure 5D-52) stories in height (Figure 2.13) (Harrison 1970, 1999:149, 196). At Tikal, upper levels are associated with “palace” structures and are exclusively secondary construction units, generally being added late in the Classic period (Harrison 1986:54). While the functions of these upper story rooms are poorly understood, the fact they could only be

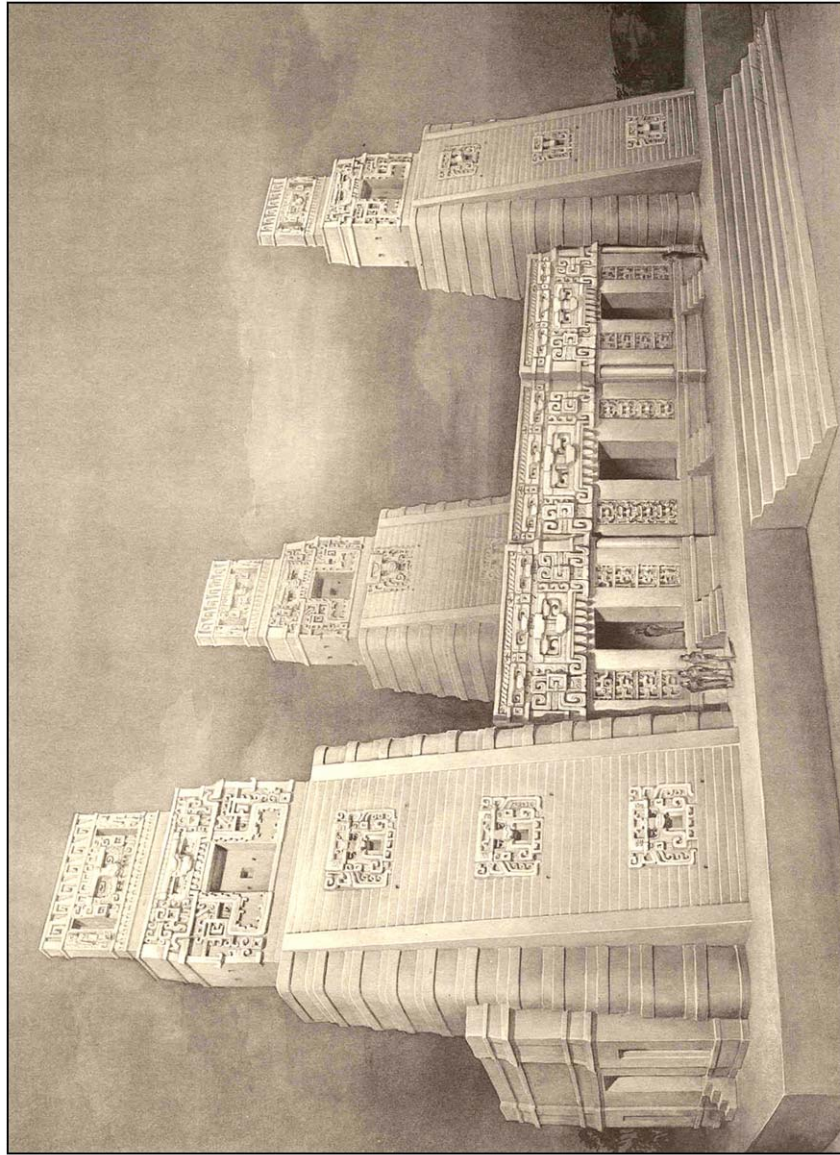


Figure 2.11. Reconstruction of Structure 1, Xpuhil, Campeche, Mexico (after Proskouriakoff 1963:53).

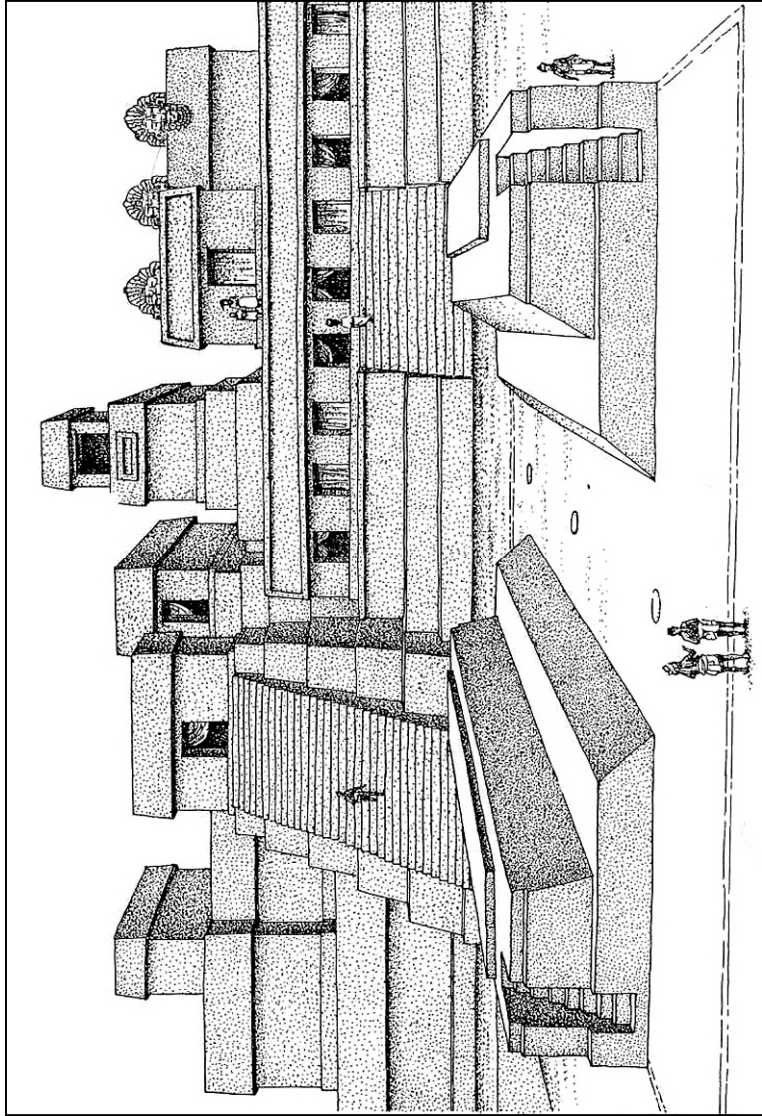


Figure 2.12. The Central Acropolis, Tikal, Guatemala during the Late Classic period (after Harrison 1999).

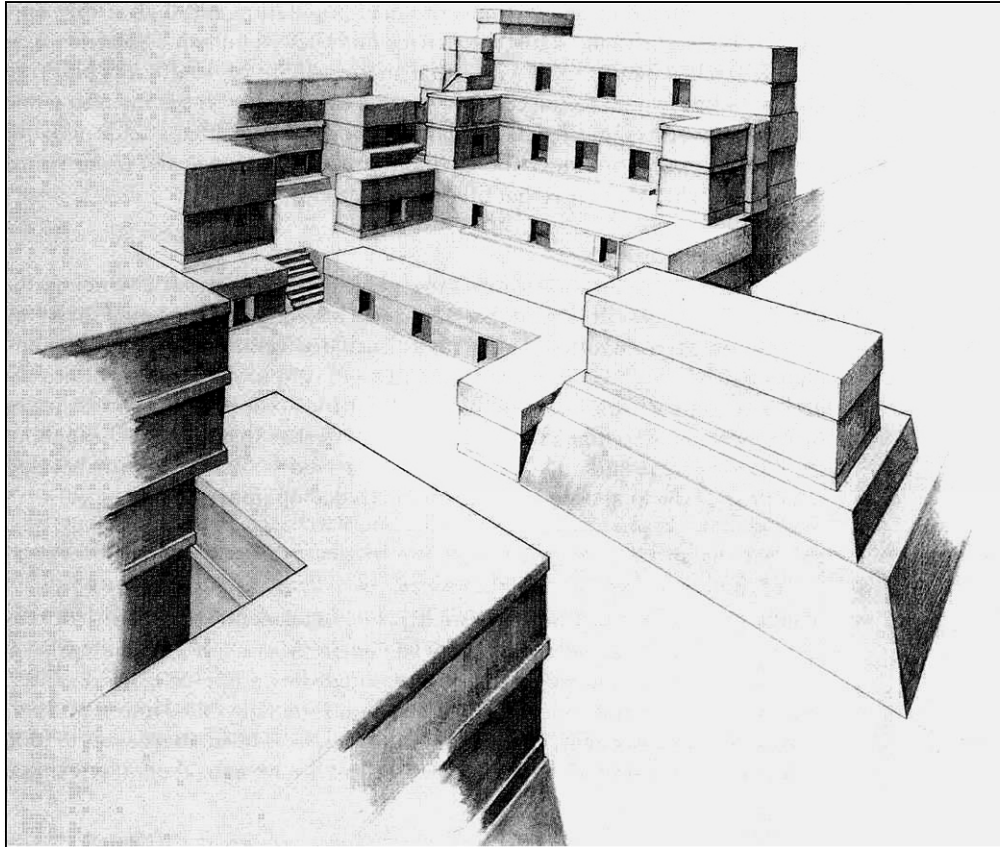


Figure 2.13. Reconstruction drawing of Structure 5D-52 (the "Five Story Palace"), Tikal, Guatemala during the Late Classic period (after Harrison 1999).

reached by single stairways suggests they “automatically embodied a highly restricted route of access” (Harrison 2001:97-98).

Elevation of architectural groups. Entire groups also demonstrate changes parallel to those reflected by single buildings during the Late Classic period. Highly restricted patterns of access to Caracol’s Caana complex and Copan’s East and West Courts, for example, resulted from elevation of structures atop tell-like masses of earlier construction (Figure 2.5) (Chase and Chase 1998; Hendon 1992:491). In the case of Caana, the colossal complex continued to be enlarged during the Late Classic period, with the courtyard at its summit raised an impressive four meters during a single construction campaign around A.D. 750 (Chase and Chase 1998:306-307). On one level, this elevation of ceremonial groups would have rendered their exteriors increasingly visible from a distance as one approached a site. At the same time, placement of buildings around courtyards high on acropoli would have created spaces that were invisible from other parts of a community (e.g., Fash 1998:237). The same or similar motivations that lead to the elevation of ceremonial groups also appear to have applied to elite residential and combined ceremonial-residential complexes. At Cahal Pech, for example, there is a positive correlation between the size of Late Classic period elite plazuela groups, their removal from entries to the site core, and their elevation (Figure 2.14) (Awe et al. 1991:28). As the researchers suggest, smaller, higher groups located farther from major accessways appear to have been the most exclusive (ibid.). Although the behavioral consequences of these changes are difficult to reconstruct, these building programs suggest the creation of increasingly inaccessible areas that casual visitors are unlikely to have frequented.

Spatial sub-division. While entry to some groups was limited by raising the structures on acropoli, passage to other compounds was restricted by new construction efforts. The Late Classic period saw a movement towards increasing sub-division of plazas of a number of Belize Maya communities into spaces that were not only challenging to access, but incapable of

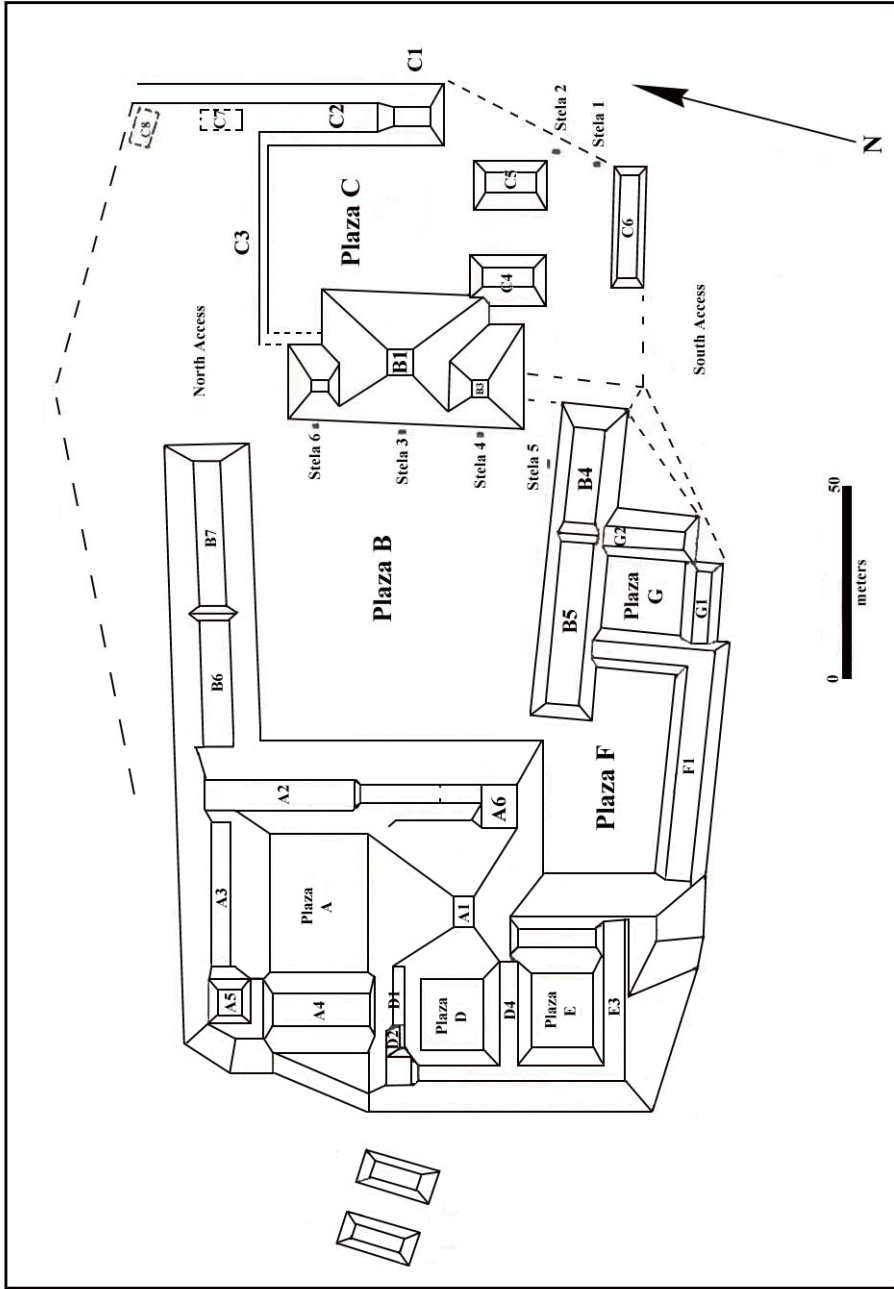


Figure 2.14. Map of the site center at Cahal Pech, Cayo District, Belize during the Late Classic period (redrawn by C.R. Andres after Awe et al. 1991:Fig. 2).

accommodating gatherings on the scale of earlier periods (e.g., Leventhal in Crisell 1997:12). These trends had reached extremes at Nohmul and Xunantunich by the Terminal Classic period. At Nohmul, the community's already very high Classic period East Plaza was partitioned by construction of Structures 8 and 9, among other buildings. The addition of these buildings created three smaller and seemingly much more private plaza areas (Figure 2.15) (Hammond 1989:515). Leventhal (1996, 1997) describes several such instances at Xunantunich. During the first part of the Late Classic period, the site center at Xunantunich was dominated by a single large, open plaza (Plaza A-1) (Figure 2.4). In what is described as a "focusing process", Structure A-1 was built at the center of the original plaza, dividing it into two much smaller spaces (Plazas A-1 and A-2) (Leventhal 1996:12). This construction, which appears to be single phase, "[limited] movement of people and [contracted] the public space down to just the southern part of the original space" (ibid.). While the specific effects of this construction campaign are discussed in the next section, suffice it to say here that a similar situation occurred on the north side of newly established Plaza A-II at Xunantunich. This portion of the site center was bounded by Group A: the suggested residence of the community's paramount elite. Excavations indicate the original Late Classic compound consisted of three dominant structures (Structures A-10, A-11, A-12) surrounding the north, east, and west sides of an interior courtyard (Plaza A-III) (Figure 2.16). While the south side of this group was initially open, access to it was also much reduced when a large range structure (Structure A-13) was constructed in this formerly vacant location at the end of the community's Late Classic II phase (A.D. 670-790) (LeCount 1999:245; Leventhal 1996:75, 1997:5). As in the case of the range structures constructed on the medial terraces of El Castillo, passage into the Plaza A-III Group was only possible by passing through a single central doorway in Structure A-13 (Figure 2.16).

Narrowing and elimination of inter-structural spaces. As made clear in preceding sections, inter-structural spaces were often dramatically reduced during the Late Classic period. This was a

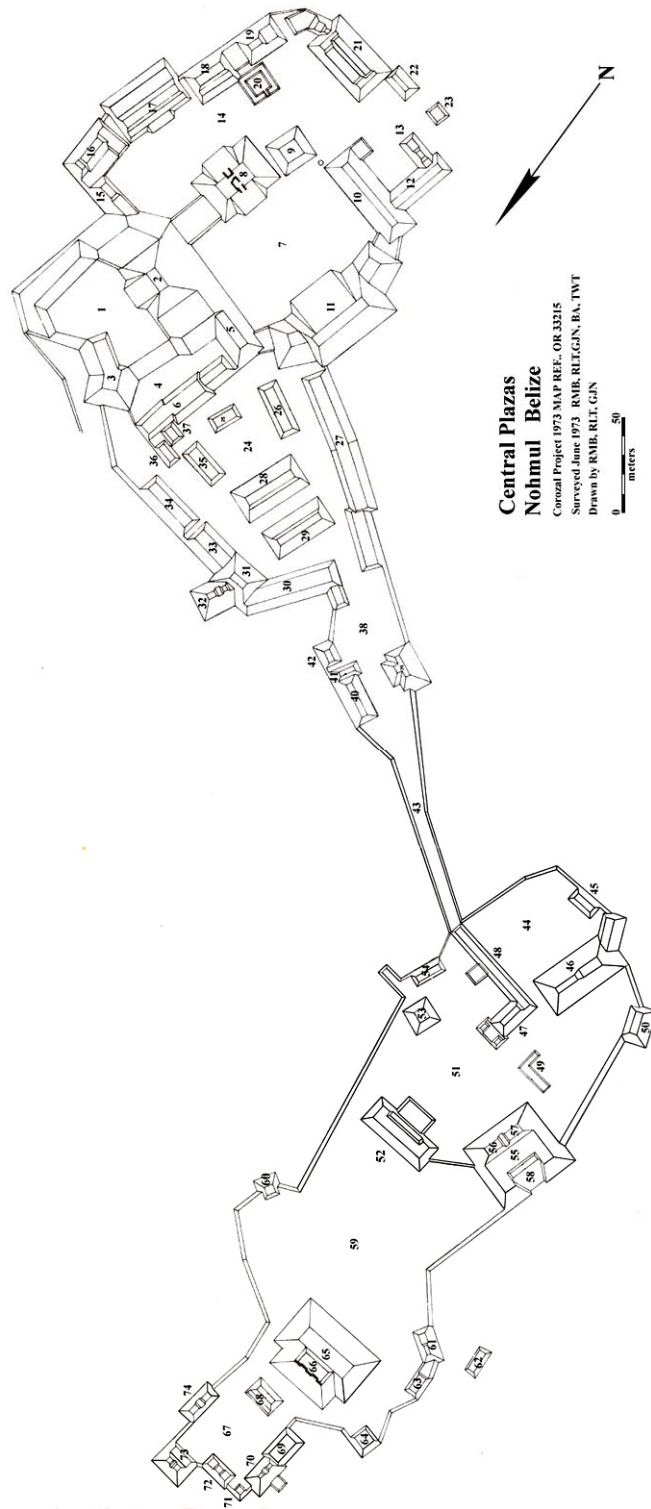


Figure 2.15. The site center at Nohmul, Belize during the Terminal Classic period (after Hammond 1985:Fig. 2.3).

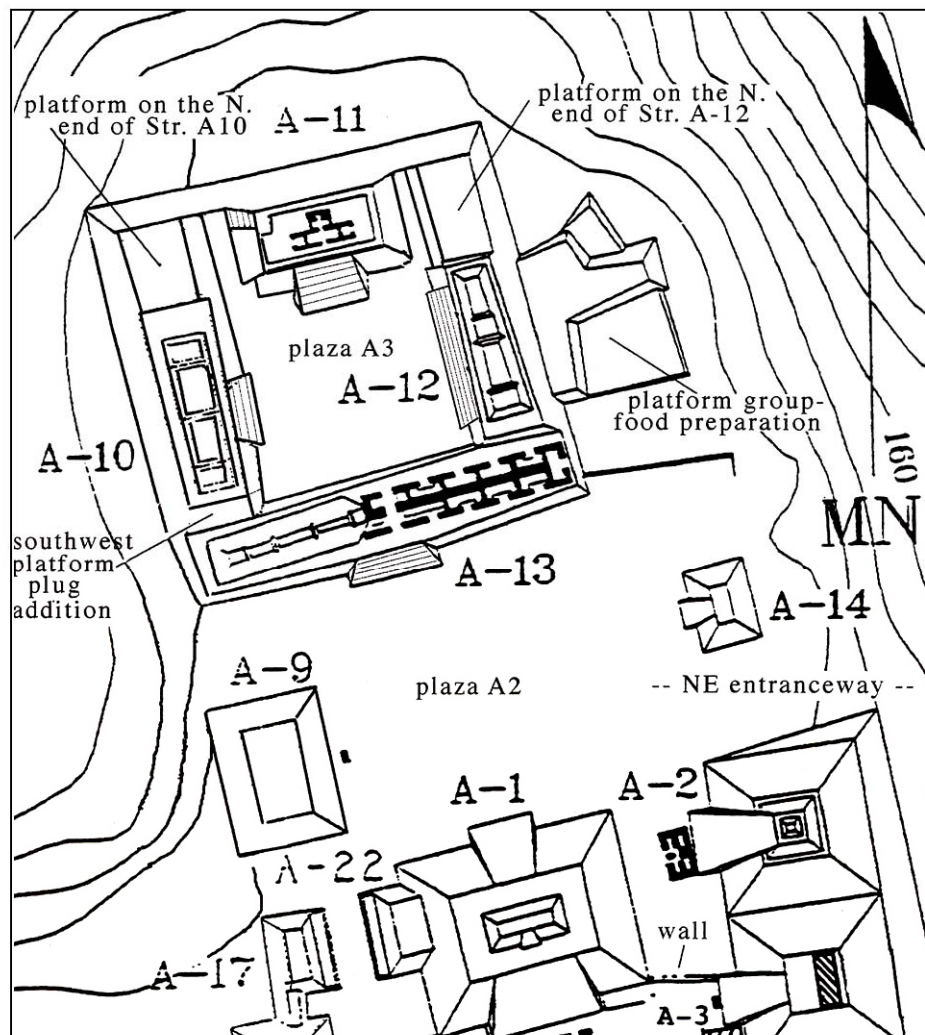


Figure 2.16. Detail of the site center at Xunantunich, Belize showing Group A-III (after E. Harrison 1996:Fig. 2).

consequence of various factors, including construction of entirely new buildings and enlargement of existing structures. The placement of buildings at increasingly closer intervals is a trend that has its origins in the Early Classic period (von Falkenhausen 1985:115-117). However, despite architectural encroachment, the Early Classic is distinguished from the Late Classic period by the fact that buildings generally retain their structural autonomy (ibid.). This is evident in the case of Group A-V at Uaxactun. While the structures forming this group were expanded during the Early Classic period and group's function seems to have changed, access-ways were generally retained between them (Figure 2.17a). During the Late Classic, however, the buildings framing the courtyard are connected (Figure 2.17b) (ibid.; Andrews 1975; Proskouriakoff 1946). As indicated by Falkenhausen (1985:120), these modifications completely eliminate visual access to the group's interior during the Late Classic.

This restricting of access-ways, merging of sub-structural platforms, and absorption of multiple buildings by single monumental constructions are evident at multiple locations in Late Classic Belize (e.g., compare Figures 2.1 and 2.2; see also Chase and Chase 2001:106). Besides creating two separate plazas, the placement Structure A-1 at Xunantunich served to limit movement between these areas. In order to pass between Plazas A-I and A-II on the eastern side of Structure A-1, one was channeled through a constricted transitional space separating the building from Structures A-2 and A-3 (Figure 2.18) (Leventhal 1996:12). This "corridor" was incrementally narrowed, first by construction of Structure A-16 at the western base of the Structure A-2, and then by construction of a freestanding east-west oriented wall (designated Motmot) between the southeast corner of Structure A-1 with the north-south retaining wall of Structure A-3 (Leventhal 1996:13). This final event eliminated movement between Plazas A-I and A-II around Structure A-1's eastern flank. Following construction of Structure A-1, a corridor remained open to the west of the building (Figure 2.18). Despite the presence of this second opening, Leventhal (ibid.) questions its use as an actual access-way: the opening is the

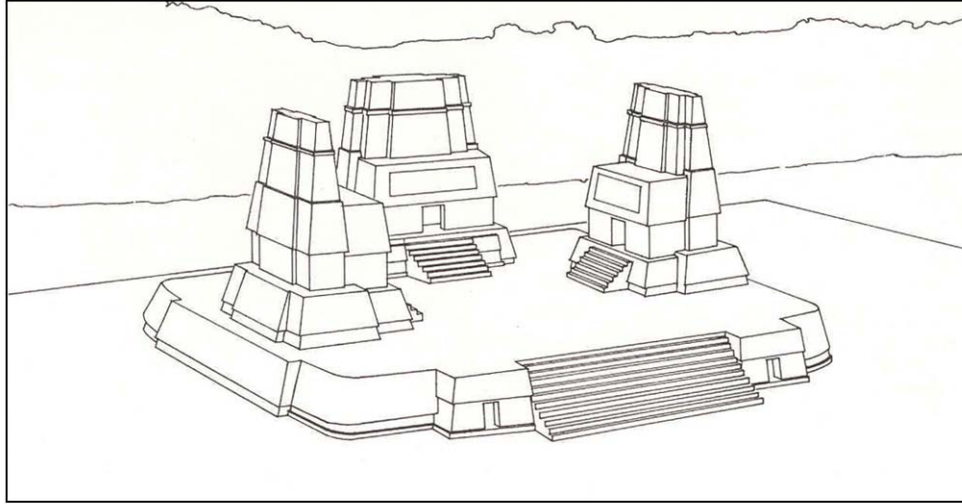


Figure 2.17a. Reconstruction of Group A-V, Uaxactun, Guatemala during the Early Classic period (after Proskouriakoff in Andrews 1975).

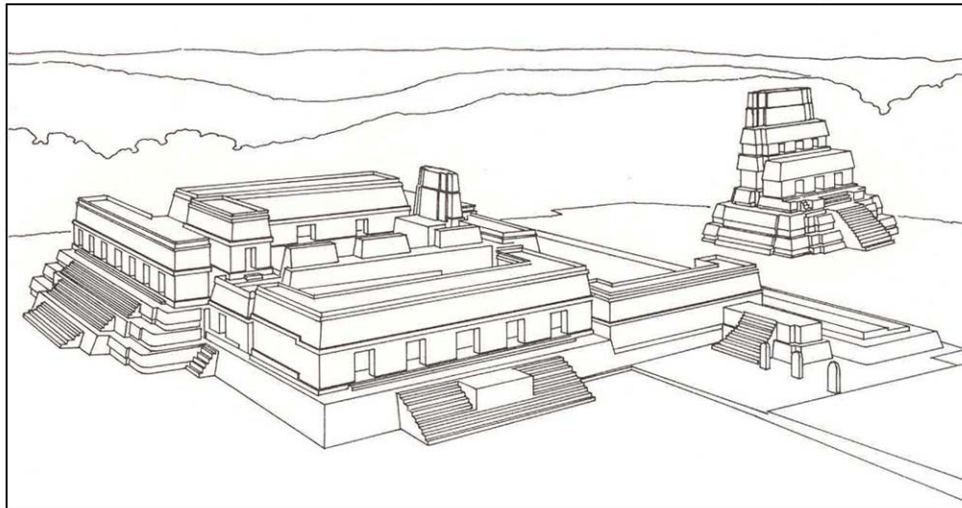


Figure 2.17b. Reconstruction of Group A-V, Uaxactun, Guatemala during the Late Classic period (after Proskouriakoff in Andrews 1975).

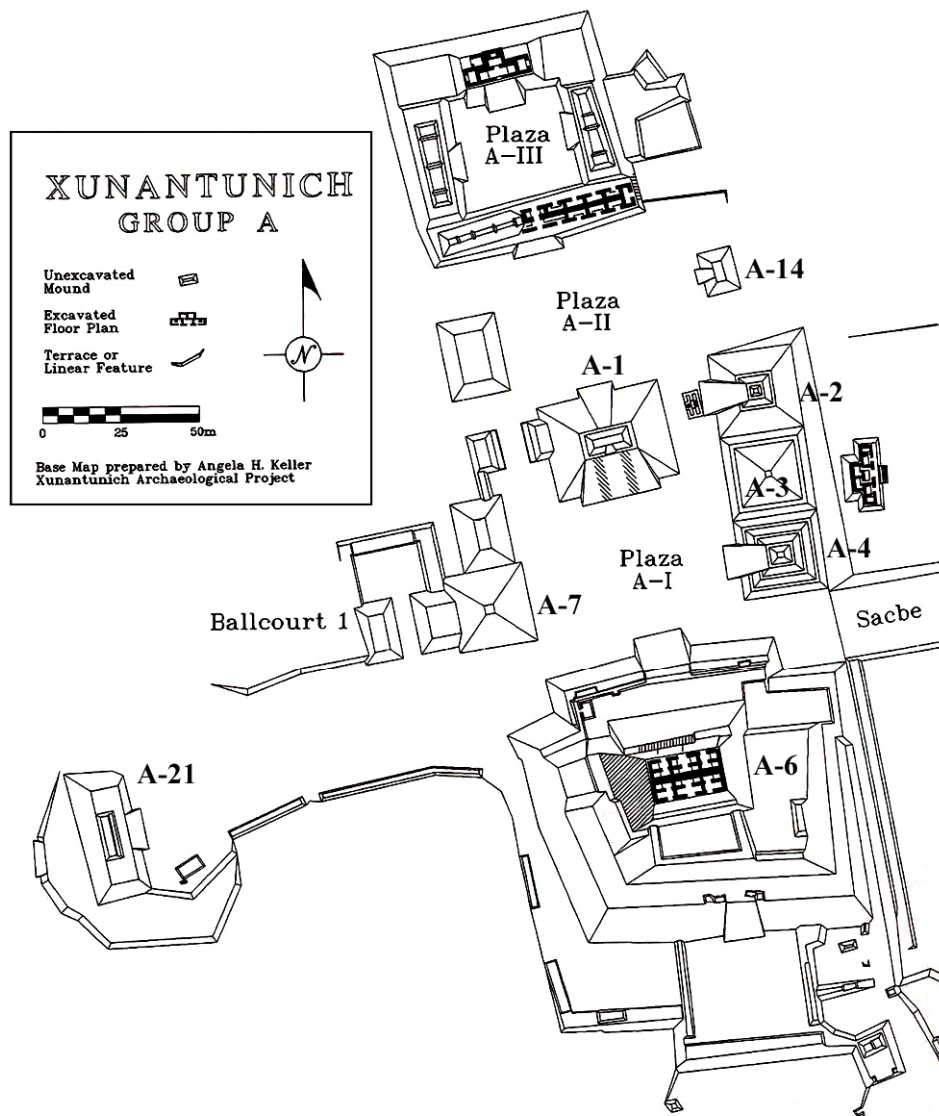


Figure 2.18. Map of the site center at Xunantunich, Belize (after Yaeger 1997: Fig. 8).

alleyway of a ballcourt and may not have been a viable thoroughfare due to its presumably specialized ceremonial function.

Other Bealizean sites that experienced substantial Late-to-Terminal Classic construction demonstrate similar patterns. Plazas B and C at La Milpa, which show little construction activity prior to this period, are surrounded by closely placed buildings that unquestionably regulated access into these compounds (Hammond et al. 1998:833). Plaza C was almost completely enclosed by range structures (Figure 2.19). Plaza B, already rigidly defined by buildings on its north, south, and west sides, had Structure 21 added on its eastern margin during the Late-to-Terminal Classic. Construction of Structure 21 was underway when the community was abandoned in the 9th century and the building was left incomplete (ibid.). The Great Plaza (Plaza A) at La Milpa saw parallel developments, with Structure 10, a large civic-ceremonial building, and Structure 8, a massive range structure added late in the site's history (Figure 2.20). This construction activity not only substantially restricted access to the Great Plaza itself, but to several of its earlier dominant buildings (Hammond et al. 1998:831). This redevelopment of the site center was also left incomplete and it is suggested it would have involved construction of additional buildings on the north side of the plaza if it had been allowed to run its intended course. As discussed below, contemporary changes in the built environment at Lamanai, Chau Hiix, and Altun Ha suggest these centers experienced similar spatial reorganization at about this same time.

Modest secondary construction units colloquially referred to as "platform plugs" constitute another type of feature that also functioned to restrict spaces between buildings. These features, which basically amount to secondary extensions at the ends of substructural platforms, are reported from Late-to-Terminal Classic period contexts at Xunantunich. The Plaza A-III Group, which appears to have been the community's dominant elite residential compound, experienced this form of modification in its southwest corner. As reported by E. Harrison (1996:73, 77), one of these features was used to fill the gap between Structures A-10 and A-13,

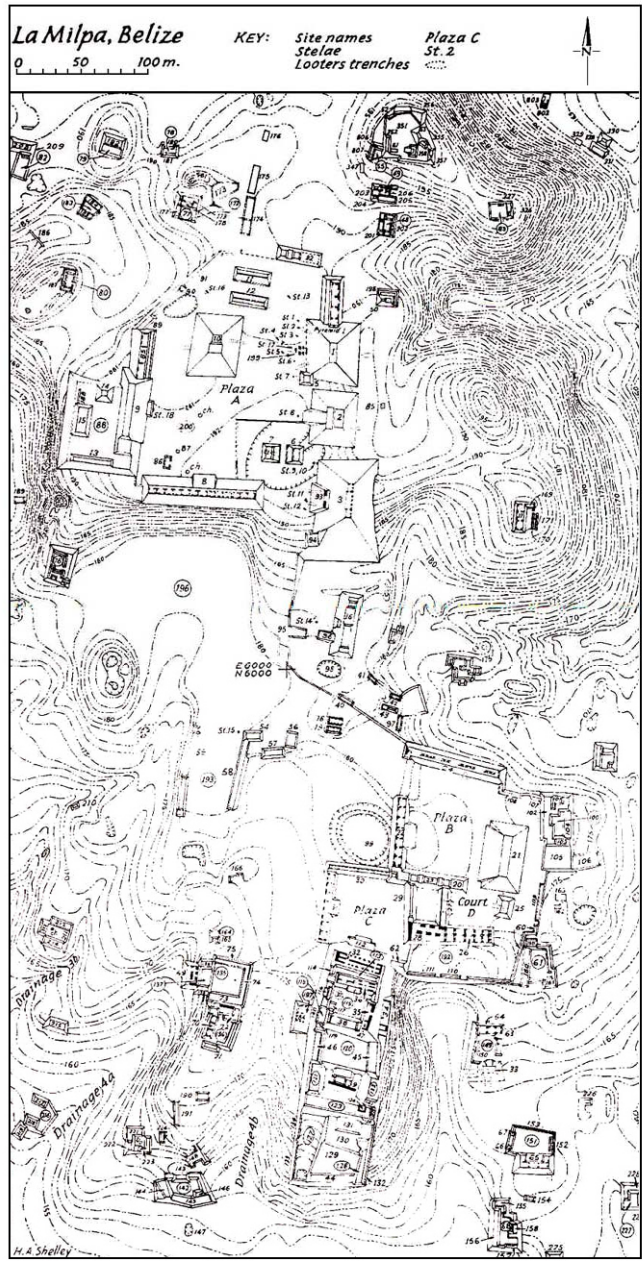


Figure 2.19. Map of La Milpa, Belize (after Hammond et al. 1998:Fig. 1).

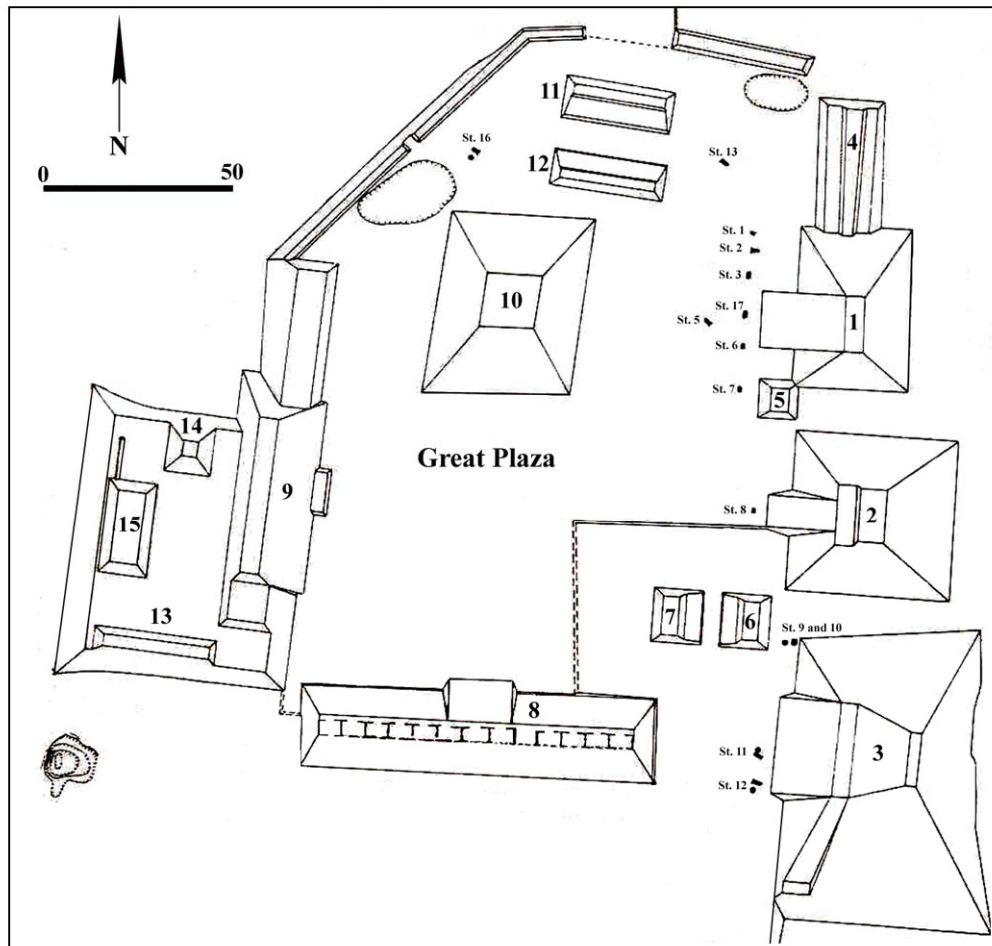


Figure 2.20. Map of the site center at La Milpa, Belize (after Hammond and Bobo 1994:Fig. 1).

completely sealing off this space between the structures and converting this area of the plaza into the equivalent of a sunken court (Figure 2.16).

Remodeling of existing buildings. There is clear evidence that access arrangements to existing buildings and between their interior spaces were often altered by Late and Terminal Classic period remodeling. Such changes have been reported at numerous locations and take a variety of forms, including the infilling of doorways and construction of secondary traffic control features.⁸ Examples of these practices as reported at Tikal, Altun Ha, Xunantunich, Buenavista del Cayo, and Cahal Pech serve as representative examples.

Peter Harrison (1970, 1999) has devoted a great deal of attention to describing changing access patterns in the Central Acropolis at Tikal. In so doing, he identifies architectural modifications thought to have influenced passage into the complex from other spaces as well as between the compound's constituent units. In the former sense, Harrison notes the extent to which passage into the Central Acropolis was limited (or eliminated) during the Late Classic period. Structure D-44 on the north side of the Central Acropolis serves as a case in point. This double-galleried range structure was initially constructed with multiple doorways facing north onto the East Plaza. Upon entry into the northern gallery, one could pass through a doorway in the spine wall, thereby gaining access to the building's adjacent southern gallery and ultimately the interior of the Central Acropolis. This potential entryway, however, was eliminated when the doorway through the spine wall was sealed late in Classic period (Harrison 1999:187). As Harrison (1999:198) indicates, this practice was widespread, suggesting that "nearly all exterior

⁸ While there seems to be a tendency for the number of doorways in buildings to be reduced during the Late Classic period, windows were sometimes added. Pendergast (1982:22-23), for example, notes how a window introduced on the west side of Room 3 in Structure B-5 at Altun Ha was cut into a formerly solid wall. The fact that the window opened onto the compound's interior courtyard rather than penetrating one of the building's exterior walls may reflect an effort to introduce more light or added circulation in the room without creating an additional sight line into the compound from outside the building.

doorways in the heavily occupied parts of the Acropolis [show] evidence that attempts at blocking them with something more substantial than the usual curtains were employed in the Classic period.” This narrowing and sealing of doorways represents a pattern common in other communities as well (e.g., Hammond et al. 1998:834; Leventhal 1997:4; Pendergast 1979, 1982; Church 1997:54). Nineteen of 32 doorways in Structure A-6 at Altun Ha were, for example, sealed in a similar fashion at the end of the Late Classic period (see Chapter 5 for in depth discussion of related modifications at the site) (Pendergast 1979:181).

Leventhal (1996:1) discusses apparently functionally similar modifications relative to Structure A-6, 2nd, the penultimate building El Castillo at Xunantunich. In this case, the original building incorporated 6 rooms and doorways that faced outward in all four directions (Figure 2.21). However, remodeling of the superstructure (Structure A-6, 1st) sealed the exterior entryways of the north central and three southern rooms. The north central, southeast, and southwest rooms were then completely filled with rubble. Only the north outer rooms and their doorways remained. While the south central room was retained, its doorway was sealed and entry to it was only possible through one of the two northern rooms (Leventhal 1996:13). These complex changes effectively eliminated access to the superstructure from the south and focused access and associated activities on Plaza A-1 (ibid.).

Sealing of multiple doorways is reported in combination with more extensive access-related modifications in the Palace Complex at Palenque. While blocking of doorways occurred in many areas of the Palace during the Late Classic period (e.g., Robertson 1985:Fig. 285), this activity was particularly intensive in the case of Houses G and H. Built late in the 8th century (Figure 2.22a), Houses G and H had the accessway between them sealed by a series of construction units (Figure 2.22b) that are qualitatively distinct from the earlier, adjoining construction. As discussed by Robertson (1985:83), the “crude” wall units used to bridge the gap between the buildings are less substantial (thinner) than earlier construction. These developments apparently occurred in conjunction with the sealing of doorways into Houses G and H. The

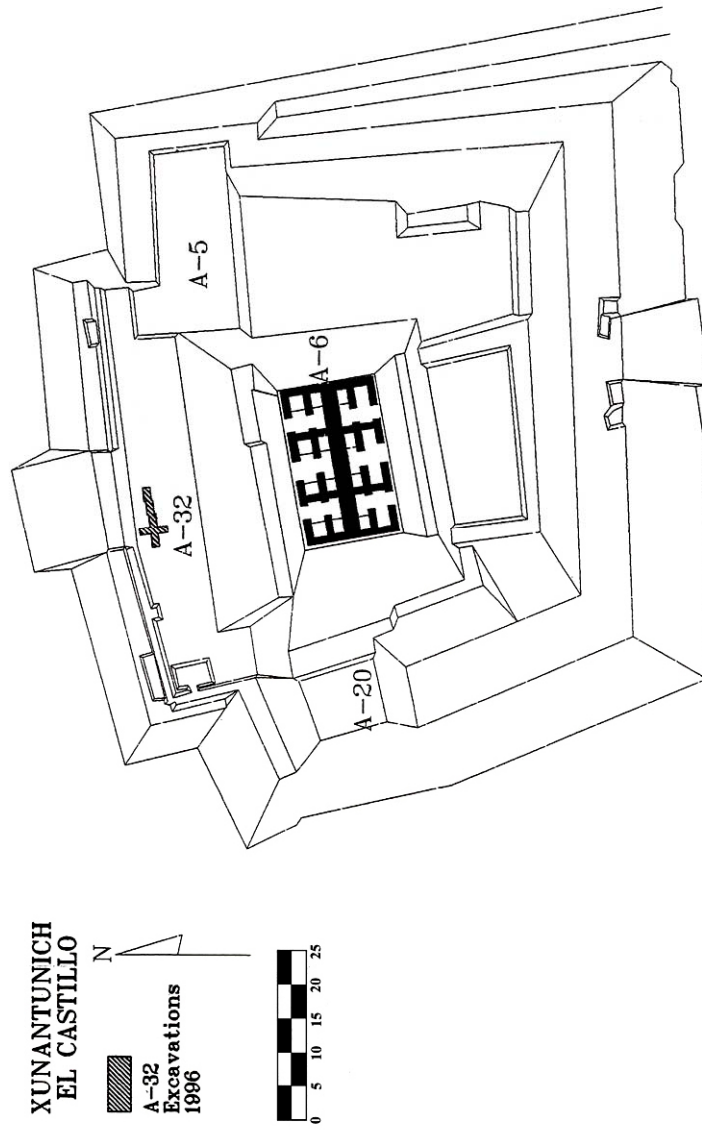


Figure 2.21. El Castillo, Xunantunich, Belize showing the room arrangement of the penultimate superstructure (after Miller 1995:Fig. 1).

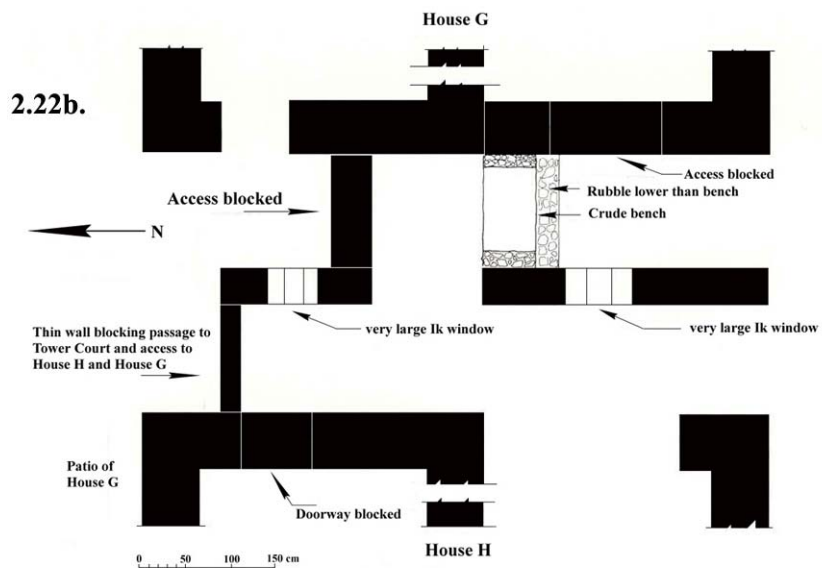
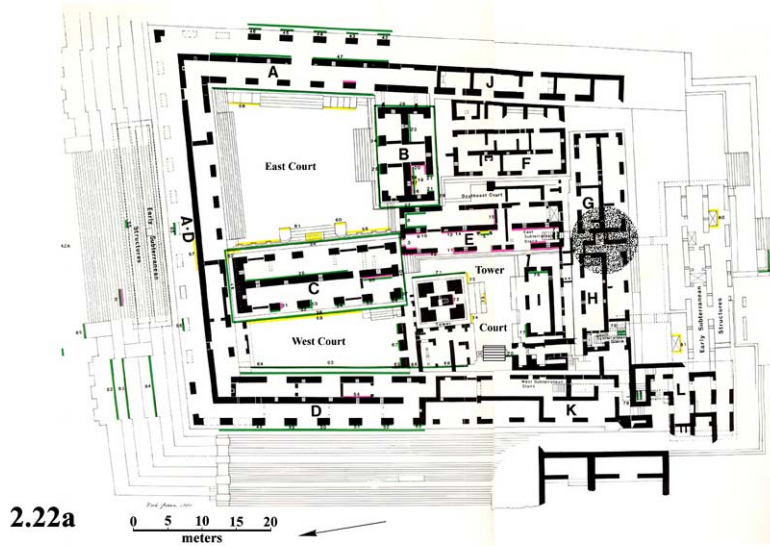


Figure 2.22a. The Palace at Palenque during the Late Classic period--highlighted area represents the detail shown in Figure 2.22b (adapted from Robertson 1985: Fig. 1); **2.22b.** Late construction blocking access between Houses G and H of the Palace at Palenque (adapted from Robertson 1985:Fig. 392).

ultimate effect of these changes is that access to the Tower Court through the passageway between Houses G and H, the entrance to the eastern end of House G, and the western entrance to House H were eliminated.

While El Castillo at Xunantunich appears to have served civic-ceremonial as opposed to domestic functions, similar changes are evident within presumed elite residential contexts during the Late Classic period. (Civic-ceremonial and domestic structures at Lamanai, Chau Hiix, and Altun Ha are considered separately in Chapter 5). At both Cahal Pech and Buenavista del Cayo entrances to palace groups become increasingly “labyrinthine” in the late 8th century. Ball and Taschek (2001:177-178) discuss this tendency relative to complexes they interpret as functioning as “royal residential inner sancta” at the two sites. In each case, they document remodeling efforts which replaced “direct” entrances into the compounds with “indirect” entryways. As is evident from the architectural plans, layouts that initially provided access to courtyards through sets of directly aligned doorways were redesigned to make passage increasingly circuitous (Figures 2.23a-b, 2.24a-b). These changes took place in conjunction with the construction of additional interior rooms. Building upon Awe et al. (1991), Ball and Taschek (2001:178) discuss the extent to which this spatial re-organization impacted traffic flow patterns and effectively prevented visual access into the inner courtyards from exterior spaces. It is also important to note how these 9th century changes increased the “depth” of the architecture by creating spaces farther removed from points of entry to the building complexes (see Chapters 5 for a detailed discussion of changes in room depth in Maya architecture).

The presumed residential complexes at Buenavista and Cahal Pech experienced fairly extensive alterations, including the construction of additional rooms, the sealing of existing doorways and the creation of new entryways. However, modifications that appear to have achieved similar results did not always involve such extensive measures and were sometimes achieved by addition of more modest secondary features at strategic locations. Harrison (1970:186-193) offers the most thorough discussion of interior construction units that appear to

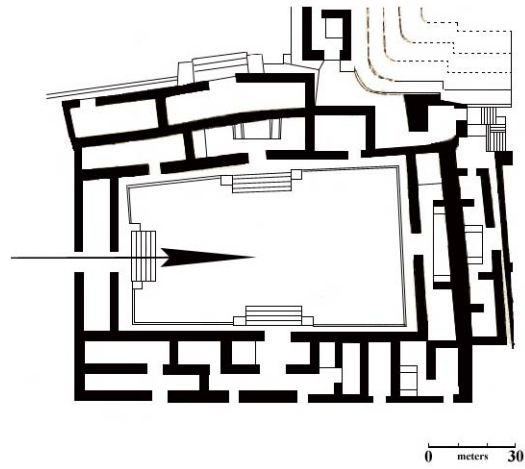


Figure 2.23a. Elite residential compound at Cahal Pech, Belize during the early 8th century A.D. (after Ball and Taschek 2001:Fig. 6.6--redrawn by C.R. Andres).

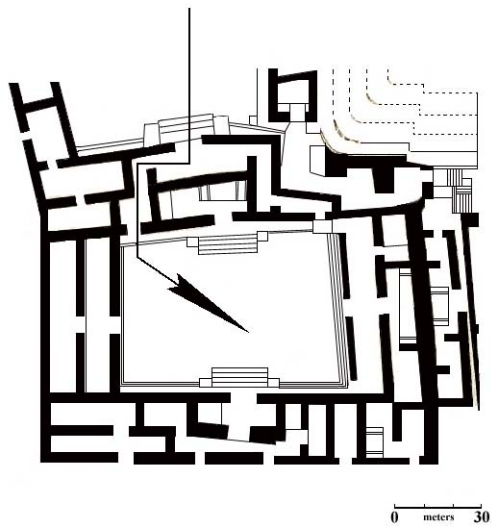


Figure 2.23b. Elite residential compound at Cahal Pech, Belize during the late 8th century A.D. (after Ball and Taschek 2001:Fig. 6.6--redrawn by C.R. Andres).

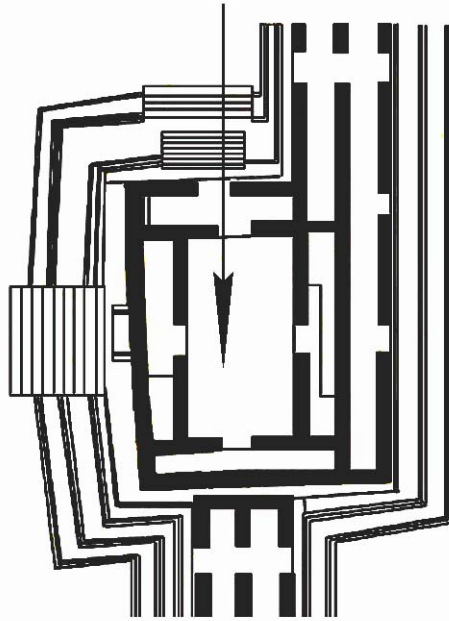


Figure 2.24a. Elite residential compound at Buenavista del Cayo, Belize during the early 8th century A.D. (redrawn after Ball and Taschek 2001:Fig. 6.6).

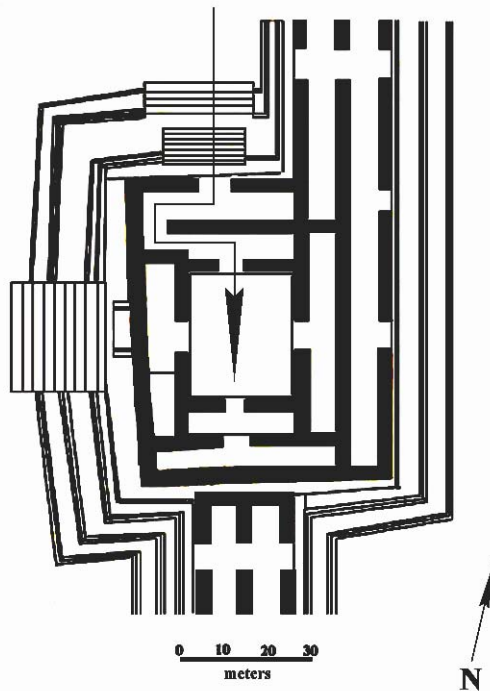
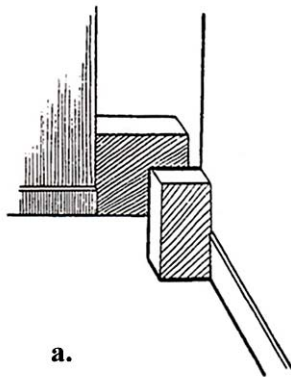


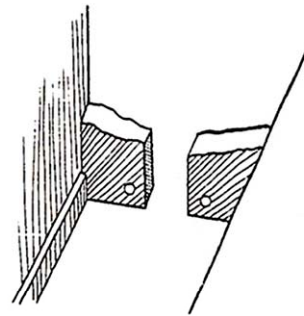
Figure 2.24b. Elite residential compound at Buenavista del Cayo, Belize during the late 8th century A.D. (redrawn from Ball and Taschek 2001:Fig. 6.6).

have functioned as traffic control features. These additions include masonry “screens”, “gateways”, and “blocks” that appear late in the construction sequence of the Central Acropolis at Tikal (Figure 2.25). While each type of feature seems to have regulated pedestrian access, their locations and specific functions vary. Masonry screens tended to be placed at the corner of adjacent buildings and to have regulated passage between buildings and courtyards (Harrison 1970:192; 2001:91, 98); gateways consisted of dwarf walls placed between buildings and restricted passageways to the width of a doorway (1970:187); and blocks typically appear at the base of stairways and functioned to divert foot traffic in desired directions (1970:192). While enigmatic, these alterations are interpreted as “deliberate attempt[s] to preserve privacy in a situation where this commodity must surely have been diminishing” (Harrison 1970:187).

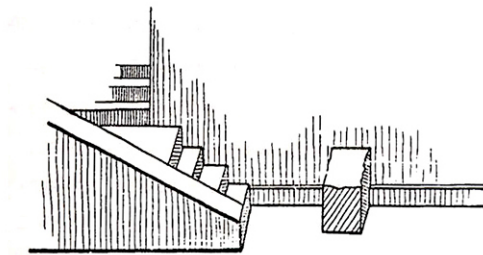
Altered patterns of access to central precincts. Increasingly restricted access to site centers has been documented at a range of locations in the southern lowlands. Perhaps the most extreme example of this pattern is evident at centers such as Dos Pilas, Aguateca, and Punto de Chimino in Guatemala’s Petexbatun region. In these cases, a variety of secondary features ranging from earthworks to masonry walls were constructed to regulate the flow of people into site epicenters. In the Late Classic, Punto de Chimino on Laguna Petexbatun, a series of trenches were excavated across the peninsula on which the site was established, effectively isolating the community on an island (Demarest 1997). At the larger centers of Dos Pilas and Aguateca, concentric masonry walls were erected around the site cores during this period (Demarest et al. 1997). While these efforts unquestionably altered access to the site centers, the rapidity of the changes, the shoddy quality of the construction, the pillaging of construction material from the community’s civic-ceremonial structures, and the virtual elimination of entryways suggest these features are expedient defensive fortifications (Demarest et al. 1997; Inomata 1997; Inomata and Triadan 2003). Thus, while reminiscent of the changes under examination in this dissertation, they appear to be an expedient and functionally distinct set of modifications not directly indicative of the



a.



b.



c.

Figure 2.25. Late Classic period secondary traffic control features from the Central Acropolis at Tikal, Guatemala: (a) screen/baffle, (b) gateway, (c) block (after Harrison 1970:Figs. 39-41. Original not to scale).

organizational changes discussed here. While they certainly imply significant sociopolitical change in the Petexbatun region at the end of the Classic period and exemplify the use of architectural barriers to restrict access into civic areas, they are not relevant to understanding the sociopolitical use of space under normal circumstances.

More gradual architectural transformations that influenced entry to site centers are evident at Belizean centers during the Late and Terminal Classic periods. These changes appear consistent with the changes discussed in previous sections. Changing patterns of entry to the site core is an issue that has been specifically addressed at Xunantunich. A series of investigations indicate that entrance to the main group was limited during the Late Classic and became increasingly restricted during the Terminal Classic period. During the Late Classic, passage into the central precinct was possible through three primary entryways: a walkway adjacent to Structure A-21; a stairway identified between Structures A-2 and A-14, and the causeway entering Group A between Structures A-4 and A-6 (Figure 2.18) (Leventhal 1996:13). As discussed by Keller (1995:85), these entryways appear to be quite distinct and may have been utilized by different social groups. The entryway near Structure A-21, for example, provides a particularly steep ascent to the acropolis that was probably quite formal. The fact that this access point is oriented towards the centers of Petén suggests it may have possessed more “stately” and “ostentatious” associations (Keller 1995:88-89). This contrasts strongly with the far more gradual and open northeastern entryway. Investigations in this location revealed a variety of features, including flanking platforms at the base of a broad stair and low parapets that presumably functioned to channel people through a series of ascending patios to the plaza on the summit of the acropolis (Figures 2.26a and 2.26b) (*ibid.*). Sacbe I, the third and final point of entry, was probably a special function feature used primarily by elite residents of Group D (Figure 2.6) (Keller 1995:85). The first two of these three access-ways remained open and in use during the Late Classic and into the Terminal Classic period (A.D. 790-1000). Investigations of the area between Structures A-2 and A-14, however, indicate the stair was dismantled and would

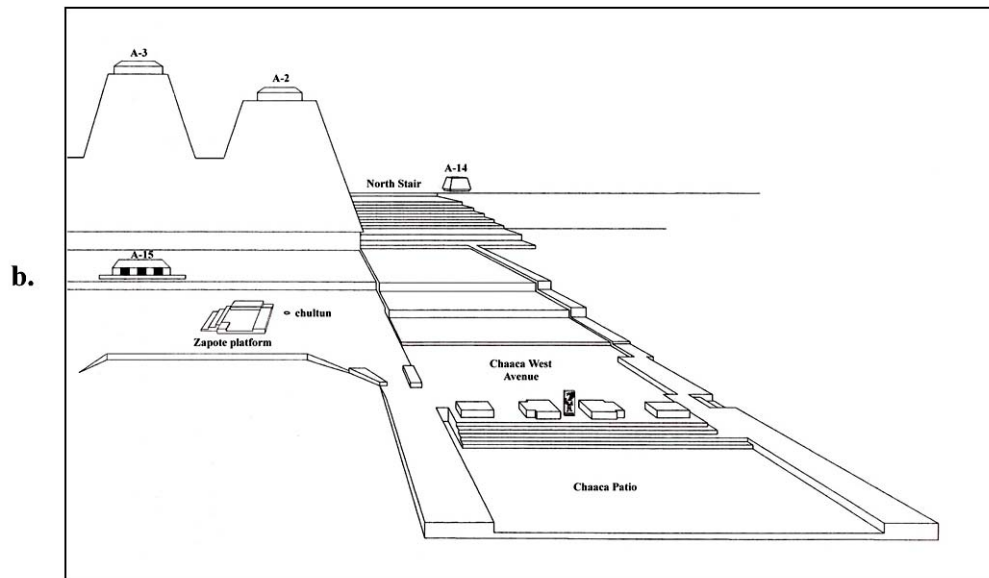
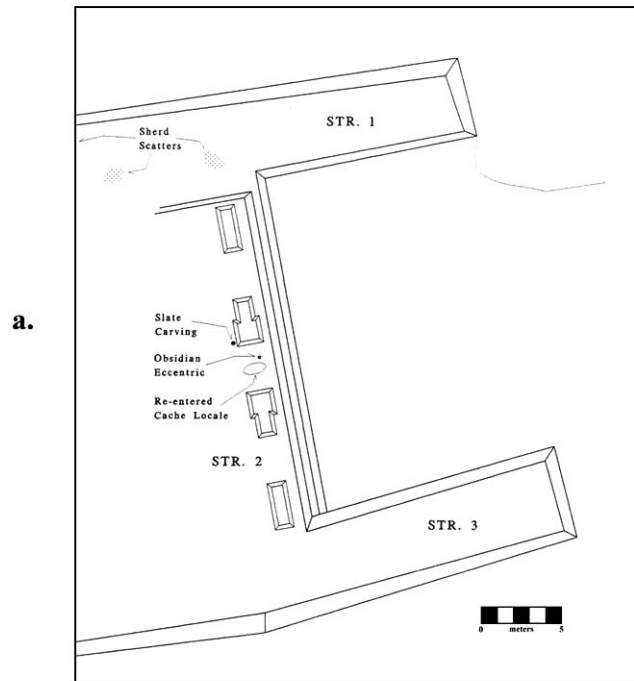


Figure 2.26a. Plan of the proposed northeast entrance to the site center at Xunantunich, Belize (after Keller 1995:Fig. 5); 2.26b. reconstruction drawing of the same proposed entrance (after Keller 1995:Fig. 6).

not have been a viable entryway during Terminal Classic (Keller 1995:89; LeCount 1996:246; Leventhal 1996:13-14). Thus, access to the site center was dramatically reduced following demolition of the apparently most convenient and public entrance to the site.

Construction of increasingly inward focused buildings and compounds. A final trend that becomes evident as the Classic period progresses is the increasingly inward orientation of individual buildings and architectural groups. Pendergast (1986a, 1992) has made this observation relative to the galleries added to civic-ceremonial structures at Lamanai and Altun Ha. As he suggests, buildings which were formerly open during the Early Classic become decidedly “claustral” during the Late Classic period due to the construction of visually inaccessible interior spaces (Pendergast 1992:63; see also Chase and Chase 2001:113). Range structures added to larger buildings at Caracol, Xunantunich, and other locations produced a similar effect. The same seems to be true of larger architectural groups. In the case of Complex A-V at Uaxactun, replacement of the group’s Early Classic civic-ceremonial structures with four abutting range structures lead to a greatly increasing the number of rooms in the compound and focused activities on the group’s interior courtyard (Figure 2.17b) (Andrews 1975; Proskouriakoff 1946, von Falkenhausen 1985:120-121). This same pattern is evident in more functionally continuous contexts. At Cahal Pech there is clear evidence of open access between Plazas A, D, and E and dominant Plaza B early in the Classic period (Awe et al. 1991:28). However, during the 7th century, the undeveloped margins of Groups A, D, and E are in-filled with construction and they are converted into sunken courts (Figure 2.14). So insular do these building groups become that access was probably only possible through doorways penetrating the structures and via a passageway between Structures A-4 and D-1 (Awe et al. 1991:27-28). The same seems to have been true of elite residential compounds at locations such as Caracol (Chase and Chase 2001:108). By the end of the Late Classic, many monumental groups, both residential and more strictly ceremonial exhibit this inward orientation (e.g., Harrison 1999:104, Fig. 61).

“Peopled” entryways and observation points. Each of the developments discussed above appears to have had a clear although somewhat passive effect on traffic flow patterns in Maya communities. In most of the noted cases, features of the built environment seem to have encouraged movement in desired directions by eliminating other options. The same appears to be true of visual access to spaces. However, in a few noteworthy instances, architectural forms present in Late Classic period contexts suggest more active efforts to monitor and/or regulate movement of people into communities and between their constituent spaces. Although they doubtless possessed other functions as well, particularly tall buildings probably doubled as observation points from which visitors to communities and certain local social segments were monitored (à la Foucault--see Chapter 5). Masonry towers documented at Palenque and Tikal could have conceivably served such functions. In both cases, these anomalous (yet apparently functionally specialized) Late Classic period structures were constructed within the confines of elite residential compounds (Figures 2.10 and 2.27). While enclosure of architectural groups probably rendered compound interiors increasingly off-limits to “outsiders”, it also reduced the occupants’ visual command of the surrounding community. Construction of elevated observation points may have reinforced social inequity by establishing unequal visual relationships between different parts of Classic period Maya communities (e.g., Foucault 1980, 1995--see Chapters 4 and 5).

A second noteworthy type of feature that suggests the actual peopling of entry points has been documented at Classic period Caracol. In a discussion of “palace” complexes at the site, Chase and Chase (2001:112, 116) note a recurrent pattern relating to entrances to apparently highly-restricted access elite residential/civic-ceremonial areas. Significantly, entrance to several elaborate compounds at Caracol could only be gained by passing through a single exterior doorway in a long structure. In a number of cases, this passage-like room is flanked by pairs of benches. As the authors (ibid.) indicate, this arrangement suggests monitoring of individuals seeking entry to the compounds’ interior spaces and may even be evidence of guard posts. This

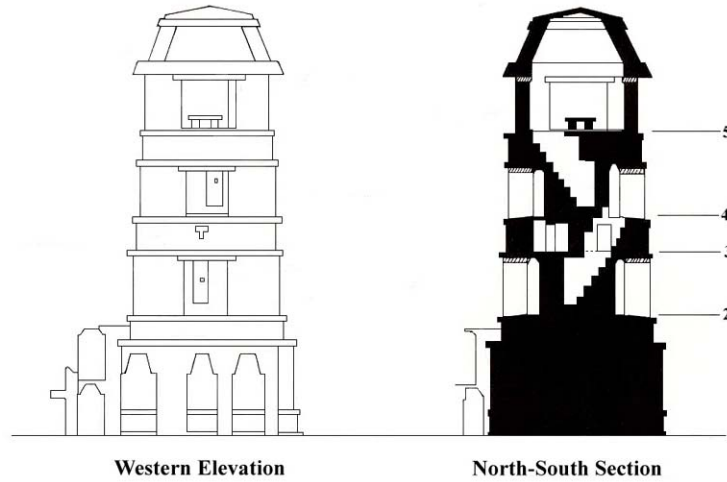


Figure 2.27a. Section and elevation of the Tower of the Palace Complex, Palenque, Chiapas, Mexico (after Robertson 1985:Fig. 5).

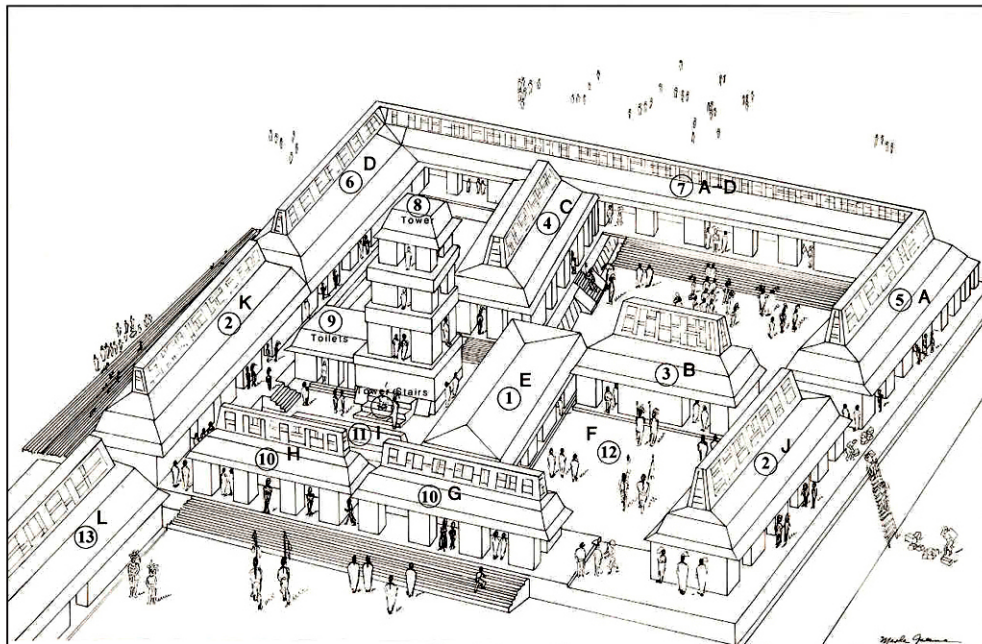


Figure 2.27b. Reconstruction of the Palace, Palenque, Chiapas showing the construction sequence of its components (after Robertson 1985:Fig. 5).

pattern characterizes the outer room of the southernmost “midrange palace” of Caana, as well as the southern range structure that would have had to be negotiated to gain entry to the courtyard on the summit (Figure 2.5). Similar suggestions have been made at Palenque. Based on placement of a bench at the top of the stairway leading down to the South Subterranean passage at the western end of House H in the Palace Complex at Palenque, Robertson (1985:82) suggests this may likewise have functioned as a guard station.

Interpreting Patterns in the Built Environment

As is clear from the preceding discussion, these architectural modifications reported from various Late Classic period Maya sites are complex, overlapping, and at least sometimes inter-related. Documenting these patterns is one thing. Explaining them is another. While the actual effects of the developments outlined above are uncertain, surprisingly few scholars have considered their potential behavioral consequences. In characterizing temporally-specific spatial patterns, Fry (1985:134) surmised that “...Classic period rituals were increasingly isolated from larger scale public viewing; plazas which were previously quite open became cut off from most of the populace, and rites in temples were conducted in small rooms out of sight of the bulk of the viewers.” Fry (*ibid.*) interprets architectural evidence as suggesting that ceremonial precincts became visually and physically restricted spaces by the end of Late Classic, with people being channeled through an increasingly limited number of entryways into smaller plazas dominated by ever larger building groups. Von Falkenhausen (1985) similarly suggested that restricted patterns of accessibility to monumental buildings which develop during the Late Classic apparently “entail a [de-emphasis] of popular participation in whatever activities were performed in them” (1985:121). While these views are important, they have not been explored in great detail.

Pendergast (1986a, 1992), Leventhal (1996, 1997), and Awe et al. (1991) are among the few scholars who have attempted to explain these patterns relative to broader sociopolitical changes. Leventhal (1996:14) offers the most specific explanation, interpreting transformation of

the built environment at Xunantunich as evidence of political and social dissolution in the community. Assuming that buildings clustered around Plaza A-III at the site constitute the Late-to-Terminal Classic period royal residence, he infers the royal family sought to “separate themselves more and more from the general population and to maintain their power and control by physically separating themselves from the Xunantunich community.” Pendergast has addressed the same set of issues based on comparison of patterns at Lamanai and Altun Ha, interpreting architectural transformations as “expression in stone of an ever widening gulf between rulers and ruled” (1992:63). Pendergast (1992) and Leventhal’s (1992) views clearly complement each other. While preliminary, these interpretations are also important because Mayanists have generally failed to explain these architectural changes. Awe et al’s (1991) thoughtful consideration of implications of similar spatial patterns at Cahal Pech is important for the same reasons. Each of these studies, nevertheless, has certain limitations. While systematic, insightful, and admirably hypothesis driven, Leventhal’s (1996, 1997) work is limited to an intra-site analysis. Pendergast’s (1986a, 1992) treatment of the architecture at Lamanai and Altun Ha is the only truly comparative discussion of which I am aware. Pendergast’s thoughtful and cautious conclusions allow explicit testing. Awe et al.’s (1991) discussion of the architecture at Cahal Pech is set apart from those at Xunantunich, Lamanai, and Altun Ha by the authors’ groundbreaking use of quantitative spatial analysis. The study, however, is restricted to a basically synchronic, intra-site focus.

Maya monumental architectural is immensely challenging to investigate. Due to temporal and financial constraints, site-specific issues of architectural preservation, and consolidation concerns, no study of the Maya built environment is without limitations. But these previous efforts have paved the way for application of largely unexplored methods of spatial analysis to diachronic patterns in the built environments at Lamanai, Chau Hiix, and Altun Ha.

CHAPTER 3

ARCHITECTURAL AND SPATIAL THEORY

This project investigates the extent to which the configuration of space in Maya centers structured (and was structured by) interactions between community members and non-residents of Maya sites. I examine the possibility that “architecture is the thoughtful making of space” as opposed to assuming that building size, placement, and orientation simply reflect the availability of construction sites and the function of the buildings themselves (Kahn in Weigand 1999:57). This chapter focuses on the spatial and architectural analyses used to explore these issues. Since few attempts have been made to apply formal analyses to the Maya built environment, this section begins by considering the range of approaches that have been employed by archaeologists and art historians working in other cultural and temporal contexts. It then traces the relatively brief history of spatial approaches to architecture in the Maya area. The chapter concludes with a discussion of space syntax analyses developed by Hillier and Hanson (1984) and others since it is certain of these methods that will be applied to the architecture at Lamanai, Chau Hiix, and Altun Ha.

Archaeological Applications of Architectural Analysis

“Spatial analyses” take a wide variety of forms and have been applied in numerous cultural and temporal contexts (e.g., Hodder and Orton 1976). Studies emphasizing spatial dimensions include the distribution of artifacts across space, the layout of epicentral buildings (Ashmore 1989, 1991), and the arrangement of larger settlements. Data from these researches have informed the reconstruction of political divisions on the basis of nearest-neighbor and Theisson polygon models borrowed from human geography and other disciplines (e.g., see Hammond 1972a; Mathews 1991; Marcus 1993). Other studies, such as Clarke’s (1972) classic analysis of Iron Age Glastonbury, represent multi-component considerations that examine vertical and horizontal spatial relationships together with structural and artifact relationships. In

this particular case, Clarke's analysis produced a social reconstruction of the Iron Age community (1972:839). In the present context, the spatial analysis is somewhat narrower, focusing on spatial subdivisions evident in the layout of individual buildings and elaborate architectural groupings commonly found at the core of late pre-Hispanic Maya communities. Like Clarke's (1972) work, however, this dissertation relates the patterns defined by spatial analyses to social reconstruction(s).

Spatial analyses of the built environment have been most widely applied by archaeologists working in the British Isles and it is here that the techniques have the greatest time depth. As discussed by Fairclough (1992:351), formal architectural analyses were developed in the 1950s by architect Patrick Faulkner (1958). Faulkner devised "planning diagrams" in order to analyze the inter-relationship and functions of rooms in complex medieval buildings under restoration by the Ministry of Public Buildings and Works. While originally applied within the context of historic preservation, the archaeological value of these methods was immediately recognized and Faulkner's results were published in the archaeological literature (Faulkner 1958, 1963). As described by Fairclough (1992:351), Faulkner's planning diagrams are schematic representations of building layout that illustrate relationships between various architectural components from the perspective of people using the building. Fairclough (*ibid.*) notes that emphasis is placed on the patterns of contact encouraged/facilitated/established between the building's occupants. While attention is devoted to issues of controlled passage into architecturally circumscribed spaces in "planning diagrams", they differ from "access diagrams" (see below) in that they do not concentrate on the architecturally expressed tension between residents and non-residents. Planning diagrams instead emphasize internal relationships, placing greater importance on movements between rooms than on physical form or room location. While generally quite faithful to building layouts, these diagrams facilitate analysis of functional planning by highlighting the inter-relationship and grouping of rooms (Figure 3.1).

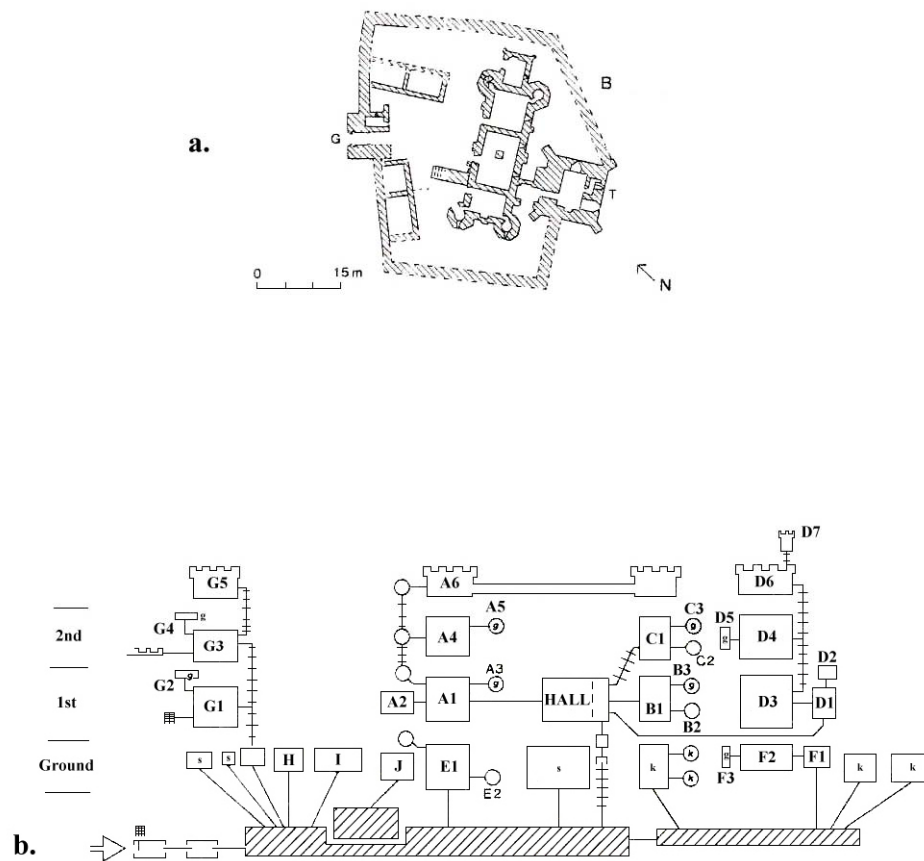


Figure 3.1a. Plan of Edlingham Castle, Northumberland, dating to A.D. 1365 (after Fairclough 1992:Fig. 3b); 3.1b. Planning diagram of Edlingham Castle (ca. A.D. 1365) with stairs shown as ladders and access indicated by lines between boxes, whose size proportionally represents the floor area of each room. Shaded areas represent courtyards; k = kitchen and related rooms; s = storage and offices; g = garderobes (redrawn after Fairclough 1992:Fig. 5).

As discussed by Fairclough (1992:351), the principles underlying Faulkner's planning diagrams were adopted by scholars studying British medieval buildings in the 1970s (Dixon 1978; Gilyard-Beer 1970; Morley 1976; Emory 1970). These graphical representations, which allow comparison of building layouts, gained increasing popularity in the 1980s, and were drawn upon to analyze a series of English medieval manors (Emory 1985; Fairclough 1982; Morley 1981). Subsequently, they were incorporated into broader theoretical and methodological approaches to the built environment (e.g., Hillier and Hanson 1984).

Space Syntax

While formal architectural analyses have been employed since the 1950s, the reflexive and interconnected nature of space and society has been most emphatically asserted by Hillier and Hanson (1984) of the Unit for Architectural Studies at Cambridge. These scholars have argued that social relations are structured in spatial configurations and that these have a direct bearing on forms of social interaction (Ferguson 1996:11). Basic to Hillier and Hanson's (1984) theories of space syntax are the premises that: (1) spatial organization is a function of differentiation, (2) that contrasts can be identified between aggregation and containment and between ideological and transactional spaces, (3) and that there is a direct correlation between the nature and organization of society and the degree of order imposed on building form and use of space (Fairclough 1992:349). The authors emphasize distinctions between "inhabitants" and "visitors" as expressed in the built environment, focusing on the relationship between spatial patterning and social encounter (Hillier and Hanson 1984:15-19; Gilchrist 1988:26).

In conjunction with their theory of space syntax, Hillier and Hanson (1984) propose the application of a series of measures, including access analysis of buildings and settlements to gain insight into social relations. These analyses are divided into two basic sets: "gamma" analyses, which relate to individual buildings, and "alpha" analyses, which are most effectively applied to

larger and more open settlement systems. The methods specific to each type begin with graphic representations of architectural plans.

In the case of alpha analyses, the central challenge involves description and quantification of the open space of settlements. Hillier and Hanson (1984) developed what they term “axial maps” and “convex maps” in an effort to characterize settlement space and approach architecturally defined space in terms of its relative “stringiness” and “beadiness” or “fatness” (measured in one and two dimensions, respectively). Axial maps amount to graphs depicting the least number of articulating straight lines that can be drawn through each of the convex spaces composing a settlement plan (Figure 3.2), while convex maps show the minimum number of two dimensional spaces into which the settlement can be divided (Figure 3.3). So-called axial and convex “articulation factors” can be generated by dividing the number of axial lines (or convex spaces) by the number of buildings composing a settlement (Hillier and Hanson 1984:98-99). Once these numerical measures have been generated, settlements can be compared in terms of their axially and convexity (Hillier and Hanson 1984:97-100). These analyses are best suited to examining densely-packed settlements derived from the western European tradition which are composed of a combination of roads/streets/avenues/thoroughfares interspersed with broader plaza/square/ piazza-like spaces. With the exception of their epicenters, most modern communities are much less densely packed than the crowded medieval towns Hillier and Hanson (1984:90-91) use to demonstrate alpha analysis. This complicates use of the technique. Instead of simply consisting of buildings and streets, many communities have a substantial number of large, poorly defined, architecturally undeveloped areas (parks, lawns, parking lots, etc...) that cannot effectively be separated from thoroughfares. Ancient Maya communities are even more problematic to examine due to their lack of grid organization, excessive amounts of continuous open space, uncertainties about architectural contemporaneity, invisible buildings, and our extremely poor understanding of the movement of traffic through inter-structures spaces. (The

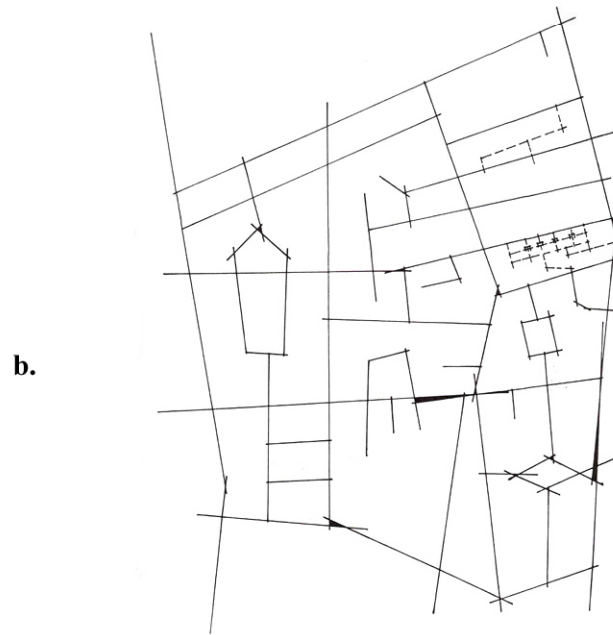


Figure 3.2a. Map of Barnsbury area of North London (after Hillier and Hanson 1984:Fig. 62); 3.2b. Axial map of the same area of Barnsbury shown in Figure 3.2a (after Hillier and Hanson 1984:Fig. 63).

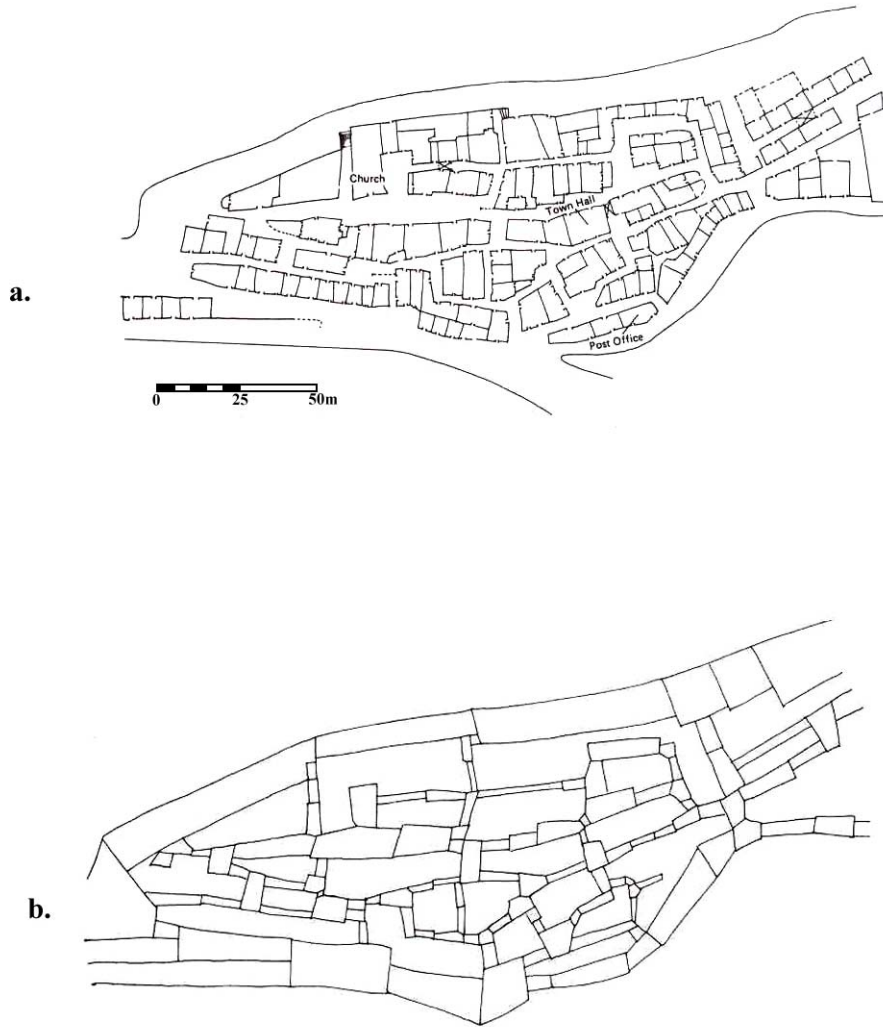


Figure 3.3a. Map of town in the Var region of France (after Hillier and Hanson 1984:Fig. 25); b. Convex map of the same town (after Hillier and Hanson 1984: Fig. 29).

inconsistent presence of causeways and their limited numbers in even the most populous Maya communities suggests most formal pathways, assuming their existence, are archaeologically invisible). These factors render alpha analysis next to useless in the Maya area.

Gamma analyses, on the other hand, are designed to describe the more completely bounded spaces of discrete units (buildings). As developed by Hillier and Hanson (1984), “gamma maps” or “access diagrams” emphasize the interconnectedness of space and document the permeability of spaces relative to others. Construction of access diagrams begins with identification of a “carrier space”, an exterior area such as a street or courtyard that provides access to a room or conglomeration of interconnected rooms. Access diagrams take the form of simplified representations of building plans with rooms depicted as dots and routes of movement between rooms marked with lines (Figure 3.4). Unlike the previously discussed “planning diagrams”, access diagrams generally disregard differences in room size and focus on patterns of access to space from others (Hillier and Hanson 1984:149-150; Moore 1996:184). Access diagrams can furthermore be justified, which involves assigning a value to each space based upon the number of rooms that an individual must pass through to gain access to a space relative a carrier space. Justified access diagrams use a convention whereby all points of a certain depth (e.g., the minimum number of steps necessary to reach a room from a carrier space) are positioned on the same horizontal line, and all subsequent depth values are positioned on lines parallel to the first (see Figure 3.4c) (Hillier and Hanson 1984:149; Foster 1989:42). The usefulness of gamma maps lies in their ability to depict the interconnectedness of spaces and to make clear the number of rooms an individual must pass through to reach a room more remote from an initial point of entry to the building. Access diagrams are excellent tools in comparing building layouts because of their ability to simplify visually complex ground plans and to quantify spatial relationships and potential patterns of movement within structures. Spaces can not only be compared in terms of “depth”, but access diagrams allow for discussion of different

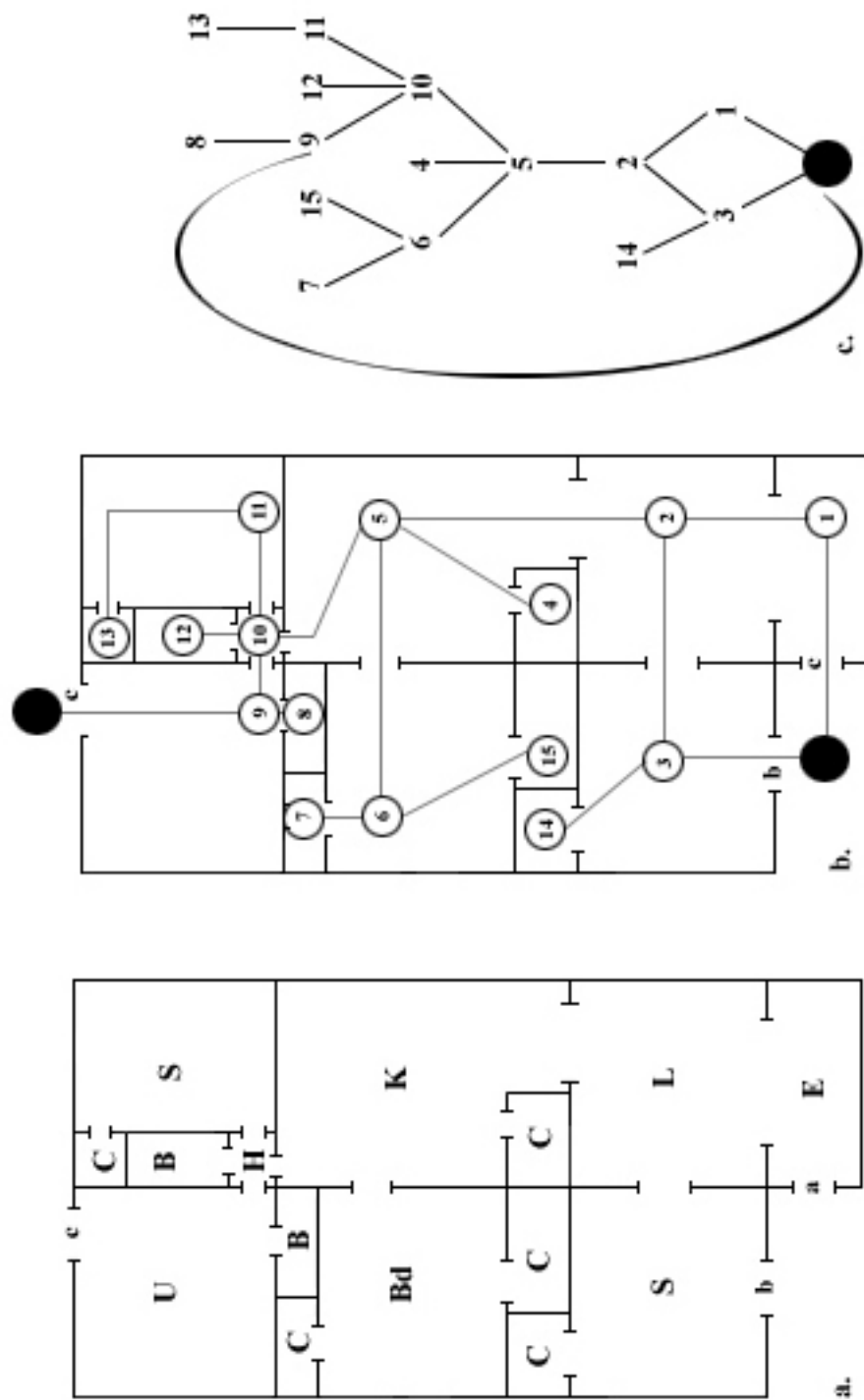


Figure 3.4a. Plan of house in Bloomington, Indiana; b. unjustified access diagram of the same building; c. justified access diagram of the same building (justified from the perspective of entrance through Doorway "a") (drawn by C.R. Andres).

architectural configurations relative to variations in other spatial characteristics. Hillier and Hanson (1984), for example, emphasize the significance of “symmetry” vs. “asymmetry” and “distributedness” vs. “nondistributedness”. The former relates to the potential capacity of a space to control access to adjoining spaces (e.g., Figures 3.5a and 3.5b), while the later describes the presence or absence of more than one independent route of access to a space (e.g., Figures 3.5c-d) (Hillier and Hanson 1984; Moore 1996:185). As Foster (1989:42) suggests, these variations in spatial arrangements have the potential to “...impart social information about the realities of living in, or visiting, [a] particular building: where and how frequently physical encounters might be made between occupants and/or between occupants and strangers, and how these encounters might be controlled.” If one subscribes to the basic premise of Hillier and Hanson’s (1984) argument, spatially segregated, asymmetrical, nondistributed architectural complexes are typical of social structures characterized by pronounced social inequality (Van Dyke 1999:463).

Networks graphs, beta indices, and measures of relative asymmetry (RA values) are three additional forms of analysis adapted from space syntax that are employed in subsequent sections of this dissertation. While discussions of the intricacies of these approaches can be found elsewhere (e.g., Hillier and Hanson 1984; Moore 1992, 1996; Smith 1975; Steadman 1983), the following provides a brief explanation of the techniques.

As discussed by Moore (1992; 1996), graph analysis and beta indices provide additional ways to examine access patterns in the built environment. Network graphs are a means of analyzing the interconnectedness of units (rooms) in a network (an architectural complex). These graphs plot equations reflecting the relationship between the number of “vertices” (rooms) and number of “edges” (connections or doorways) in a network (Moore 1996:186-187). An ideal network is characterized by complete interconnection of all units and is represented by the equation $E = 3V - 6$. This exists in opposition to networks in which each room communicates with only one other room (producing one less connection than the total number of rooms or the

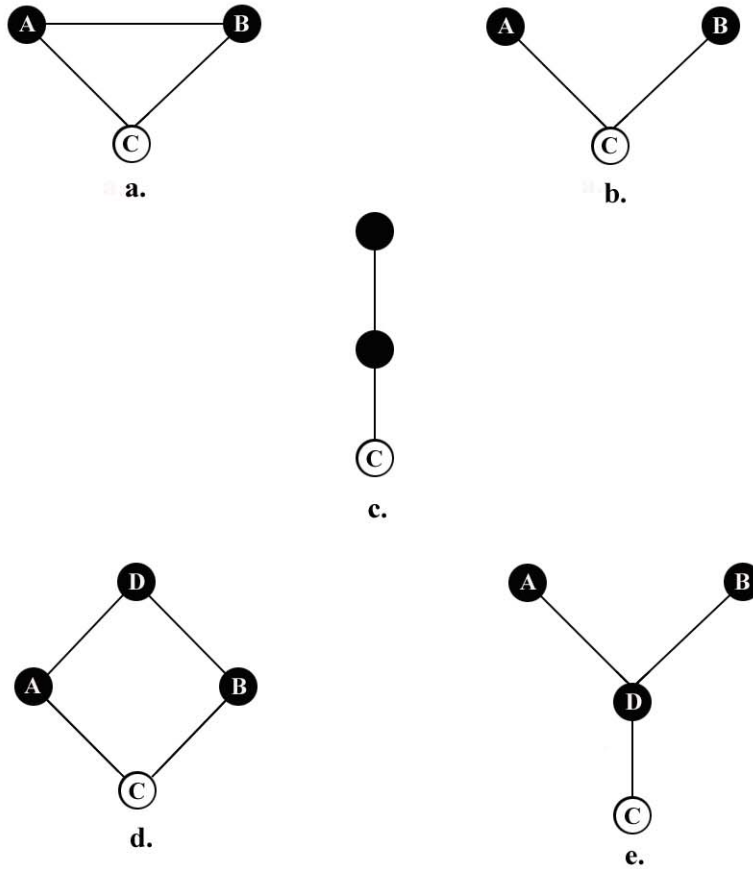


Figure 3.5a. "a" and "b" are in a symmetric and distributed relationship relative to "c"; b. "a" and "b" are in a symmetric and nondistributed relationship relative to "c"; c. "a" and "b" are in a nondistributed and asymmetric relationship relative to "c"; d. "a" and "b" are in a symmetric relationship relative to "c", but "d" is in an asymmetric relationship with both relative to "c"; e. "d" is in a nondistributed and symmetric relationship with "a" and "b" (which are asymmetric to each other relative to "d" and "c") (redrawn from Foster 1989:Fig. 2).

equivalent of a chain of units). This second relationship is expressed by the equation $E = V - 1$. Due to the range of constraints determining the actual built environment, complete interconnectedness ($E = 3V - 6$) is often absent. As Moore (1996:187) notes, there is a decided tendency for values to diverge from complete interconnectedness as the number of rooms in a network increases. Since values approaching $E = V - 1$ signal restricted access and those approaching $E = 3V - 6$ indicate relatively unrestricted access, large discrepancies between E and V are useful measures of these conditions (Moore 1992:102-103).

The beta index is also a useful measurement. Expressed as $b = E/V$ (where again V = number of rooms and E = number of doorways), the beta index reflects the overall complexity of a graph. As Moore (1992:103) indicates, beta indices of less than 1.0 tend to reflect disconnected graphs, while indices approaching a maximum value of 3.0 indicate an increasing number of doorways (greater accessibility). Beta indices are therefore another way of comparing access patterns in architectural complexes.

Finally, measures such as relative asymmetry (RA) can also be used to explore the layouts of Maya architectural complexes. As discussed by Hillier and Hanson (1984:108-109, 152), depth necessarily involves asymmetry because spaces are only “deep” relative to others if it is necessary to pass through intervening spaces to reach them. The measure of relative asymmetry provides a means of gauging the integration of a network by “comparing how deep the system is from a particular point with how deep or shallow it theoretically could be - the least depth existing when all spaces are directly connected to the original space, and the most when all spaces are arranged in a unilinear sequence away from the original space” (Hillier and Hanson 1984:108). The RA value of a room is calculated by first determining the “mean depth” of the system from that point. This is done by assigning a depth value to each room based on the number of spaces that separate it from the original space. (In other words, calculating relative asymmetry involves treating each room as if it is the carrier). The resulting depth values of all points are then added together and divided by one less than the total number of rooms in the

building. Once the mean depth (MD) of the system has been established from a room, the RA value can be calculated according to the equation: $RA = 2 (MD - 1)/k - 2$ (where “k” is equal to the total number spaces in the system- including the original carrier). As Hillier and Hanson (1984:108-109) explain, the resulting value will fall between 0 and 1, with low values “indicating a space from which the system is shallow...and high values a space which tends to be segregated from the system.” Once the RA has been established, an analyst can calculate the mean RA value. This is a potentially useful measurement since it provides an average integration value for the spaces making up a building.

Scholars have expressed concerns over the theoretical foundation of space syntax because of the overly deterministic role Hillier and Hanson (1984) attribute to the built environment (e.g., Markus 1993; Smith 1999). However, numerous scholars, including many of those who outright reject Hillier and Hanson's theory have emphasized the usefulness of their methods in analyzing the built environment. Scholars working in the Old World have demonstrated particular interest in these forms of spatial analysis (Yiannoulli and Mithen 1986; Foster 1989; Gilchrist 1988, 1996; E. Scott 1990; Fairclough 1992; Steadman 1996; Smith 1999). Gilchrist (1988) has employed certain of Hillier and Hanson's (1984) techniques in examinations of medieval gender relations. Emphasizing the capacity of space to “map social relationships by expressing dominant and subordinate roles and group membership” (1988:21), Gilchrist uses access analyses to consider encounters between the genders in English medieval nunneries and to measure the social and spatial segregation of women. Her comparative study of the layouts of 8 nunneries vs. the spatial properties of 8 monastic facilities suggests the generally more cloistered aspect of nunneries--a pattern she interprets as emphasizing the nuns' “chaste fidelity as Brides of Christ” during the Middle Ages (1988:26-27). Fairclough (1992) and Foster (1989) similarly employ access graphs and architectural planning diagrams to illuminate changes in social organization relative to spatial patterns in medieval English castles and Scottish Iron Age buildings. Foster (1989) applies Hillier and Hanson's (1984) gamma analysis (access diagrams) to Middle Atlantic

Iron Age (ca. 100 B.C.) brochs or radial fortresses in Orkney, Scotland (including Guerness, Lingro, and Howe), demonstrating the extent to which visitors were excluded from certain areas of the settlements and the central fortresses, how upper levels of the brochs were the most restricted (presumably highest status) spaces, and differences in accessibility between the brochs and surrounding settlement components. In his more recent study, Fairclough (1992) traces the development of Edlington Castle, Northumberland, an example of a northern tower house, from the perspective of changes in access observable between A.D. 1300 and 1575. Using access diagrams, he demonstrates a cyclical shift in the function of the castle from a symbol of social importance to a defensive edifice to a complex that primarily served as an ostentatious display of wealth (1992:359-360). He is able to combine his observations regarding the complex's changing layout with historic records to offer an informed interpretation of the motivations governing changes in the architecture. Finally, Smith (1999) has made effective use of multiple forms of spatial analysis in his consideration of the development and dissolution in the seventh century B.C. of the Urartian Empire on the Ararat and Shirak plains in southern Transcaucasia (modern day Armenia and parts of northeastern Turkey). In his study, Smith (1999) compares the changing locations and architectural layouts of Early Iron Age and Urartian fortresses. Smith is able to demonstrate a marked shift in the placement of fortresses from elevated, inaccessible, and easily defensible locations during the Early Iron Age to lower and more accessible locations during the Urartian period. This is interpreted as reflecting changing rulership strategies which placed the state much closer to its subjects and provided a basis for control rooted in "regularized interactions" (1999:57). Smith also uses Hillier and Hanson's (1984) access maps to examine the spatial qualities of individual fortresses. Compared with earlier complexes whose form was often topographically determined, Smith (1999:97) interprets the more standardized layouts of Urartian fortresses and their functionally distinct economic, bureaucratic, and religious spaces as evidence of "integrated governmental package[s]" imposed at times of imperial expansion.

Architectural Analysis in New World Contexts

Hillier and Hanson's (1984) space syntax has also received the attention of New World archaeologists. Specifically their methods have been applied to pre-Hispanic architectural complexes in the Andes (e.g., Bawden 1982; Isbell et al. 1991; Moore 1992, 1996; Mosley and Day 1982) and the American Southwest (e.g., Cooper 1995; Ferguson 1996; Potter 1998; Van Dyke 1999).

T.J. Ferguson (1996) has effectively employed Hillier and Hanson's (1984) methods to document the development of historic Zuni society in western New Mexico. Focusing on settlements inhabited at various points from the early 17th century through the present, he notes changing spatial patterns in both settlement organization and the internal ordering of residential architecture at a range of locations. Considering spatial dynamics from the perspective of both gamma and alpha analyses, he interprets these changes in light of well-documented social transformations and pivotal historic events. In the case of Zuni, a high degree of organic solidarity is indicated by spatial patterns that apparently encouraged social interaction between the pueblo's residents during the 17th century (1996:145). Ferguson is able to trace transformations in the structure of open space associated with varying levels of Spanish interference and defensive concerns during periods of Navajo and Apache raids. Spatial transformations in the suburbs of these communities are likewise interpreted as reflections of social change at the household level. Specifically, a movement towards increasing privacy in household units appears to correspond with the fragmentation of relatively large economic groups into smaller nuclear family based units. Application of certain of Hillier and Hanson's methods ultimately allows Ferguson (1996:147) to correlate increasing privacy in Zuni communities during the historic period with a decreased "need to interact in joint economic pursuits."

Van Dyke (1999) applied space syntax to the Chacoan outlier of Guadalupe in an effort to evaluate the extent to which spatial patterning specific to this complex complemented patterns identified at other locations in the Southwest (e.g., Cooper 1995; Potter 1998). In this particular

case, Van Dyke (1999:469) discovered that her analysis generally discouraged interpretations of Anasazi great houses as complexes displaying extreme levels of social inequality. However, she carefully qualifies her results. While suggesting that her analysis accurately characterizes social interactions and relationships internal to the Guadalupe great house, she acknowledges that much more extensive social inequality is likely to have existed in larger Anasazi communities, which included both great houses and smaller outlying residential complexes (Van Dyke 1999:469).

Jerry Moore (1992, 1996) has likewise drawn upon Hillier and Hanson's techniques (access graphs, route maps, and line-of-sight analyses) to explore assertions concerning the layout of *ciudadelas* and proposed patterns of social control in Chimu centers in Peru (e.g., Keatinge and Conrad 1983:264). Moore (1992, 1996) has employed Hillier and Hanson's (1984) methods to explore previous suggestions that *ciudadelas* demonstrate a movement towards increasingly restricted patterns of access and social control (e.g., Day 1982:65; Kolata 1990:140-142). U-shaped rooms or *audiencias* in *ciudadelas* are traditionally suggested to reflect this tendency. Specifically, Day (1982:64) and others have noted the close relationship between storerooms and so-called U-shaped rooms (*audiencias*) and posited that *audiencias* were administrative control points that allowed for monitoring of storage areas. Moore, however, questioned this assumption and used access diagrams and line-of-sight analyses to demonstrate otherwise. The results of his analysis suggested that (1) U-shaped rooms were not always located in the most strategic locations; (2) that they did not consistently co-occur with storage rooms; and that (3) it would have been possible to gain access to the majority of the storerooms without in fact being seen from the *audiencias* (Moore 1992:108; 1996:206-209). In short, Moore's (1992, 1996) findings indicated a need to reevaluate the hypothesized function of U-shaped rooms in Chan Chan and their broader meaning elsewhere on the Peruvian North Coast. This important work has led to reconsideration and refinement of these distinctive architectural features (e.g., Topic 2003).

Ultimately, the transparency, replicability, and quantitative nature of these methods are attractive because of their potential to minimize the subjectivity typical of more impressionistic

architectural analyses (Fairclough 1992; Foster 1989:41; Moore 2000).

Architectural Analysis in the Maya Lowlands

Graham Fairclough (1992:355) defines spatial analysis as “the measurement of a building or a settlement in units or patterns that allow interpretation and comparison with other sites” and suggests that such analysis leads to ways of “seeing” and “understanding.” Maya archaeologists have brought only a limited number of analytical techniques to bear on the built environment. As a result, our capacity to “see” and “understand” potentially meaningful patterns is not nearly as well-developed as it might otherwise be (see Smith 2000 for a discussion of the extent to which Maya archaeology lags behind other study areas in this regard).

Somewhat paradoxically, it is the very richness of the archaeological record that has discouraged Mayanists from evaluating potentially innovative approaches applied to built environments in other parts of the world. As anchors for elaborate iconographic programs and inscriptions, Maya buildings have in many ways been approached as texts or as “information-projecting engines” (de Montmollin 1995:65). The obviously communicative aspects of Maya monuments clearly justify such analysis (e.g., Schele and Freidel 1990; Schele and Mathews 1998, etc...). However, a preoccupation with architectural ornamentation has resulted in an emphasis of hermeneutic and semiotic approaches to buildings at the expense of spatial analyses. Hillier and Hanson (1984:8) note that this as a common tendency in architectural analysis and discuss the way scholars strive to show:

...how buildings represent society as signs and symbols, not how they help to constitute it through the way in which the configurations of buildings organise space. They are in effect dealing with social meaning as something which is added to the surface appearance of an object, rather than something that structures its very form; and in this sense the building is being treated as though it were no different from other artefacts.

Hermeneutic and semiotic approaches to Maya architecture clearly are not inappropriate. However, they are incomplete. Due to focus on epigraphy and iconography, a tendency emerged in the 1980s and 1990s to view the Maya built environment as passive. Buildings were

commonly approached as backdrops for “grand ritual display” (e.g., Demarest 1992:148) and as “stage fronts for ritual and carriers for important religious and political symbolism” (Schele 1998:479). While the ritual activities focused on the buildings were at times viewed as generating political power (Demarest 1992:148), little consideration was given to the possibility that the built environment itself was manipulated in ways that allowed elites to structure social interactions by controlling the timing and nature of encounters with members of other communities and social groups. While some studies allow the built environment a more active role in promoting memories and making ritual “present and living even when it is not performed” (Miller 1998:192), there is a decided tendency for emphasis to revert to concern for surface treatment and iconographic viewing order. And even studies focusing on spatial aspects of architecture have emphasized the importance of building arrangements on maps over experiential perceptions of Maya architecture (e.g., Ashmore 1989, 1991).

There is no question that spatial analyses are recognized (e.g., Houston 1998:523; Webster 1998:40) and they have been employed in a limited number of cases by Mesoamerican scholars (e.g., Blanton 1989; Hopkins 1987). Mayanists, however, have generally neglected to apply such tools to the pre-Hispanic architectural corpus- a fact that has drawn substantial criticism from scholars working in other culture areas (Moore 2000; Smith 2000:206). While an awareness of the importance of spatial issues is beginning to emerge in the literature (e.g., Miller 1998:199-200; Guderjan et al. 2003:22; Chase and Chase 2001:113), and references to privacy, controlled access, the importance of the built environment in creating asymmetrical views, issues of surveillance, and control over the movement of groups of individuals via architectural means are common, these issues are almost never the primary focus of attention.

To date, only a handful of studies have sought to approach large Maya architectural complexes and entire centers from a spatial perspective (e.g. Awe et al. 1991; Hammond 1972b; Harrison 1999:183-191; Liendo Stuardo 2003; Pendergast 1986, 1992; Keller 1995; Leventhal 1996, 1997) and fewer still have systematically drawn on formal methods of analysis.

Norman Hammond (1972b) has the distinction of being the first scholar to apply spatial analysis to the layout of the monumental architecture in a Maya center. Focusing on Lubaantún, a southern Belizean site that was constructed and abandoned in an exceptionally short time span (A.D. 700-850), he considered the number of entrances to plazas in the community, rank ordered the spaces, and constructed “planar graphs” illustrating interconnections between site-center courtyards. As a prerequisite to use of planar graphs, Hammond divided the centers’ plazas into two categories, “residential” and “ceremonial”, based on the form of their constituent buildings. Planar graphs then allowed him to calculate an index of centrality and accessibility for each of the center’s plazas and to test several hypotheses. Specifically, “residential” activities were predicted to have lower degrees of accessibility in recognition of a desire for privacy, while those of presumed “ceremonial” function were anticipated to be more public. Both predictions were generally borne out by the graphing process and Hammond was able to document an overall reduction in accessibility as one moved from north to south through the site (1972b:88). The glaring exception to this pattern was several smaller “ceremonial” plazas that were ranked as relatively inaccessible. In these cases, the spaces are interpreted as private elite domains, and in one case include a sequestered ballcourt.

While not applying his analyses specifically to access-related questions, Harrison (1989, 1999) has explored the potential of more formal methods of spatial analysis in an effort to identify urban planning principles perhaps employed by Maya architects. Based on recovery of an artifact type thought to have served as a surveyor’s tool, Harrison (1999:189) has proposed that residents of Tikal employed a system of planning based on the location of pre-existing structures. Following this system, the planner would triangulate from the central doorways of two existing buildings to establish the ideal location of the central doorway of the “new” structure (Figure 3.6). Based upon examination of buildings in central Tikal, Harrison (1999:187-191)

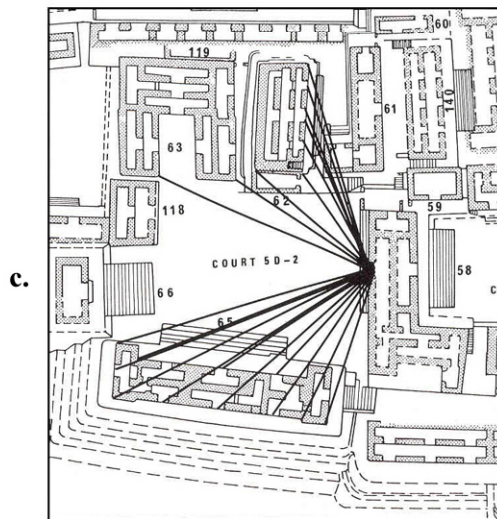
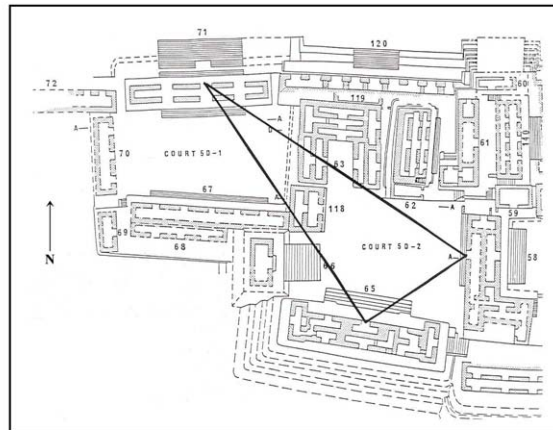
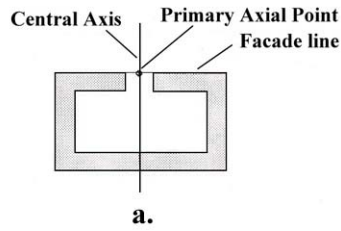


Figure 3.6a. Diagram showing the location from which Harrison suggests Maya planners surveyed key features of new buildings; **b.** illustration showing how the primary axial point of Maler's Palace (Structure 5D-52) may have been determined relative to the central doorways of Structures 5D-71 and 5D-58 at Tikal, Guatemala; **c.** illustration of how key points of Structure 5D-65 may have been surveyed by calculating right angles from points on earlier buildings viewed from the central doorway of Structure 5D-58, Tikal (after Harrison 1999: Figs. 119-121).

proposes such a technique was the means by which several important construction projects, including Maler's Palace in the Central Acropolis and much larger, farther flung ceremonial structures such as Temple V, were laid out. In light of epigraphically derived knowledge of the chronology and patronage of a number of Tikal's most substantial buildings, Harrison (1999:187-188) suggests this practice was a form of homage paid to the patrons of the earlier edifices by those of the more recent buildings.⁹ Apart from evidence present in the built environment itself, arguments that Maya centers involved substantial planning gain support from discoveries such as that of a limestone model of a Maya civic-ceremonial precinct recovered in Mundo Perdido at Tikal (e.g., Valdés 2001:139, Fig. 5.1).¹⁰ In this particular case, the model is sufficiently detailed to distinguish between common building types ranging from ballcourts to pyramidal structures (Figure 3.7). The model's surprising detail suggests that urban planning extended to issues of access as indicated by the inclusion of stairways permitting passage to raised sub-structural platforms and elevated plaza spaces. While there is little evidence the ceremonial group represented by the three dimensional model was actually constructed at Tikal, the possibility that the model served as an architect's aid or as a means of transmitting architectural information across time and/or space provides rare and provocative insight into pre-Hispanic Maya urban planning activities.

Awe et al. (1991) examined the Middle Classic period settlement at Cahal Pech in the Belize Valley from a perspective similar to that employed by Hammond (1972b) at Lubaantún. Due to its location high on a natural acropolis, Cahal Pech lends itself to a consideration of issues of access. In their analysis, the authors note there are only two entryways that provide access to

⁹ Based on his extensive architectural excavations at Lamanai and Altun Ha, Pendergast (1979:83; 1992:62) likewise argues for long term planning and the involvement of highly skilled architectural designers and supervisors during the Classic period.

¹⁰ See Moore (1996:215-217) for discussion of a wooden model of Chimu architecture that likewise provides valuable architectural information and that may also have served as a planning device.

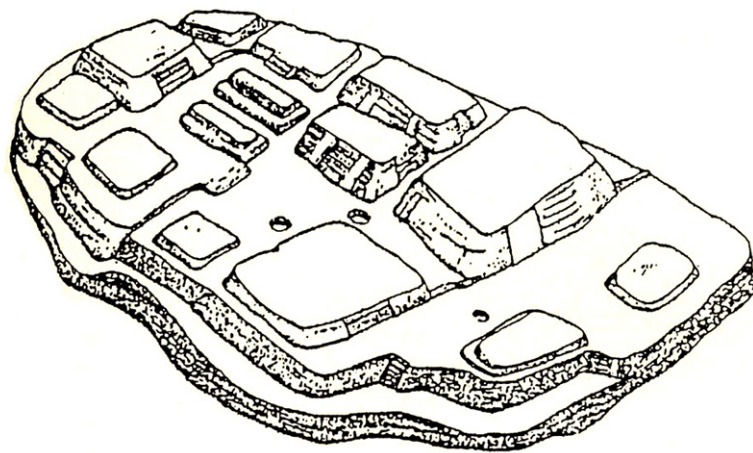


Figure 3.7. Illustration of limestone architectural model recovered from the Mundo Perdido Group, Tikal, Guatemala. Note that the original drawing is not to scale (after Valdes 2001:Fig. 5.1).

the central precinct. Like Hammond (1972b), Awe et al. (1991) construct a simple typology, distinguishing “restricted access” from “semi-restricted access” plazas and suggesting residential or civic functions for plazas based upon their accessibility and architecture. They next constructed graphs of the 7 plazas, comparing the spaces from the perspective of their (a) areal extent; (b) elevation; and (c) the distance of the center of each plaza from the two entrances to the site center. Having considered access to the plazas relative these variables, Awe et al. (1991) established that the smallest and most highly elevated spaces were also those farthest removed from entrances to the site center. In light of these findings, the authors concluded that “a complex hierarchical system existed among the elite residing in the site center”, that the most inaccessible plazas were associated with the most elite activities, and that controlled access to these spaces by a minority constituted social power at Classic period Cahal Pech (Awe et al. 1991:29).

Hammond’s (1972b) and Awe et al.’s (1991) studies are groundbreaking and their conclusions regarding power and access to architectural space lie at the heart of this project. However, the clearly broader implications of the two studies were never explored beyond their initial site-centric contexts of discussion and the studies are basically synchronic in nature. In seeking to refine and augment these approaches, subsequent sections not only compare architectural development at multiple locations but grapple with the relationship between the built environment and changing patterns of social interaction from a diachronic perspective.

Rodrigo Stuardo Liendo is the only scholar who has sought to apply Hillier and Hanson’s (1984) methods to the Maya built environment. In a recently published paper (2003), he has begun to explore the potential of spatial analyses relative to Maya “palace” structures, undertaking the first systematic application of graph theory to Maya architecture. Stuardo Liendo limits his study to building plans, undertaking gamma (as opposed to alpha) analyses, employing “access diagrams” (or “gamma maps” after Hillier and Hanson 1984) and network graphs (e.g., Moore 1992). As previously discussed, the former technique documents the depth of architectural spaces relative to carrier spaces, while the later assigns values to spaces and

functions to measure the interconnectedness of rooms. He focuses on Maya “palaces” since these sprawling complexes of interconnected rooms possess complex ground plans most amenable to access analysis. Unlike Hammond (1972b) and Awe et al. (1991), Stuardo Liendo’s approach is explicitly diachronic in that he samples both Classic (Uaxactún, Palenque, and Tikal) and early Postclassic period buildings (Uxmal, Labna, Kabah, and Sayil) in an effort to document spatial configurations specific to these periods. Based on his identification of contrasting access patterns in palaces constructed during these two periods, he proposes functional changes in the architecture and in turn suggests these reflect broad political transformations accompanying the Classic to Postclassic transition. This application of a standardized replicable analytical methodology represents a breakthrough in countering the subjective and site specific approaches that have characterized the study of Maya architecture.

Analytical Challenges Posed by Maya Architecture

Disagreement as to the precise role of the built environment in shaping social interaction and over architecturally reflected cultural patterns, however, indicates the approach cannot be incautiously applied (e.g., Donley-Reid 1990:121; Hillier and Hanson 1984:159-160; Kent 1990a:128,150; 1990b:5). It would, for example, be misleading to approach the “final” layouts of prehispanic Maya communities as anything but the efforts of many generations or to claim that increasingly cluttered cityscapes failed to influence building placement (Ashmore and Sabloff 2002). As indicated by architectural superimposition and razing of old construction to make way for the extant, settlement structure nevertheless rarely placed absolute limits on building location.

Spatial analyses have proved particularly informative in historic contexts (e.g., medieval Europe), where social relationships are also documented by historic sources. In these situations, understanding of social structure, architectural function, and patterns of social interaction relating to the built environment are much more complete than they are in the Maya the case. Thus, our ability to interpret and explain these patterns is much more limited than in better understood

historical contexts. As discussed in greater detail in subsequent chapters, this does not lessen the value of methods of spatial analysis in the Maya area. It does, however, demand that interpretations of spatial patterns be advanced cautiously.

Several basic criticisms have been leveled at space syntax as articulated by Hillier and Hanson (1984). As indicated by a number of scholars, Hillier and Hanson's (1984) assumption that spatial organization is a straightforward reflection of social structure is an extreme and naive view. Hillier and Hanson (1984) rely heavily on Durkheimian notions of social organization in their interpretation of spatial patterning in the built environment. In their view, spatial segregation is closely linked to mechanical solidarity, while spatial integration is reflective of organic solidarity (Hillier and Hanson 1984:18, 22). While this model is applicable in some cases, failure to take into account the many other factors at work on the built environment make such blanket assumptions questionable. Incautious application of spatial analyses with disregard for issues of architectural function and cultural context can easily lead an analyst astray and result in circular reasoning (Brown 1990; Leach 1978; Van Dyke 1999:470-471). To this extent, one must be careful not assume that similar spatial patterns appearing in different cultural contexts necessarily reflect similar meanings or similar patterns of use of specific spaces (Stuardo Liendo 2003:199). While Hillier and Hanson (1984) assert that space possesses an "analytical autonomy," Leach (1978) points out that accurate interpretation of spatial patterns in the built environment ultimately relies on some knowledge of the relevant social structure. This is unquestionably the case: interpretations of spatial patterns demonstrating little regard for contextual issues must be approached with skepticism. Data drawn from whatever supplementary resources the archaeologist has at his or her disposal obviously increases the potential accuracy of the interpretations that are advanced.

An additional drawback of space syntax is evident in Hillier and Hanson's (1984) emphasis on movement, encounter, and direction of access between visitors and inhabitants at the expense of issues of architectural function (Fairclough 1992:351; Foster 1989:42). As Fairclough

(ibid.) suggests, “emphasis on access and control...[means that] reasons for access and the frequency and nature of movements and encounters tend not to be considered.” These are clearly important issues and every effort is made to take them into account in the cases examined below. Fairclough (1992:360) also identifies the contrast Hillier and Hanson (1984) present between “buildings” and “settlements” as potentially problematic, pointing out cases, such as those of medieval castles, where this distinction is not nearly as clear cut as the authors suggest. The potentially complicating overlap between these conceptual categories is considered relative to Maya architectural layouts below.

Finally, issues of architectural preservation are of course also a major challenge to spatial analyses of ancient features (Foster 1989:42). If presented with incomplete or indecipherable remains, how can one accurately reconstruct patterns of spatial organization once reflected in the built environment? However, rather than rendering spatial analyses useless, this situation calls for alternative models based on the information that is available (Fairclough 1992:353). As Fairclough (ibid.) points out, there are cases where analyses of surviving portions of buildings may even allow for provisional reconstruction of missing features via “informed extrapolation.”

Each of the potentially confounding factors noted above must be taken into account when applying space syntax in archaeological contexts. The analyst must clearly consider issues of architectural function, be open to alternative spatial layouts and interpretations arising from ambiguities of preservation, and must analyze the spatial data relative to whatever information is available concerning social organization in the particular cultural context. While Hillier and Hanson’s (1984) “theory” of society and space is too broad and overly simplistic to be anthropologically acceptable, the methods of space syntax, when conservatively applied, are useful for documenting patterns in the built environment and identifying changes in these patterns through time. These methods also have significant potential for testing hypotheses of social and political organization (e.g., Foster 1989:42; Moore 1992, 1996).

CHAPTER 4

THEORETICAL APPROACHES TO SPACE AND THE BUILT ENVIRONMENT

To this point, this dissertation has discussed patterns generally suggested to characterize Maya architecture, has introduced a range of methods and terms useful in quantifying and describing patterns in the Maya built environment, and has presented diachronic architectural data sets for the neighboring Maya communities of Lamanai, Chau Hiix, and Altun Ha. The remaining sections of the dissertation apply spatial analysis of the built environment to socio-political changes taking place in the Maya Lowlands generally during the Classic-to-Postclassic transition. This discussion adopts the perspective that a broad set of theoretical tools that transcends the culturally specific case at hand is desirable in advancing understanding of the role of architecture as a mediating agent in Maya society and in complex societies in general. With this in mind, this chapter examines a range of theoretical works that are potentially useful in interpreting the results of the spatial analyses carried out in other sections of the discussion. After briefly considering the history of relevant theoretical perspectives to pre-Hispanic Maya archaeological data sets, this chapter examines a series of primary theoretical works drawn from sociology, political science, and anthropology that provide a potentially useful framework within which to approach the Maya built environment. The chapter also considers cases in which scholars from a range of disciplines have drawn upon these primary theoretical works in discussions of architecture and social relations. Many of these works are themselves useful in assessing changing architectural configurations at Lamanai, Chau Hiix, and Altun Ha. This chapter provides the theoretical basis for the discussion undertaken in the final chapter of this dissertation.

Applications of Social Theory in Maya Archaeology

A survey of the massive literature of Maya archaeology indicates Mayanists have been much slower than scholars working in other culture areas to bring the work of social theorists to

bear on the archaeological record. This has been commented on by several authors (e.g., Love 1999:128; Marcus 1992:300-301). Although this reluctance is no doubt attributable to a variety of factors, it can be most closely related to three tendencies: an underestimating of the complexity of pre-Hispanic Maya cultural systems, an essentializing of the pre-contact Maya, and a narrow focus on the rich material culture of Classic Maya civilization. The past thirty years have been associated with a greatly improved understanding of many areas of Classic period Maya society. However, these strides have been mitigated by approaches which view the Classic period Maya through the lens of cultural evolution (see Pyburn 1997, 1998a, 2004a, 2004b for a critique of this approach). Due to the pre-contact Maya's lack of conformance to the expectations of trait list approaches, scholars have underestimated the complexity and heterogeneity of Maya social, political, and economic systems in their effort to determine whether the Classic Maya were an example of a chiefdom or a state. This emphasis on teleological categories persists in studies which approach the Classic period Maya Lowlands as home to "numerous unstable statelets" (Martin 2001:185). Unable to squeeze the Maya into Sahlins and Service's (1960) categories, a number of Mayanists are now suggesting analogies with historically documented "segmentary states", "galactic polities", "theater states", and "regal-ritual" centers of Polynesia, Southeast Asia, and Africa (e.g., Sanders 1989; Sanders and Webster 1988; Ball and Taschek 1991; Demarest 1992, 1996; Demarest et al. 2003; Dunham 1990; Fash 1998; Fox et al. 1996; Houston 1993; Sanders 1989; Sanders and Webster 1988). Even if one disregards the fact that the hierarchically structured nature of Classic Maya society makes application of a model generated to describe the "unstate-like" Alur questionable (e.g., Marcus 1995; Chase and Chase 1996:803), the asserted flexibility of this category of incipient state-level organization is such (Houston 1992:8 in Southall 1999:34-35) that the equation of Classic Maya polities with segmentary states has limited analytical utility. Proponents of such organization envision Maya kingdoms as primarily ideologically driven political units. Despite situations where advocates of these perspectives have reported data calling into question the validity of earlier claims (e.g., Demarest

1999), there is a tendency to present fresh data as exceptional rather than acknowledging the inapplicability of earlier models (e.g., Demarest 2004:173, 216-217). This reluctance is particularly strong when it comes to reconsidering the possibility that political authority in Classic Maya society had a substantial material basis and was not primarily limited to manipulation of ideological resources (e.g., Demarest 1989, 1992, 2004; Demarest et al. 2003; Freidel 1992). Despite clear indications of the complex and heterogeneous nature of Maya political economies (e.g., Dahlin and Ardren 2002; Foils 2002; Pyburn 1998a:270), scholars continue to argue for the applicability of poorly suited analogies and to extend them to the entirety of the Maya area (e.g., West 2002:185). Accumulating archaeological evidence (e.g., Chase 1998; Chase and Chase 1996; Dahlin and Ardren 2004; Pyburn et al. 1998) will almost certainly continue to undermine this increasingly untenable position. While uncritical application of inappropriate comparisons and theoretical constructs can clearly be misleading (Marcus 1983, 1995), unwillingness to consider the implications of potentially insightful approaches can limit our capacity to better interpret archaeological data. Happily, there has been a recent movement towards use of a variety of ethnographic analogies in Maya studies. This tendency is particularly evident in examinations of Maya elite residences and courtly life (e.g., Ball and Taschek 2001; Harrison 2003; Houston and Stuart 2001; Inomata 2001; Inomata and Houston 2001; Inomata and Triadan 2003). However, a general hesitancy to seek parallels between the Classic Maya and other culture groups may help explain the tendency of Mayanists to eschew the theoretical (and methodological--Smith 2000:205) tools being used by archaeologists working in other parts of the world. While some might argue this tendency is the result of a reasonable degree of culture relativism, it in fact seems to reflect the parochial and self-referential nature of Maya studies.

While many Mayanists remain resistant to applications of contemporary social theory, these intellectual frameworks have proved useful. In an effort to avoid the shortcomings of the traditional models of Maya social organization (which have been critiqued by Wilk [1988a]), Joyce (2000) and Gillespie (2000a, 2000b, 2000c) have recently drawn upon Lévi-Strauss' notion

of “house societies” (*sociétés à maisons*) as a way of examining data relevant to pre-Hispanic Maya social and domestic arrangements. This approach offers a flexible and pragmatic alternative to the constraints of lineage-based conceptions of Maya social organization (see McAnany 1995 for a history of lineage-based models in Maya archaeology). Despite the skepticism voiced by some scholars (e.g., Houston and McAnany 2003), Joyce and Gillespie’s (2000) approach appears to better accommodate much of the currently available archaeological data than the perspectives of the past and has been taken up by other Mayanists (e.g., Inomata and Houston 2001; Ringle and Bey 2001:290; Webster 2001:164).

A second (and related) point may also help account for the theoretical conservatism of Maya archaeology. This is the well-established tendency to essentialize the Maya. Notions of the Maya as “different” type of Other have their origin in the accounts of the first Europeans to visit Mesoamerica in the mid-19th century (e.g., Stephens 1841[1969]). The accompaniment of John Lloyd Stephens textual accounts by Frederick Catherwood’s high quality illustrations helped create a romanticized conception of the Maya (Figure 4.1). In addition to sparking interest in Maya culture history, this initial publication also appears responsible for instilling the notion of the Classic Maya as a mysterious, vanished civilization (Sabloff 1990). As noted by Webster (1993:416-417), elements of this perspective continue to factor prominently in the general public’s view of the pre-Hispanic Maya. And as discussed in length by Pyburn (1998b), this essentialism bleeds into the academic realm. By way of example, she notes (1998b:117) the extent to which scholars distance themselves by emphasizing non-Western conceptions of cyclical time among the pre-Hispanic Maya (when it is clear from Classic period texts that the Maya reckoned time according to both linear and cyclical systems). Thus, in a twist on the essentializing tendencies discussed by Fabian (1983) and Said (1978), scholars assert the “otherness” of the Classic Maya on the basis of the temporal distance separating subject and researcher *and* through the ancient Maya’s purportedly exotic conception of time. Like the denial



Figure 4.1. Illustration of Palenque, Chiapas by Frederick Catherwood (Stephens [1841] 1969).

of cultural complexity (discussed above), this drives a wedge between the archaeologist and his or her subject. Implicit perceptions of essential differences between archaeologists and the ancient Maya may also help explain the limited use of Western social theory in considering the Classic period built environment. To be fair, invocations of Giddens (e.g., Johnston and Gonlin 1998:145; Houston and Stuart 2001:57; Inomata and Houston 2001:11; Inomata and Triadan 2003:156, 174-175), Bourdieu (e.g., Houston 1998:523; Johnston and Gonlin 1998:142, 144-145; Houston and Stuart 2001:58; Inomata and Houston 2001:14), de Certeau (Houston 1998:522), and even Lefebvre (Webster 1998:36) are beginning to appear in publications on Maya archaeology. Unfortunately, however, only a minority of these examples (e.g., Houston 1998:522; Houston and Stuart 2001:63-64) are ever actually actively related to Maya monumental architecture and directly incorporated into any kind of architectural analysis. Oddly, the hesitancy of Mayanists to more fully explore the implications of these views relative the archaeological record would seem to reflect an unspoken belief that the Classic Maya did not actively manipulate their cityscapes to reify rulers, naturalize status differences, and influence the construction of histories despite a growing number of scholarly assertions to the contrary (e.g., Fash 1998:240, 259, Miller 1998; Schele and Freidel 1990; Webster 1998:36).

The third thread of this critique lies in the very richness of the archaeological record left by the inhabitants of ancient Maya communities. As Hammond (1983:4 in Webster 1998:17) has noted in a paper on the history of Maya archaeology, Mayanists tended to remain “immersed in facts long after those less well endowed materially had been forced to seek new ways of interpreting their material.” In short, Mayanists are slow to apply new theoretical and methodological frameworks because their data sets have not forced them to. This emphasis of the material cultural itself rather than the interpretations that can be drawn from it unquestionably continues to characterize Maya archaeology and helps explain the lack of innovation or even theoretical borrowing present in the discipline today.

Theoretical Perspectives on the Built Environment

This section considers the ideas of Foucault (1980, 1986, 1995), Scott (1984, 1990), Thomas (1996), Giddens (1984), and Girshick Ben-Amos (1999) relative to issues of space, material culture, and power. While these writings vary in focus, they offer a range of overlapping perspectives useful in considering the extent to which the built environment influenced social relationships (and vice versa) in Classic Maya society. These writings also provide a basis for considering how these domains may have interacted differently at different points in time.

Foucault's writings on prisons and heterotopias are useful in examining Maya architecture to the extent that they have a strongly spatial dimension. Foucault's (1980, 1995) discussion of the capacity of the Panopticon to reinforce power differentials via visual means provides an interesting perspective from which to consider the role of certain buildings in Maya site centers. His (1986) consideration of heterotopias suggests it may also be productive to consider how spaces in Maya centers probably reinforced power differences by means of limited access and unusual temporal associations.

The Panopticon, which figures prominently in Foucault's historical examination of penal systems, is one of the most explicit embodiments of differential power relationships in architectural history. In *Discipline and Punish* (1995) and other essays (e.g., 1980), Foucault discusses the judicial reforms of the seventeenth and eighteenth centuries. As he suggests, these saw an emphasis on punishment that took an increasingly psychological as opposed to physical form. By the nineteenth century the grisly medieval traditions of torture, mutilation, humiliation, and display were largely supplanted by an emphasis on incarceration and reform in western Europe. In discussing this transition, Foucault (1980, 1995) is widely cited for developing the idea of the Panopticon--adopted directly from Jeremy Bentham (1843). Initially conceived by Bentham's brother as an idea for a military academy, the Panopticon Bentham envisioned was the idealized plan for the fundamentally hierarchical social institution, be it a prison, school, hospital,

or factory facility. The function of the Panopticon was intimately linked to its architectural form.

As described by Foucault (1980:147), the Panopticon was comprised of:

...a perimeter building in the form of a ring. At the centre of this, a tower, pierced by larger windows opening on to the inner face of the ring. The outer building is divided into cells each of which traverses the whole thickness of the building. These cells have two windows, one opening on to the inside, facing the windows of the central tower, the other, outer one allowing daylight to pass through the whole cell. All that is then needed is to put an overseer in the tower and place in each of the cells a lunatic, a patient, a convict, a worker or a schoolboy. The back lighting enables one to pick out from the central tower the little captive silhouettes in the ring of cells. In short, the principle of the dungeon is reversed; daylight and the overseer's gaze capture the inmate more effectively than darkness, which afforded after all a sort of protection.

In Bentham's view, the Panopticon's effectiveness lay in two key qualities. The power inherent in the institution was a direct result of the simultaneous (1) visibility and (2) the unverifiability of the overseer's gaze (Foucault 1995:201). As Foucault (ibid.) suggests, an inmate in such a facility would constantly be aware of the central tower's presence without ever knowing when he or she was under direct surveillance. The invisible position of the individual stationed in the tower was a virtual assurance of order:

If the inmates are convicts, there is no danger of a plot, an attempt at collective escape, the planning of new crimes for the future, bad reciprocal influences; in they are patients, there is no danger of contagion; if they are madmen there is no risk of their committing violence upon one another; if they are schoolchildren, there is no copying, no noise, no chatter, no waste of time; if they are workers, there are no disorders, no thefts, no coalitions, none of those distractions that slow down the rate of work, make it less perfect or cause accidents.

In this way, the Panopticon guaranteed the smooth functioning of the authoritarian institution, assuring the position of those in power by eliminating situations which could potentially give rise to insubordination, resistance, and/or subversion (the qualities associated with Scott's "hidden transcripts"--see below). The transparency of the system could also potentially be extended to the administrators themselves. A paramount, for example, could observe the activities of lower-level overseers from the tower, while the building's layout also permitted evaluation of the

performance of the chief on-site administrator who might happen to enter the facility (Foucault 1995:204). In Bentham's mind, the qualities of this architecturally circumscribed setting helped assure the automatic and homogenous functioning of power (Foucault 1995:201-202).

In his essay on "heterotopias", Foucault (1986) also argues for a close relationship between spatial fields, power relations, and shifting patterns of human conduct. Foucault (1986:23) suggests we all operate in worlds composed of numerous spaces that can be defined on the basis of sets of relationships specific to each site. He demonstrates a particular interest in sites that "...have the curious property of being in relation with all the other sites, but in such a way as to suspect, neutralize, or invert the set of relations that they happen to designate, mirror, or reflect. These spaces...are linked with all the others [while at the same time] contradict[ing] all the other sites." He suggests that the locations meeting this description to can be divided into two basic categories: "utopias" and "heterotopias" (1986:24). While utopias can be seen as inversions of society, they are idealized constructs which have no physical manifestation. They are, by definition, non-existent. Heterotopias, on the other hand, are real places which can be visited and experienced. Foucault (ibid.) defines these as "counter-sites, a kind of enacted utopia in which the real sites, all the other real sites that can be found within a culture, are simultaneously represented, contested, and inverted." According to Foucault (1986:25-26), heterotopias share a series of characteristics including: (1) universality--all societies have heterotopias although they assume a wide variety of forms; (2) functional dynamism--their uses and meanings can shift through time; (3) microcosmic properties--a tendency to unite several incompatible sites in a single real place; (4) disjunction with the present--entrance into a heterotopia is often associated with a break from real time; and (5) systems of access--heterotopias are associated with various physical and/or behavioral requirements that place some form of limitation on access to their physical spaces. Foucault provides a variety of examples of heterotopias including those such as boarding schools, which he classifies as "crisis heterotopias", and institutions including psychiatric hospitals and prisons which he considers to be "heterotopias of deviation" (1986:24-

25). In his view, retirement homes, ships, theatres, gardens, brothels, museums, libraries, fairgrounds, and colonies also exhibit heterotopic qualities. While Foucault emphasizes the juxtapositions and inverted sets of relationships which define heterotopias, the built environment also plays an important role in setting these spaces apart from day to day domains. The vast majority of the examples listed above have architectural correlates which combine with the altered patterns of behaviors associated with heterotopias to define these spaces. Thus, architectural features such as walls and roofs mark transitions between ordinary and heterotopic domains, represent points at which requirements of entrance must be met, mark temporal disjunctions, and define the spaces within which normally incompatible concepts can be brought together and rationalized.

In developing this concept of heterotopias, Foucault (1986) focuses on patterns of distorted, inverted, and out of the ordinary activity, discussing how actions and power relations can shift with movement between different spatial (and social) fields. Although some of the spaces Foucault (1986) identifies as heterotopias do not reflect a structure as absolute as that of the prison, there is a pronounced tendency for them to be defined by human made features, including buildings.

James C. Scott's (1984, 1990) writings also provide a useful perspective from which to examine the role the built environment in social interactions. Scott (1990) devotes his attention to demonstrating that oppressed/oppressor relationships provide more space for resistance by the disenfranchised than might be assumed. Although Scott (1990) primarily focuses on the creative capacity of the "powerless" to subvert programs of the powerful, his notion of public and hidden transcripts touches on social strategies that are relevant to a discussion of surveillance and other roles architecture can play in social interactions. As discussed by Scott (1990:13), both dominant and repressed groups have public and hidden transcripts, although these modes of operation tend to vary depending upon the group in question. In the case of subordinate groups, public transcripts tend to consist of patterns of activity which satisfy the expectations of dominant

groups. These may include shows of deference, respect, politeness, accommodation, or self-effacement. The hidden transcripts of these groups take the form of activities carried out “under the radar.” These discourses often incorporate elements of defiance, rebellion, hatred and/or revenge related to the demeaning treatment the disenfranchised have been forced to endure at the hands of socially dominant groups or individuals. Scott (1990) suggests dominant groups likewise possess public and hidden transcripts. In the case of the dominant, public transcripts are often self-promoting, tend to strive for maximum impact, and generally “portray elites as they would have themselves be seen” (Scott 1990:11, 18). These performances tend to buttress impressions of power and eliteness by stressing a dominant individual’s possession of the characteristics that contribute to such qualities in a particular cultural setting. In short, such public transcripts are designed to “be impressive, to affirm and naturalize the power of dominant elites, and to conceal or euphemize the dirty linen of their rule” (ibid.). The hidden transcripts of elites generally include concealed facts or patterns of behavior which contribute to maintenance of superior social position. These can range from dishonest behaviors that help elites maintain an unfair advantage to distancing mechanisms which reinforce elite status by helping dominant elites maintain an element of difference, mystery, and superiority (Scott 1990:14).

Although Scott (1990) does not examine this social friction from an architectural perspective, the built environment can clearly figure into this social strategizing on multiple levels. As discussed in Chapter 6, monumental architecture, though often produced by the dominated, usually encodes the messages and priorities of the dominant elite. In this sense, the built environment can be seen as an important element in the creation of elite public transcripts in hierarchical social settings. In his writings, Scott (1990:12-13) also emphasizes the importance of elites' ability to establish qualitatively distinct spaces associated with public and hidden transcripts and to establish boundaries between these spaces. He suggests that the creation of settings where elites can operate unselfconsciously and enact “hidden transcripts” is often critical to maintenance of elite status:

the attempt by dominant elites to sequester offstage social sites where they are no longer on display and can let their hair down is ubiquitous, as is the attempt to ritualize contact with subordinates so that the masks remain firmly in place and the risk that something untoward might happen is minimized (1990:12).

Both of these issues as well as the possibility that changes in the built environment may represent changing patterns of negotiation between different social groups are considered relative to the architectural data from Lamanai, Chau Hiix, and Altun Ha in Chapter 6.

As already suggested, a detailed discussion of the extensive literature on material culture studies (some examples of which are mentioned above) is not included because of the tangential relationship of much of this literature to architecture. This being said, several authors have made observations concerning portable artifacts that are worthy of discussion here because they are particularly relevant, readily transferable to buildings, and offer potentially important insight into features of the Maya built environment. To this extent, Julian Thomas' (1996) discussion of the British Iron Age and Girshick Ben-Amos' (1999) examination of "art" objects in Nigeria are drawn upon in interpretations of the patterns in the Maya built environment found in the following chapters.

Developing a tradition first evident in the work of Renfrew (1984), Hodder (1986), and Shanks and Tilley (1987); Thomas (1996:141) offers a consideration of the social role of material culture that extends beyond a view of artifacts as physical props. Drawing on Kopytoff (1986), Thomas maintains that the conceptual separation of individuals and inanimate objects is a recent western phenomenon and that in many societies objects are viewed as possessing identities that are constructed in a fashion not unlike those of people. Objects furthermore demonstrate a tendency to assume increasingly complex meanings as they become "integral to social relationships" (1996:141). In this sense, material culture displays a capacity to be more than a simple reflection or product of a particular society. While not asserting that artifacts possess intentionality or are capable of action, Thomas (1996:141, 151-153) emphasizes the extent to

which they can take on distinctive “personalities” and become increasingly engaged in webs of social relationships as they change hands and develop histories. According to Thomas (1996:146), these qualities, combined with an artifact’s inherent tangibility, stand as a record of the social interactions with which the object has been associated (Thomas 1996:153). While he (1996:145-146) identifies a tendency by processual archaeologists to correlate objects with the “hidden structure of past social groups”, Thomas argues for a more socially active interpretation of material culture, suggesting that archaeological artifacts often functioned as “[media] through which social activities and social change were enacted.” While Thomas bases his discussion on portable Neolithic objects from the British Isles, this last observation can clearly be extended to the built environment.

The most significant aspect of Thomas’ work from an architectural perspective is his discussion of the role of material culture in constructing contexts where actors’ identities are subject to evaluation and negotiation (1996:169-170). Acts that bring together people and objects clearly have contexts. However, it is the acts themselves that are largely responsible for creating these contexts (ibid.). Repeated use of specific locales not only establishes them as places where memories are triggered, but assemblage of artifacts at these locations serves to “structure the settings of interpersonal conduct” (Thomas 1996:170). Ultimately, Thomas (1996:171) argues for an even stronger relationship between objects and actions, suggesting that assemblages of artifacts are critical to “establishing the *forms* of social interaction [taking] place at a given place and time.”

As the most prominent class of pre-Hispanic Maya material culture, site center architecture almost certainly functioned in multiple ways. On one level, buildings created contexts of repeated activity which probably served to routinize (after Giddens [1984]) social interactions (most of the time almost certainly to the advantage of the sponsoring elites). Though evidence of more subtle, multi-directional social exchanges are challenging to access archaeologically, Thomas’ (1996) and Ben Amos’ (1999) work alerts us to the fact that Maya

architecture may also have also possessed a negotiative function. Specifically, the fact that monumental buildings reflect changes through time suggests that Maya elite status, though probably established a millennium before the Late Classic period (e.g., Hansen 1998; Ringle 1999), was open to question and required re-negotiation. The extent to which architectural changes may reflect the shifting role of buildings as mediating agents is considered in greater detail in the final chapter.

A related point returned to in Chapter 6 is the degree to which architectural changes evident at certain Maya centers in northern Belize may reflect conscious efforts by Maya elites to restructure social and political relations. Girshick Ben-Amos (1999) has made a series of insightful observations in her study of material culture and political process in the Benin kingdom of Nigeria which are particularly relevant in this regard. Like Thomas, Girshick Ben-Amos focuses on objects which are significantly smaller and more portable than buildings. However, Ben-Amos' analysis of the actions of eighteenth-century Benin rulers is important in that she emphasizes manipulation of symbolically-laden material culture by political elites. Girshick Ben-Amos focuses on the ways monarchs employed imagery prominent on brass plaques, figures, commemorative heads, circular brass stools, wood and ivory carvings, helmet masks, staffs of office, and brass shrines and altar pieces to further political agendas through control of historical memory (1999:1). Pointing out that both the production and symbolic content of these objects was subject to royal control (1999:10-11), she argues that more than simply ratifying the status quo, monarchs manipulated this imagery to “[formulate] new ways to view the political process, and, most especially, political legitimacy” (1999:4). Drawing on imagery from items currently in museum collections, she not only links their production to the reigns of specific kings, but demonstrates how iconography (that of ancestral altar pieces in particular) served to consolidate political power following conflicts between competing successors to the throne (1999:104, 134). Ultimately, Girshick Ben-Amos (1999:10) shows how objects were used by elites to shape (and limit the range of) interpretations of historical events. Thomas' (1996) and Girshick Ben-Amos'

(1999) data and emphases are somewhat different. However, their discussions are complementary to the extent they both highlight the central importance of material culture in social and political negotiations. Neither author specifically examines the built environment. However, the elaborately embellished and symbolically laden character of Maya monumental architecture suggests Maya buildings served functions parallel to those documented for portable artifacts by Girshick Ben-Amos in Nigeria. Thomas' work is applicable to the Maya situation for the reasons discussed above. Both works are considered below as an aid in interpreting changes evident in Maya buildings during the Classic-to-Postclassic transition.

Bourdieu's work on value creation has in many ways become a theoretical staple for social scientists. Bourdieu (1984) stresses modern social hierarchies and the importance of consumption practices in the construction of such hierarchies. According to Bourdieu (1984), possession of material culture translates into possession of symbolic and cultural capital. Since such capital is unevenly distributed—individuals' "habitus" or personal cultural inheritances vary--the upward mobility of members of lower echelons is limited (Pearce 1995:10). In *Outline of a Theory of Practice* (1977), Bourdieu discusses aspects of material culture that are in line with Thomas' (1996) discussion. As Love (1999:130) suggests, Bourdieu (1977:91) holds that material culture "situates and guides social action", with objects' mnemonic qualities helping to shape habitual patterns of human behavior. Love's (1999) examination of the built environment from this and related perspectives is discussed in greater detail below.

Bourdieu's (1977) conception of the way objects can play a role in habituating actions has parallels in Giddens' "routinization." Overall, however, Giddens (1984) work is more directly applicable to examinations of architecture because of its focus on the spatial dimensions of human interaction and unequal power relationships. Because the most salient aspects of Giddens' work are discussed below relative the way scholars have incorporated them into considerations of the built environment, they will not be repeated here.

Applications of Social Theory to the Built Environment

Due to the relatively small number of examples to be found in the Maya literature, it is informative to consider how archaeologists working in other geographic areas and scholars from other disciplines have applied the social theory of Giddens, Bentham, Foucault, and Lefebvre to consideration of the built environment.

Scholars such as Adrian Randolph (1995), have drawn upon a combination of these ideas in exploring the relationship between urban form and social control in the medieval bastides¹¹ of southwest France. Approaching his study from an art historical perspective, Randolph contrasts the approaches of Braunfels and Lefebvre in assessing the extent to which the communities' layouts are straightforward reflections of the political forces that lead to their foundation and day to day operation. As Randolph (1995:290) suggests, Braunfels (1976) approaches the urban setting as a text, asserting the transparency of the built environment and its ability to provide reliable information about the form of political authority in place in the community in question. Randolph compares the benefits of this hermeneutic approach with the contrasting perspective of Henri Lefebvre (1991), who focuses on the significance of physical space and the factors that produce it. Following Lefebvre's view, space is not merely an absence, but is actually a product of social relations. Due to this quality, Lefebvre (1991) asserts that space determines the built environment dialectically. Operating from such a perspective, Lefebvre emphasizes the extent to which space is the product of a complex web of social relations rather than straightforward indication of pure political authority.

In his analysis of the formal qualities of bastides, Randolph (1995) concludes that a combination of these views best characterizes the factors determining the layout and function of

¹¹ The term "bastide" is applied to the hundreds of new towns established to colonize the wooded areas of southwest France between 1222 and 1373. Bastides were cooperative ventures undertaken by landholders (local lords) and sovereign powers (generally a count of Toulouse or a king of France or England) who agreed to share revenue generated by the community. Many of these communities have distinctive plans consisting of a grid layout and are focused on a central market square (Randolph 1995:80-82).

the medieval towns. On one level, he suggests that architectural complexity resulting from over half a millennium of continuous occupation limits the analyst's ability to unquestioningly extract sociopolitical information from the built environment. Attention to the historical context of bastide foundation and the combination of political, military, and economic motivations factoring into community establishment also precludes a pure Braunfelsesque analysis. At the same time, Braunfels' approach combined with knowledge of bastide function does help identify key urban planning characteristics that were unquestionably premeditated and clearly served the purposes of local elites. As Randolph notes (1995), the communities' grid layouts and systems of intersecting streets which converged on central market squares were important mechanisms of political and economic control. The market squares were often only accessible via four covered arcades which concentrated served as traffic control devices through the concentrating and routing of foot traffic through formal entrances. As Randolph notes, these elements of the urban plan provided Panopticon-like visual inequality, rendering the inhabitants "administratively visible", allowing officials to monitor movement to and from the central spaces and facilitating the collection of taxes and tithes (Randolph 1995:305-306).

As Randolph makes clear, the somewhat over simplistic and one-sided results of literal readings of bastide layout can be overcome by bringing alternative theoretical perspectives to bear on the structure of medieval communities. While bastides existed within a firmly established and centrally administered power structure, the extent to which community viability relied on individuals besides administrative elites and investors cannot be ignored. Settlers were one of the most critical factors in community success and a variety of concessions were made by the founders to lure would be inhabitants. In addition to access to land, community membership provided a favorable alternative to traditional serfdom in that inhabitants were granted freedom from certain types of taxes, military service, and were assured certain inheritance privileges (Randolph 1995:305). Bastides also served as havens for feudal vassals, providing them with land and rights they had previously been denied (*ibid.*). Besides surveying the community and

constructing roads, founders generally constructed the initial church and town hall (Randolph 1995:84). Thus, while the formal, repetitive layouts of bastides reflect administrative control, they also symbolized the rights and resources extended to individuals who entered into settlement agreements. It is to this extent that Randolph (1995) makes convincing use of Lefebvre's (1991) work, noting how bastides were the product of a complex series of ongoing social negotiations as well as top-down dictates. Bastides were anything but democratic institutions, community members held little to no political power, and were viewed as agents of profit by investors. However, application of Lefebvre's (1991) arguments reveals subtleties which would go undetected if one undertook analysis from Braunftels' perspective alone. As Randolph (1995:291) makes clear, application of this alternative approach acknowledges the mediative role of the built environment in a situation where urban form better reflects "the friction engendered by interaction, expedience, pragmatism, legal compromise, and profit [than the] facile opposition of oppressor and oppressed."

Foucault's ideas of power associated with the visual inequality/potential for surveillance provided by the built environment have had significant appeal to writers besides Randolph (1995) and have been widely invoked by other architectural historians (e.g., Davies 1990; Rendell 2000; Hills 2000). Davies (1990) has suggested parallels between the Panopticon and high-surveillance shopping malls in modern Los Angeles; Hills (2000) has explored how medieval southern Italian religious architecture played upon the "optics of power" to empower, mystify, and symbolically elevate nuns in the eyes of the laity; and Rendell (2000) has discussed Foucault's work relative to the gendering and empowering of architecturally defined space in early nineteenth century London. Foucault's writings have also been drawn upon by archaeologists. As mentioned in Chapter 3, Moore has considered the importance of surveillance in re-examining the proposed function of C-shaped rooms in the *cuidadelas* of the Chimú state on the north coast of Peru. While not drawn as widely upon by anthropologists as his writings on the optics of power (cf. Hutson n.d.), Foucault's (1986) heterotopia has become a key concept in contemporary

architectural theory and has served as a rallying point for a group of neo-avant-garde theorists who call for the creation of a “*new* architecture that is somehow totally ‘other’” (McLeod 1996:1). Scholars such as McLeod (1996) have, in turn, reexamined the definition of heterotopias as a basis for questioning the positions of these critics and theorists. McLeod (1996:11), for example, suggests that deconstructivists and others who call for the formulation of an architecture of “otherness” are ignoring a disturbing link between theory and the built environment. Specifically, she suggests that proponents of heterotopic architectural design run the danger of reproducing the same exclusion (of women, children, minorities, the sick, the elderly, and of normal everyday domains) that is evident in Foucault’s (1986) work.

British and North American archaeologists have also made effective use of the social theory of Giddens and others (e.g., Barrett 2001; Fitzpatrick 1994; Giles and Parker Pearson 1999; Johnson 1989; Smith 1992). Archaeologists working in North America have been more inclined than Mayanists to examine their data relative the implications of social theory. This tendency may in part reflect the contrast between the extremely elaborate material culture of Mesoamerica and the more ephemeral North American archaeological record. Due to this contrast, Mayanists tend to devote an inordinate amount of time to data management and get caught up in the material culture itself, while North Americanists arguably devote more energy to (theoretically informed) interpretation. Bruce Smith’s (1992) work exemplifies the extent to which such applications are useful in examining arguments concerning the role of the built environment in complex societies. In considering the function of solar alignments (the so-called woodhenges) of Cahokia, Smith (1992) takes issue with the widely read views of Peebles and Kus (1977), suggesting that chiefly power in Mississippian society relied on manipulation of ideological resources as well as on control of the subsistence economy.

The woodhenges with which Smith (1992) is concerned are monumental, circular arrangements of more or less evenly spaced cedar posts. These circles, five of which have been identified at the site to date, range from 80 to 160 meters in diameter, consisted of 24, 36, 48, 60,

and 72 posts, and included a single observation post at their center (Smith 1992:12-14). The features first appeared at Cahokia between A.D. 1000 and 1050 and gradually increased in size until Cahokia's abandonment in the early 12th century. While the precise function of the features is uncertain, scholars have generally proposed that the constructions tracked the movement of the sun and that associated solar alignments served to identify the vernal and autumnal equinoxes as well as the solstices. As Smith (1992) suggests, it is generally assumed that the features were designed and constructed under the direction of Cahokia's elites, that they qualify as "public corporate architecture", and that they are the "product of corporate labor projects" (Smith 1992:15). As Smith (1992:18-20) suggests, Peebles and Kus (1977) have developed a model of Mississippian society which views Cahokia as a paramount center in the chiefdom-type form of sociopolitical organization which existed in the American Southeast at this time. In accordance with the general expectations of this level of organization, they adopt a view of Cahokia's elite as fulfilling a primarily managerial role. In their view, Mississippian elites emerged as part of a mechanism for coping with the environmental stresses and uncertainties to which agricultural societies are prone. Peebles and Kus (1977:443 in Smith 1992:22) specifically suggest that:

intensification of agricultural systems...although giving greater yields did produce greater risks...to minimize these risks the production and consumption of agricultural products required society-wide monitoring and regulation, hence, ranking and a chiefdom. Given the low variability and high predictability of the hydrological and meteorological regimes...the only crucial agricultural decision would have been when and how much to plant. Therefore, we should expect that one of the duties of the chiefly establishment would include the maintenance of a calendar...

Thus, according to this view, the woodhenges were an aspect of the services provided to the community by elite social segments.

As an alternative to Peebles' and Kus' managerial model, Smith (1992:11) proposes that woodhenges were involved in a very different and less altruistic set of social relationships. Smith (1992:23) draws on Giddens' (1984:258) discussion of how social power is generated, and accepts his conclusion that it is the result of structures of domination. These structures are

suggested to take two forms: allocative resources and authoritative resources. Allocative or material resources include raw materials, technology, and the products of these resources. Authoritative resources, in contrast, include control of social time-space; control of production/reproduction of the body; and control of organization of life chances. While evolutionary approaches to social change emphasize the involvement of allocative resources, Giddens (1984:259-260) argues that authoritative resources are equally important in that they contribute to the development of material resources. In short, power is dependant upon the accumulation of allocative resources, but these can only be concentrated by using authoritative resources or non-material sources of power. The final element of this argument is that societies develop mechanisms for storing non-material resources (including information) just as they do for material resources. These concentrations of information can, for instance, include books or other documentary media. Giddens (1984:261 in Smith 1992:24) suggests that access to these banks of information often requires specialized knowledge (the ability to read, for example) that is “possessed by only a minority within any given population.” Employing this line of argument, Smith (1992:24-25) cogently suggests that:

...woodhenges would not have been constructed out of managerial necessity... in order to improve the scheduling of the agricultural economy for the common good of Cahokian society. Rather they were conceived and constructed by the central precinct elite at Cahokia as a "container" for the storage of privileged and esoteric information which in turn represented an important recourse of authority that was an integral component in an overall structure of domination. Through the elaboration and extension of this complex structure of domination that involved the detailed control of time (through the solar calendar) and space (the ordered cultural landscape of the central precinct of Cahokia), the paramount elite at Cahokia tightened their control and increased their social distance from, and power over, both their own central precinct communities and the communities of their periphery. The woodhenges were...a lever of social inequality.

Giddens’ (1984) concept of “regionalization” has also been employed by anthropologists in considering architectural patterns reflected in the archaeological record. The origins of Giddens’ writings on regionalization can be found in time-geography--specifically in Hägerstrand’s (1975) examination of the biological and contextual constraints that shape the

activity patterns of individuals (Urry 1991:163). While Hägerstrand (*ibid.*) focuses on the seriality of life paths and the construction of “life biographies”, Giddens (1984:117) suggests Hägerstrand overestimates constraints on human action and presents an underdeveloped theory of power (Urry 1991:163). Regionalization, or the “zoning of time-space in relation to routinized social practices”, which Giddens proposes in an effort to compensate for perceived shortcomings of Hägerstrand’s work, is explicitly spatial. As Giddens (1984:118) suggests, the importance of regionalization lies in the way the subdivision of spaces (buildings, cities, landscapes, etc...) serves to create contexts of social interaction. The power associated with regionalization rests in part in the ability to define privileged spaces and the capacity to exert control over the presence of actors in those spaces (Love 1999).

Love (1999) and Hutson et al. (n.d.) have made interesting and effective use of this aspect of Giddens’ work. Love (1999) employs Giddens (1984) to consider the emergence of distinct spatial patterns in the Early and Middle Pre-Classic period communities on the Pacific coast of Guatemala and Chiapas. Love (1999:129) draws upon both Giddens (1984) and Scott (1990) to argue that maintenance of dominance is partly dependent upon the extent to which elites can effectively distance themselves from fellow community members. Specifically, he (1999:134) asserts that “spatial segregation serves to reproduce social inequality, dominance, and their linked ideological principles by controlling co-presence and interaction, and, more specifically, by zoning locales and the social practices that occur in them.” He furthermore notes the extent to which regionalization promotes the categorization of places and activities (e.g., elite-commoner, sacred-profane, etc...) which in turn results in the construction of spatial oppositions. Ultimately, Love draws together Bourdieu’s, Giddens’, and Scott’s ideas to suggest that dominance is only institutionalized when these distinctions and actions become routine. And this only comes about when these practices are fixed in place through transformation of the material world (Love 1999:135). Turning to the archaeological record, Love (1999:135) suggests that transformations in the built environment at the center of Ujuxte are evidence of such a process at work between

the Early and Middle Pre-Classic periods. Love (1999) bases his argument on patterns evident in freestanding monuments (stelae) and buildings. This period notably corresponds with the appearance of stelae, which he interprets as establishing reference points for regionalization and categorization of space. He furthermore draws upon a series of architectural developments, including the clustering of ceremonial structures, alignment of buildings to common points, segregation of ceremonial and elite residences from the rest of the community, and a movement towards the enclosing of spaces evident in clustering of structures around courtyards to suggest that buildings served a parallel function (Love 1999:146).

Drawing on Love's (1999) work, Hutson et al. (n.d.) examine regionalization in the built environment of the intensively subdivided prehispanic Maya community of Chunchucmil, Yucatán. The authors note how internal segregation (via property boundary walls and restrictive plazas), and encouraged patterns of movement (via causeways and apparently less formal pathways) both exposed the populace to institutional projects, forcing "acknowledgement of the power social relations materialized in...monuments" and emphasized social exclusivity by architectural means. As Hutson et al. (n.d.) suggest, such regionalization would have provided significant symbolic capital for the privileged minority who resided in the restricted plazas ringed by temples and "palace" structures.

As discussed further in Chapter 6, Giddens, Scott, Thomas, and Lefebvre all incorporate significant spatial elements in their work. Specifically, Giddens's (1984) regionalization, Scott's (1990) distinction between public and off-stage social sites, and Thomas' (1996) discussion of the role of material culture in creating contexts of action are complimentary concepts that are directly relevant to examinations of the Classic Maya built environment. Of the four, Lefebvre (1991) undertakes the most in depth examination of space, focusing extensively upon the ways in which it accumulates meaning and the role space plays in social interactions. Giddens', Scott's, Thomas' and Lefebvre's views of human social interaction furthermore incorporate an emphasis of agency to the extent they acknowledge the existence of opportunities for contesting and

negotiating structural elements even in situations where the existence of dialogues might appear unlikely.

CHAPTER 5

THE BUILT ENVIRONMENTS AT LAMANAI, CHAU HIIX, AND ALTUN HA

If monumental architecture plays a role in helping to consolidate new social, political, and economic formations, it is possible that the different types of that predominated at any one period may provide insights into the social processes that were at work (Trigger 1990:128).

This chapter presents and assesses the architectural data from Lamanai, Chau Hiix, and Altun Ha that are most relevant to a discussion of changing spatial configurations in each community's site center architecture between the Late Classic and the Early Postclassic periods. The examination considers the layout of individual Maya buildings and access related changes effecting entire architectural groups during the Late Classic, the Terminal Classic, and the Early Postclassic periods. Since these data differ substantially, they cannot be analyzed using a single approach. They are consequently examined from multiple perspectives, including gamma or access analyses, attention to sight lines, time-lapse diagrams, and graphing techniques. The results of these approaches are compared with earlier, more subjective impressions of architectural change to determine whether quantitative methods of spatial analysis identify similar or dissimilar patterns. Architecture ill-suited to such analysis is approached from a phenomenological perspective to consider how changes in site centers may have been intended to shape the experiences of the individuals who frequented these spaces.

The standard used to report the following data is that provided by Loten and Pendergast (1984). Noting the confusion that arises when researchers discuss buildings in inconsistent and individualized ways, David Pendergast, Elizabeth Graham, and Stanley Loten have advocated use of standardized terminology for describing Maya architecture. Loten and Pendergast's (1984) *Lexicon of Maya Architecture* is a significant contribution because it provides an intelligible and appropriate architectural vocabulary. Since the Lamanai and Altun Ha data were recovered and reported by Pendergast, Graham, and Loten, they have already been discussed in terms consistent with the lexicon. Every effort is made to report the results of architectural investigations at Chau

Hiix employing the same guidelines to render them comparable to those from Lamanai and Altun Ha.

An Integrated Perspective

Phenomenology is a way of thinking that enables us to see clearly something that is, in effect, right before our eyes somehow obscured from us -- something so taken for granted that it is ignored or allowed to be disguised by a cloak of abstractions (Relph 1989:15-16).

Building on Heidegger (1962) and Merleau-Ponty's (1962, 1963) seminal writings, interest in phenomenological approaches to understanding became popular in the 1970s and persist as a mode of investigation in the humanities and social sciences. While emphasis of experiential interpretation has characterized work in a wide variety of disciplines including cultural anthropology (Jackson 1995, 1998), geography (Relph 1989; Tuan 1971), architecture (Norberg-Schulz 1980; Pearson and Richards 1994; Saile 1989), psychology (Spiegelberg 1972; Giorgi et al. 1983), philosophy (Mugerauer 1989; Zimmerman 1979, 1989), and music (Schafer 1977, 1989), American archaeologists (and Mayanists in particular) have devoted little attention to phenomenological studies. While insightful considerations of how Maya monumental architecture influenced individual perceptions occasionally appear in the literature (e.g., Pendergast 1979:60; Pyburn in Pyburn and Andres 2000), Mayanists generally shy away from such approaches when considering the built environment (e.g., Houston 1998:333). This tendency may in part be a historical reaction to the mid-century criticisms of Taylor (1948) and Kluckholm (1940) (see Willey and Sabloff 1993:154-164) who drew attention to the cavalier "scholarship" of Maya archaeologists and the overall lack of problem orientation in the field. A continued reluctance to embrace approaches construed as other than positivist and methodologically rigorous may explain the absence of phenomenological considerations of Maya architecture.

Despite this emphasis of "science" by Mayanists, formal scientific perspectives and more intuitive approaches are not as mutually exclusive as often perceived. As Relph (1989:28)

observes from the perspective of geography, “abstract technical thinking has begun to submerge geographical experience either by making the latter seem relatively trivial or simply by obscuring it with generalizations.” Rather than branding phenomenological approaches anti-science, he emphasizes their importance in creating a “heightened awareness of the character and qualities of one’s own (geographical) experiences” (1989:29). Ultimately, he argues for the complementarity and inseparability of the two approaches. This chapter assumes a similar perspective to the extent it brings both quantitative and more experiential methods (including a consideration of spatial relationships between adjoining buildings and plazas, the physical impact of architecture on viewers, and issues of viewing order) to bear on often overlooked aspects of the Maya built environment.

The Changing Physical Accessibility of Late Classic Period Maya Buildings

This section begins by exploring the potential of gamma analysis (adapted from Hillier and Hanson 1984, Markus 1993, and Moore 1992, 1996) to compare changing patterns of access to buildings at Late Classic period Lamanai, Chau Hiix, and Altun Ha. Opportunities for this type of analysis are not as immediately apparent in northern Belize as they are for the sprawling architectural complexes of other ancient Maya communities (e.g., the Palace at Palenque, the Central Acropolis at Tikal, or the Palace at Sayil--see Liendo Stuardo [2003] for spatial analyses of these buildings). Many of the monumental buildings presumably retaining the best preserved ground plans have yet to be fully excavated and reported in Belize. While ideal investigations (from the perspective of gamma analysis) would document floor plans and peel away later architecture to reveal underlying construction, the destructiveness of such an approach is generally prohibitive. Add to this the Maya practice of demolishing structures before beginning new construction, and even when unusually extensive investigations are possible, the data are often inadequate for construction of access maps (e.g., see Pendergast 1979:174 for a discussion of the thoroughness with which Structure A-6, A at Altun Ha was razed prior to construction of

Structure A-6, B). Despite these challenges, several buildings at Lamanai and Altun Ha are sufficiently preserved (and reported) to allow for preliminary analysis of their access patterns during the late Classic period.

The Late Classic period buildings amenable to gamma analysis can be divided into two classes: “temple” structures and “palace” or “range-type” structures. The former are presumably ceremonial while many of the latter are interpreted as residences of the Maya elite.¹² The “palace”-“temple” dichotomy is a useful starting point since it provides a preliminary basis for architectural comparison. At present, Structure N10-43 at Lamanai, Structure 1 at Chau Hiix, and Structures A-1, A-3, A-5, A-6, A-8, and B-4 at Altun Ha are approached as examples of ceremonial structures, while Structures N10-17 and N10-28 at Lamanai, and B-3 (1st A and B) and B-5 at Altun Ha are presumed elite residential buildings. This distinction, however, requires further scrutiny. Since route maps can be constructed for the majority of these Late Classic period structures, gamma analysis not only facilitates comparison of buildings at the three sites but provides a rigorous spatial basis for re-evaluating these classificatory differences.

Access analysis of presumed “palace” structures

The data available for Structure 7 at Chau Hiix, Structures B-3 (1st A and B) and B-5 (A and B) at Altun Ha, and Structures N10-17 (2nd) and N10-28 A and B at Lamanai allow for a range of observations concerning points of entry, integration, and issues of traffic flow. Varying amounts of data mean that some analyses are limited and synchronic, while others are able to document significant changes in building layout. The discussion proceeds from those cases for which the least information is available to buildings that can be discussed in the greatest detail.

¹² This distinction must be approached cautiously since it not only conflates form and function, but glosses over the variety of structures falling into the “palace” category. In so doing, it obscures the possibility that many “palaces” were multi-purpose facilities (e.g., Harrison 2003). There are formal grounds for such a division: “temple” structures tend to occupy pyramidal substructures and “palaces” are often more extensive, low-lying building assemblages. While this distinction is straightforward in some cases, there are situations where it is less clear cut. The incorporation of LBTs (often “range”-like structures) into “temple” structures at Lamanai, Chau Hiix, and Altun Ha, for example, highlights the extent to which these architectural features supposedly diagnostic of these two Maya building types could in fact be merged.

Structure 7, Chau Hiix. Limited excavations carried out in 2003 revealed Structure 7 to be a well-preserved masonry range structure integral to the spatially restricted plazuela group at the west end of the main platform at Chau Hiix (Figure 5.24). The previously discussed excavations cleared a portion of one of the rooms and revealed a series of construction events at its south end. Secondary to construction of the floor, a bench was added. The bench was originally confined to the room's southwest corner and a space existed between its east end the room's east side (Figure 5.1). It seems likely this space was an accessway (perhaps leading to an exterior doorway). A secondary unit of construction added to the bench's east end extended it across the room and eliminated this space. Assuming the filled space was a passageway, the change would seem to reflect a sequence of events involving the sealing of an exterior doorway in the Building's south end. These changes suggest access to the building's interior was altered during the Late Classic period. The presence of such modifications also identify Structure 7 as a promising candidate for full-fledged access analysis when its layout is more completely documented.

Structure B-3, A and B, Altun Ha. Structure B-3 at Altun Ha may also have functioned as an elite residential structure. As the gamma diagrams illustrate, the building is comprised of three distinct groups of rooms (Figure 5.2). The east and west room blocks are identical and their rooms are laid out in a linear sequence. The innermost room in each room block (Rooms 3 and 6) is only accessible by means of a single doorway and the outermost rooms (Rooms 1 and 8) exert complete control over access to the more interior spaces (Rooms 2, 3, 6, and 7). Due to this configuration, the rooms' depth values progressively increase from 1 to 3 as one moves beyond the single exterior doorway. The mean depth of the building's rooms is 1.75 (Table 1).

The staggered arrangement of doorways in Structure B-3 also restricts visual access from one room to the next in the case of all spaces but Rooms 7 and 8. This one case aside, the room blocks are constructed in a way that maximizes their inaccessibility. In the language of gamma

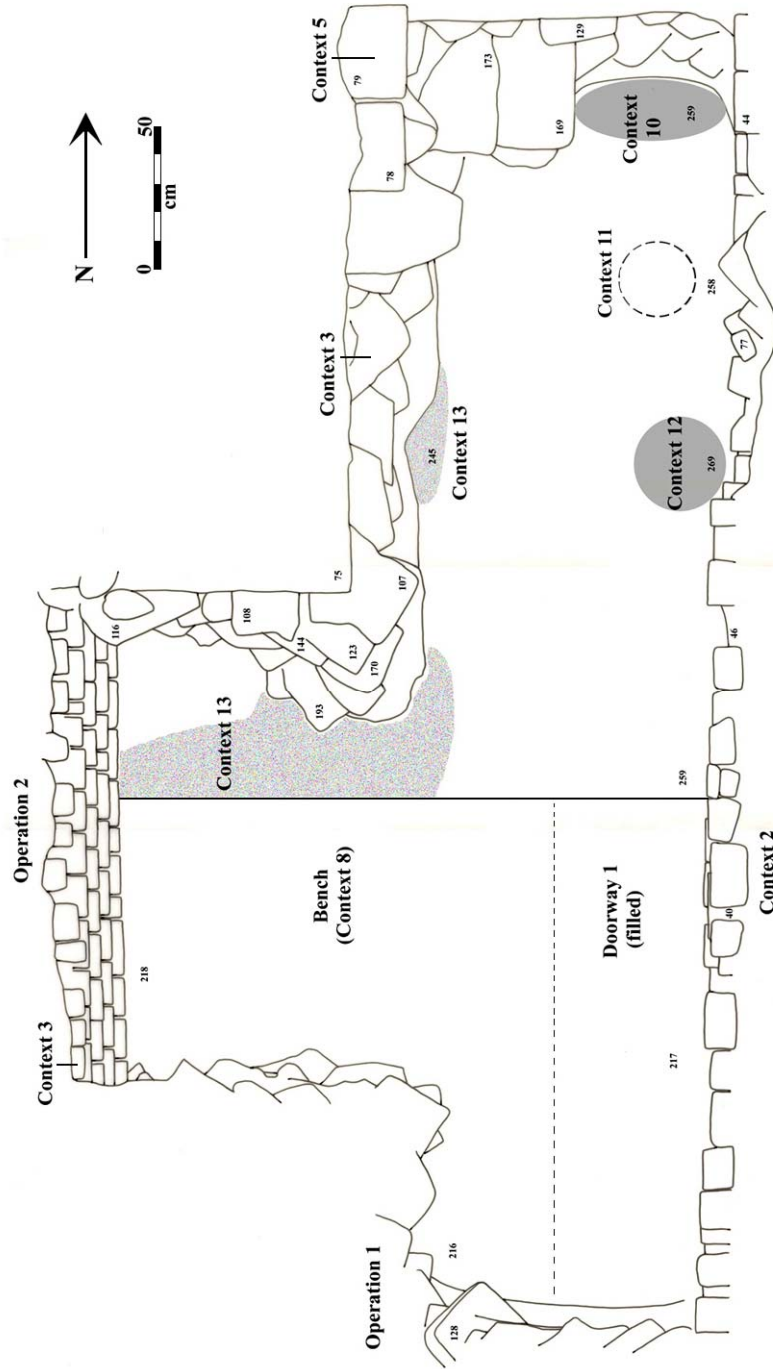


Figure 5.1. Plan of Operations 1 and 2 of Excavation 22, Structure 7, Chau Hiix, Belize showing features exposed during partial clearing of Room 1 (drawing by C.R. Andres with assistance from Lydia N. Garver, 2003).

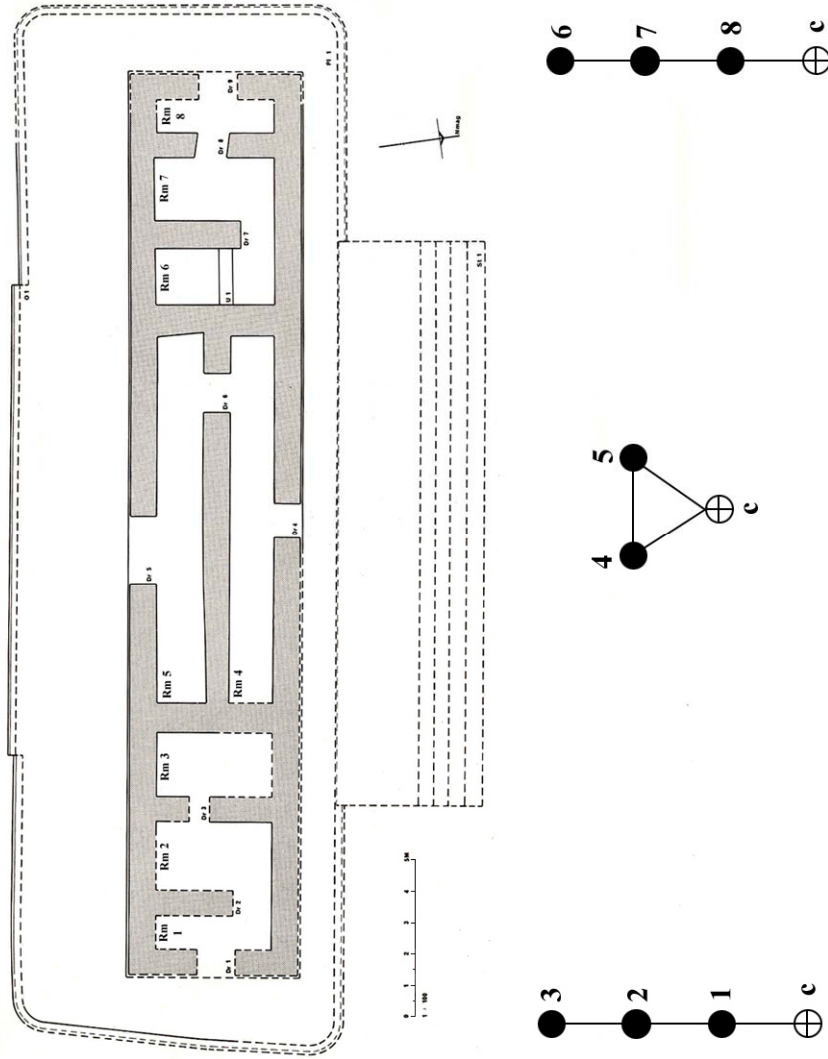


Figure 5.2. Plan of Structure B-3, Altun Ha, Belize and corresponding gamma maps (plan adapted from Pendergast 1982; Fig. 7. Gamma diagrams by C.R. Andres).

Structure B-3, 1st A and B Altun Ha, Belize		
	Depth	RA
O	0	0.214
1	1	0.321
2	2	0.5
3	3	0.75
4	1	0.429
5	1	0.429
6	3	0.75
7	2	0.5
8	1	0.321
Mean	1.75	0.468

Table 1. Structure B-3, 1st A and B Altun Ha depth and relative asymmetry values.

analysis, the lateral room blocks are composed of spaces that possess a nondistributed¹³ and asymmetric¹⁴ relationship to exterior space (following Hillier and Hanson 1984:148). In contrast, Structure B-3's central room block consists of a pair of parallel intercommunicating rooms (Rooms 4 and 5). The gamma map shows these spaces to be both symmetric¹⁵ and distributed¹⁶. As the gamma diagrams illustrate, the three room blocks comprising Structure B-3, A and B are completely independent units. The lack of connection between these units is also strongly communicated by the building's low beta value of 0.625 (Table 2). The rooms' RA values vary, with Rooms 3 and 6 (the least accessible) having the highest values and Rooms 1 and 8 (the most accessible) the lowest scores (Table 1). These measurements neatly quantify integration of the spaces and reinforce the visual observations possible from the plan and gamma maps. Taken together, access diagrams, RA values, and beta indices highlight that Structures B-3, A and B are for all intents and purposes three abutting buildings that share a roof but are entirely lacking in integration.

¹³ A nondistributed relationship implies there is only one route between the rooms.

¹⁴ Rooms 1 and 8 control permeability to rooms 2, 3, 6, and 7.

¹⁵ The rooms have an identical relationship to the carrier space and neither room has absolute control over access to the other.

¹⁶ There is an independent route between Rooms 4 and 5 other than through the rooms themselves.

Structure	Site	E	V	Maximum Depths	Beta Index	Exterior Entrances
B-3, 1 st	Altun Ha	5	8	3	0.625	4
N10-17, A	Lamanai	3	4	2	0.75	?
N10-17, B	Lamanai	2	4	3	0.50	?
N10-28, A	Lamanai	8	6	3	1.3	2
N10-28, B	Lamanai	7	8	5	0.875	2
B-5, A	Altun Ha	12	10	7	1.2	2(?)
B-5, B	Altun Ha	13	9	6	1.4	2(?)
A-3, 1 st D	Altun Ha	6	5	2	1.2	2
A-8, 2 nd	Altun Ha	3	4	3	0.75	1

Table 2. Lamanai and Altun Ha range structures: Edges (E), Vertices (V), Beta Indices, and number of exterior entryways.

Structure N10-17 (2nd), Lamanai. Structure N10-17, 2nd (“Snow”) of the Ottawa Group at Lamanai has not been entirely cleared. However, much of the ground plan has been documented and it is the first case in the sample where gamma analysis can be used to describe changes in spatial configuration. As is evident in plan (Figure 5.3), Snow consisted of four rooms and initially had a highly symmetrical layout. Since Room 4 has yet to be cleared, the primary unknown relates to the number of exterior doorways opening into this space. This situation can be overcome through informed speculation as to the number and location of entrances. Since there are a limited number of configurations, gamma maps can be constructed to take each possibility into account. This missing information is significant in terms of the permeability of the building’s outer shell. However, the fact these are exterior openings, as opposed to connections between the rooms, means all internal links in the network are accounted for.

As the gamma map for Structure N10-17, 2nd A shows (Figure 5.3), Room 2 is the most permeable space in the building, not only communicating with the N10[3] Courtyard (the carrier), but providing access to each of the building’s other rooms. In this sense, Room 2 can be viewed as having a “hub-like” function. Though other spaces (Room 1 and perhaps Room 4) had more

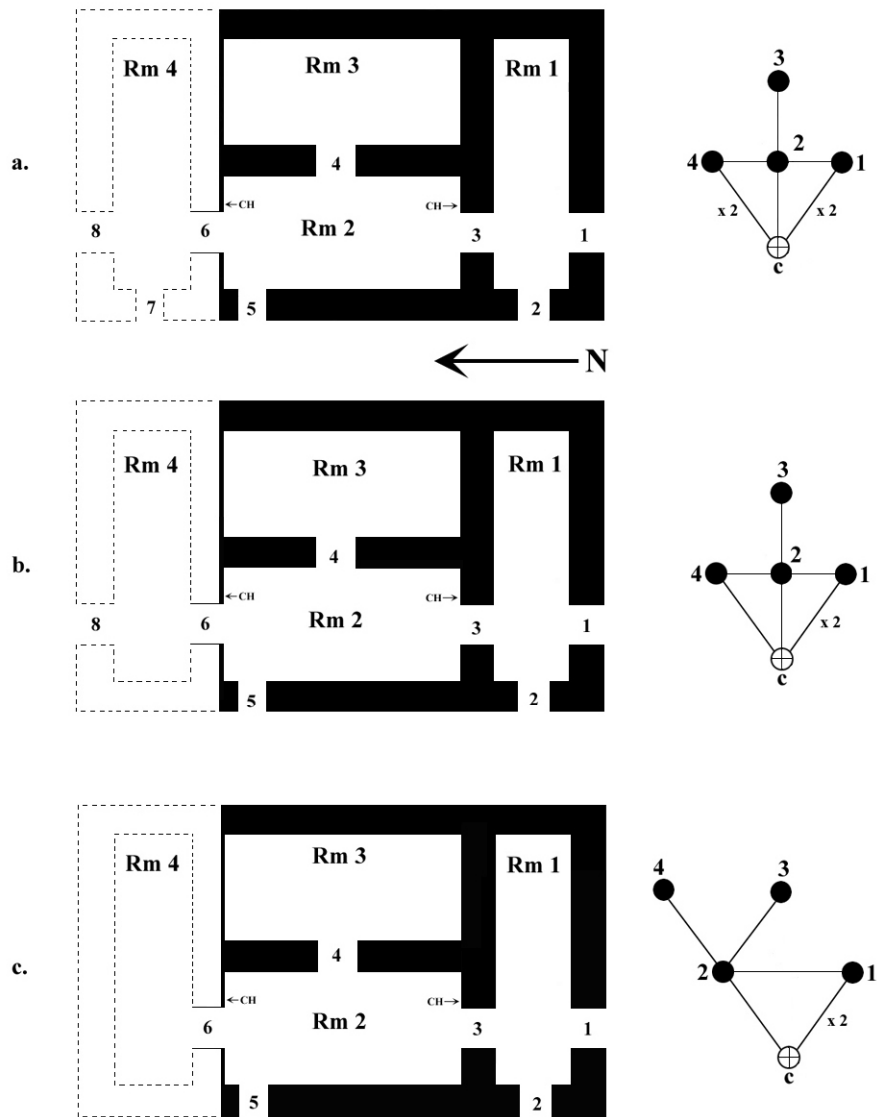


Figure 5.3. Unjustified gamma diagrams of Structure N10-17, 2nd A ("Sleet"), Lamanai, Belize prior to Late Classic period modifications: (a) assuming Room 4 has two exterior entryways; (b) assuming Room 4 had a single exterior doorway--note that the access map is the same whether considering Doorway 7 or 8; (c) assuming Room 4 had no exterior entrance (plan adapted from Graham 2004: Fig. 3 and sketch map by C.R. Andres; gamma maps by C.R. Andres).

points of communication with the carrier, Room 2's higher accessibility is reflected in its low RA value (Table 3). Though the network being dealt with is a modest one, Structure N10-17, 2nd A's beta index of less than 1 (0.75) reflects the building's basically disconnected or tree-like layout (Table 2).

Gamma analysis is particularly useful in characterizing the changes evident from N10-17, 2nd A to N10-17, 2nd B. In Structure N10-17, 2nd B access to the building from the carrier space and movement between the rooms was dramatically reduced. As illustrated by the gamma map and plan (Figure 5.4), the interconnections between Room 2 and adjacent spaces that contributed to the room's earlier lowest possible of RA values were reversed in Structure N10-17, 2nd B. Filling of the doorway (Doorway 5) linking Room 2 with the courtyard eliminated direct entrance into this part of the building from the outdoors. This simple modification transformed Room 2 from the shallowest to the second deepest space in the building (Table 3). Sealing of the doorway between Rooms 2 and 4 suggests one of the first two scenarios (shown in Figures 5.4a and 5.4b) is the most likely. (The third, Figure 5.4c, seems improbable since it would have rendered Room 4 unusable). The layouts illustrated in Figures 5.4a and 5.4b would have contributed to greater segregation of the building's spaces, dividing the building into two isolated halves. These Late Classic period alterations also resulted in the increasing asymmetry of the building's southern half as reflected in movement from a relatively tree-like to a more a linear configuration, an increase in mean RA values, and a decrease in beta indices between Structure N10-17, 2nd A and 2nd B (Tables 2 and 3).

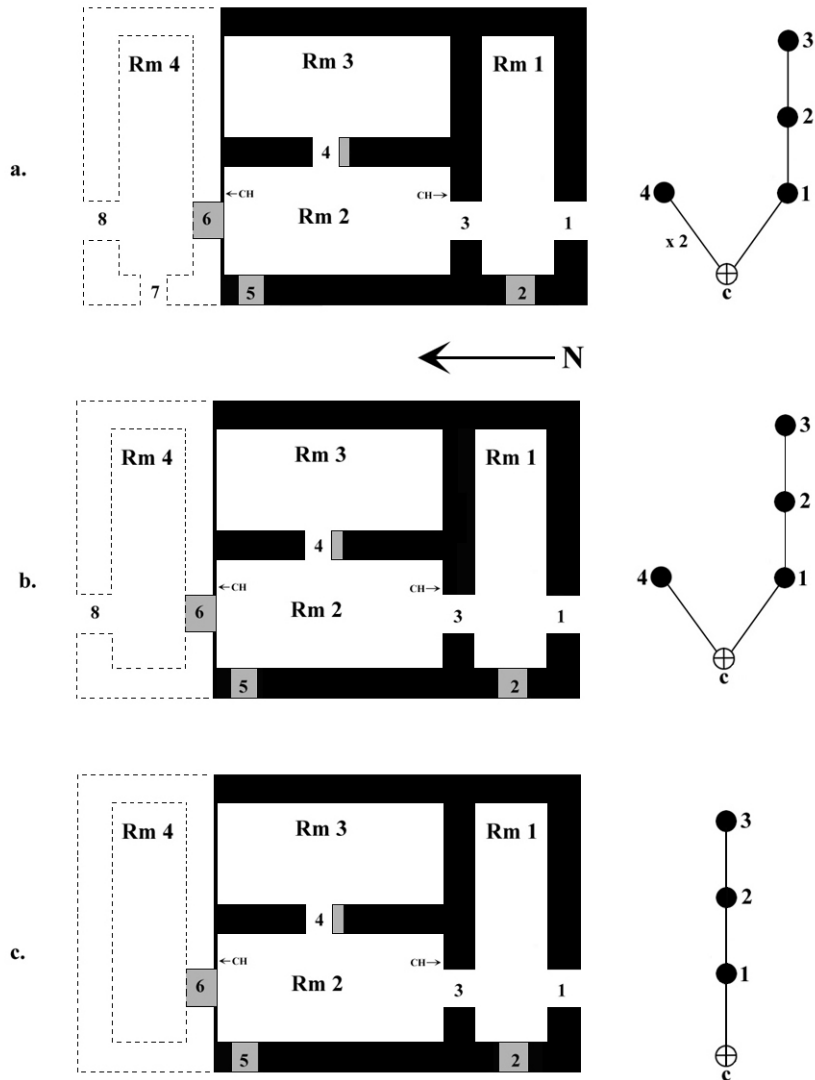


Figure 5.4. Gamma maps of Structure N10-17, 2nd ("Sleet"), Lamanai, Belize showing Late Classic period modifications. Note that (c) is the least likely scenario since filling of Doorway 6 would have sealed Room 4 and made it an unusable space (plan adapted from Graham 2004:Fig. 3 and sketch map by C.R. Andres. Gamma maps by C.R. Andres).

Structure N10-17, 2nd A (Room 4 with at least one exterior doorway)			Structure N10-17, 2nd A (Room 4 with no exterior doorway)		
	Depth	RA		Depth	RA
O	0	0.166	O	0	0.33
1	1	0.33	1	1	0.33
2	1	0	2	1	0
3	2	0.5	3	2	0.5
4	<u>1</u>	<u>0.33</u>	4	<u>2</u>	<u>0.5</u>
Mean	<u>1.25</u>	<u>0.265</u>		<u>1.5</u>	<u>0.2</u>
Structure N10-17, 2nd B, Lamanai (Room 4 with at least one exterior doorway)			Structure N10-17, 2nd B, Lamanai (Room 4 with no exterior doorway)		
	Depth	RA		Depth	RA
O	0	0.5	O	0	1.0
1	1	0.33	1	1	0.3
2	2	0.5	2	2	0.3
3	3	1.0	3	3	1.0
4	<u>1</u>	<u>1.0</u>	4	<u>inaccessible</u>	<u>-</u>
Mean	<u>1.75</u>	<u>0.66</u>		<u>2.0</u>	<u>0.65</u>

Table 3. Depth and relative asymmetry scores for Structures N10-17, 2nd A and B, Lamanai, Belize.

Structure N10-28, A and B, Lamanai. Structures N10-28, A and B at Lamanai and Structures B-5, A and B at Altun Ha are the most complex and best preserved structures in the sample. Since multiple construction phases have been fully documented for these buildings, gamma analysis can be used to evaluate the effect of Late Classic period modifications on access and traffic flow patterns in both cases.

Structure N10-28, A consisted of six rooms and had a highly symmetrical layout (Figure 5.5a). This phase of the building had a strong central axis characterized by aligned exterior doorways and the possibility of entrance from the N10[3] Courtyard and the area directly north of the Ottawa Group (Figures 5.5a-5.5c). Because Structure N10-28 communicated with both spaces, it is important to consider the implications of access from both the north and the south. As gamma diagrams for the two approaches illustrate (Figures 5.5b and 5.5c), the direction from which the building was accessed would have had differing effects on traffic flow and the order in

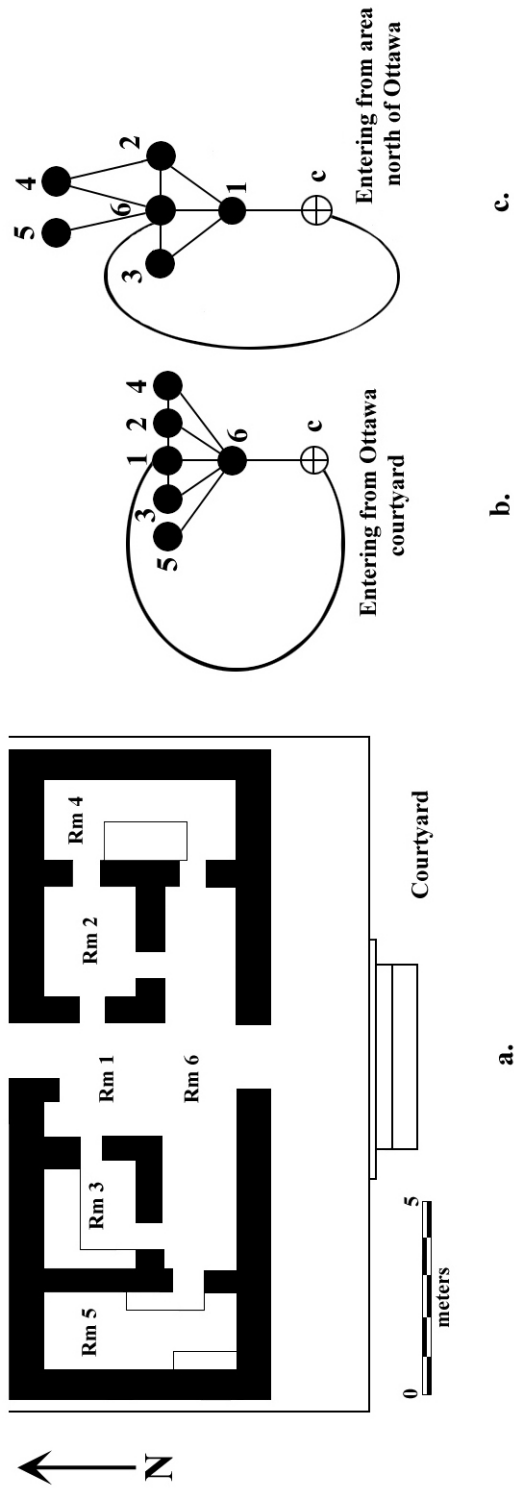


Figure 5.5a. Plan of Structure N10-28, A, Lamanai, Belize showing layout prior to Late Classic period modifications; b. justified gamma map showing layout if entered from the N10[3] Courtyard; c. justified gamma map showing layout if entered from the plaza north of Structure N10-28 (plan adapted from Graham 2004: Fig. 3 and sketch by C.R. Andres, 2002. Gamma diagrams by C.R. Andres).

which the building's spaces were experienced. A southern approach would have involved entrance through Room 6, the long room running parallel to the N10[3] Courtyard. This was the most integrating space in the building, providing the option of direct entry into every other room in N10-28, A. Room 6's numerous interconnections are clearly communicated in the gamma diagram (Figure 5.5a). They are also reflected in the contrast between Room 6's RA values and those of other spaces in the building (Table 4).

The northern approach contrasts with entry from the south. Notably, an individual would have had fewer options when entering via Room 1 since it would have been impossible to directly access Rooms 4 or 5 (Figure 5.5a). The contrasting integration of Rooms 1 and 6 is clearly reflected in their RA values (Table 4). As reflected by the number of interconnections between Structure N10-28, A's rooms (Figures 5.5b and 5.5c), the building's layout was relatively "ringy", distributed, and integrated, with all spaces but Room 5 possessing multiple points of entry. Comparison of Figures 5.5b and 5.5c also illustrates the extent to which Rooms 4 and 5 were "deeper" and the routes to them more convoluted when the building was entered from the north as opposed to from the south.

While these differences in accessibility may seem arbitrary, they assume significance if one considers the nature of the carrier spaces from which an individual would have been entering the building. The area north of Structure N10-28 was a large, open plaza that exhibited few signs of spatial restriction during the Late Classic period. Caution must be taken in making pronouncements about the accessibility of plazas since social restrictions could have limited entry of certain community members just as effectively as physical barriers. However, judging by the plaza's generous scale and lack of obvious traffic control features, it may well have been an accessible or "public" space. In contrast, the N10[3] Courtyard was almost certainly a highly restricted area during the Late Classic period. As has been indicated, the courtyard was completely surrounded by exclusive residences and was associated with a variety of changes that rendered it increasingly inaccessible during the Late Classic period. These characteristics suggest

it was an insular and private space. Appreciation of the contrasting qualities of these carrier spaces may be useful in interpreting Structure N10-28, A's layout. The fact the building is shallower when entered from the south probably indicates the N10[3] Courtyard was frequented by a relatively small, exclusive group of individuals (quite possibly the building's residents). The less direct northern entrance is more in keeping with a formal entry. In short, differences in accessibility of the building's spaces from the north and south may indicate different groups of individuals were entering the building from these directions. In this particular case, gamma analysis suggests Structure N10-28 was associated with a distinctive "front door"- "back door" arrangement during the Late Classic period.

The changes taking place in Structure N10-28 at the end of the Late Classic period were marked and gamma analysis is particularly useful in describing them. The most obvious modification involved the subdivision of Room 6 into Rooms 6, 7, and 8 (Figure 5.6a). This was accompanied by sealing of the doorway communicating between Rooms 2 and 6. A comparison of gamma diagrams for Structure N10-28, A (Figures 5.5b and 5.5c) with those for Structure N10-28, B (Figures 5.6b and 5.6c) reflects the extent to which these changes contributed to the greater inaccessibility and segregation of spaces in the later building. While the number of rooms in Structure N10-28, B increased, the number of doorways was reduced, resulting in a falling beta index (decreasing integration) (Table 2). A rise in the RA values of individual rooms (and for the building as a whole) reflects the increasing asymmetry and depth characteristic of Structure N10-28, B (Tables 2 and 4). Finally, the gamma maps document how the building assumed an increasingly nondistributed quality as the presence of multiple routes of access to spaces registered a sharp decline. These changes stand in contrast to the relative freedom of movement possible between many of N10-28, A's rooms.

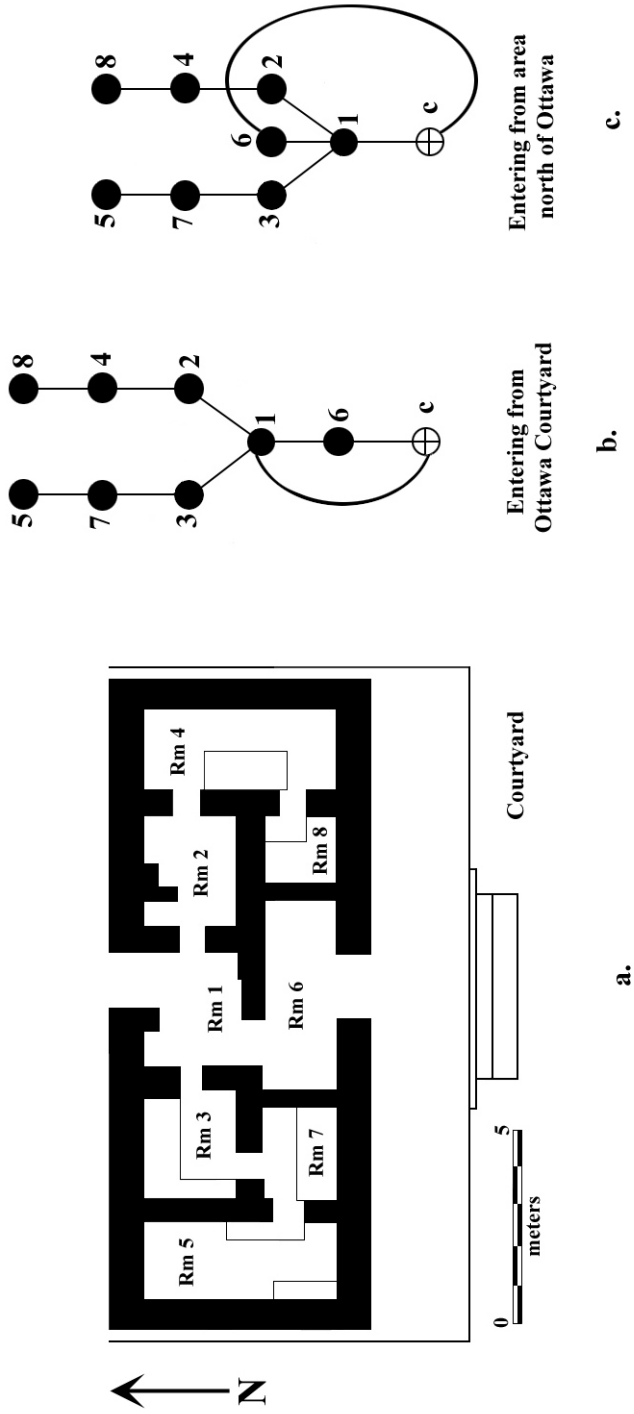


Figure 5.6a. Plan of Structure N10-28, B, Lamanai, Belize showing architectural layout following Late Classic period modifications; b. justified gamma map showing layout if entered from the N10[3] Courtyard; c. justified gamma map showing layout if entered from the plaza north of Structure N10-28. Note that both of the diagrams reflect traffic flow patterns prior to sealing of passageways between Structure N10-18 and Structure N10-28 and Structure N10-17 (plan adapted from Graham 2004: Fig. 3 and sketch map by C.R. Andres, 2002. Gamma diagrams by C.R. Andres).

Structure N10-28, A Lamanai, Belize			Structure N10-28, B		
	Depth	RA		Depth	RA
O	0	0.264	O	0	0.429
1	1	0.132	1	1	0.214
2	2	0.264	2	2	0.321
3	2	0.332	3	2	0.321
4	2	0.132	4	3	0.607
5	2	0.332	5	4	0.750
6	1	0	6	1	0.429
Mean	1.66	0.208	7	3	0.500
			8	4	0.750
			Mean	2.5	0.480

Table 4. Depth and relative asymmetry scores for Structures N10-28, A and B, Lamanai, Belize.

Various access measures also suggest changing relationships between the building and its carrier spaces. Whereas Room 6 was the most integrating space in Structure N10-28, A, its division into three rooms (two of which were not immediately accessible from much reduced Room 6 of Structure N10-28, B), eliminated the hub-like quality it possessed prior to the B-level modifications (compare Figures 5.5a and 5.6a). This is clearly reflected in Room 6's elevated RA value in Structure N10-28, B (Table 4). While the overall increase in segregation evident in Structure N10-28, B means no space possessed the level of integration previously associated with Room 6, Room 1 maintained a constant number of doorways and became the most integrated space in Structure N10-28, B by the end of the Late Classic period. This spatial transformation is potentially significant for it suggests Structure N10-28 became more accessible from the north than from the south. This change is noteworthy because it apparently runs counter to architectural patterns documented at many centers, including Altun Ha, at this time. Rather than displaying an increasing focus on the N10[3] Courtyard, this aspect of Structure N10-28, B's layout suggests the building took on an increasingly external orientation. This contrasts with the heightened internalization evident in many Late Classic period Maya architectural groups. While

this shift in orientation remains to be explained, it may foreshadow increasingly intensive use of the area north of the Ottawa Group and south of Structure N10-27 recently documented for the Terminal Classic and Early Postclassic periods at Lamanai (Graham 2004:231)

Structure B-5, A and B, Altun Ha. Extensive clearing of Structure B-5 at Altun Ha provided a wealth of data concerning the number, size, and location of the building's rooms and their interconnections (Pendergast 1982). The only significant uncertainty complicating access analysis has to do with the number of exterior entrances to the compound. The primary entrance to Structure B-5 was almost certainly from Plaza B via Area 4 (through Doorway 6). Pendergast (1982) also speculates it may have been possible to descend into Area 3 on the compound's west side from neighboring Structure B-3 (Figure 5.7a). Since the excavators were unable to rule out this latter possibility, both routes are considered viable points of entry in the following analysis. Detailed documentation of the architecture by Pendergast (1982) allows for analysis of changes in Structure B-5's Late Classic period layout similar to that possible for Structure N10-28 at Lamanai.

Structure B-5, A consisted of an assemblage of spaces primarily accessible via the pair of parallel east-west oriented rooms on compound's north side (Rooms 5 and 6). As Figure 5.7a suggests, movement west from Room 5 would have provided access to Room 7 and Area 3, while the eastern end of Room 5 would have allowed entrance into the compound's central spaces and Rooms 1-3. Assuming that access to Structure B-5 was also possible from Structure B-3, the compound would have had greater overall accessibility (reflected by a lower mean depth measurement) than if accessible from the plaza area alone (Table 5).

In terms of overall layout, Structure B-5, A's central, eastern, and western room blocks were relatively segregated from one another as suggested by the tree-like configuration of the gamma diagrams for this phase of the building (Figures 5.7b and 5.7c). This lack of integration is

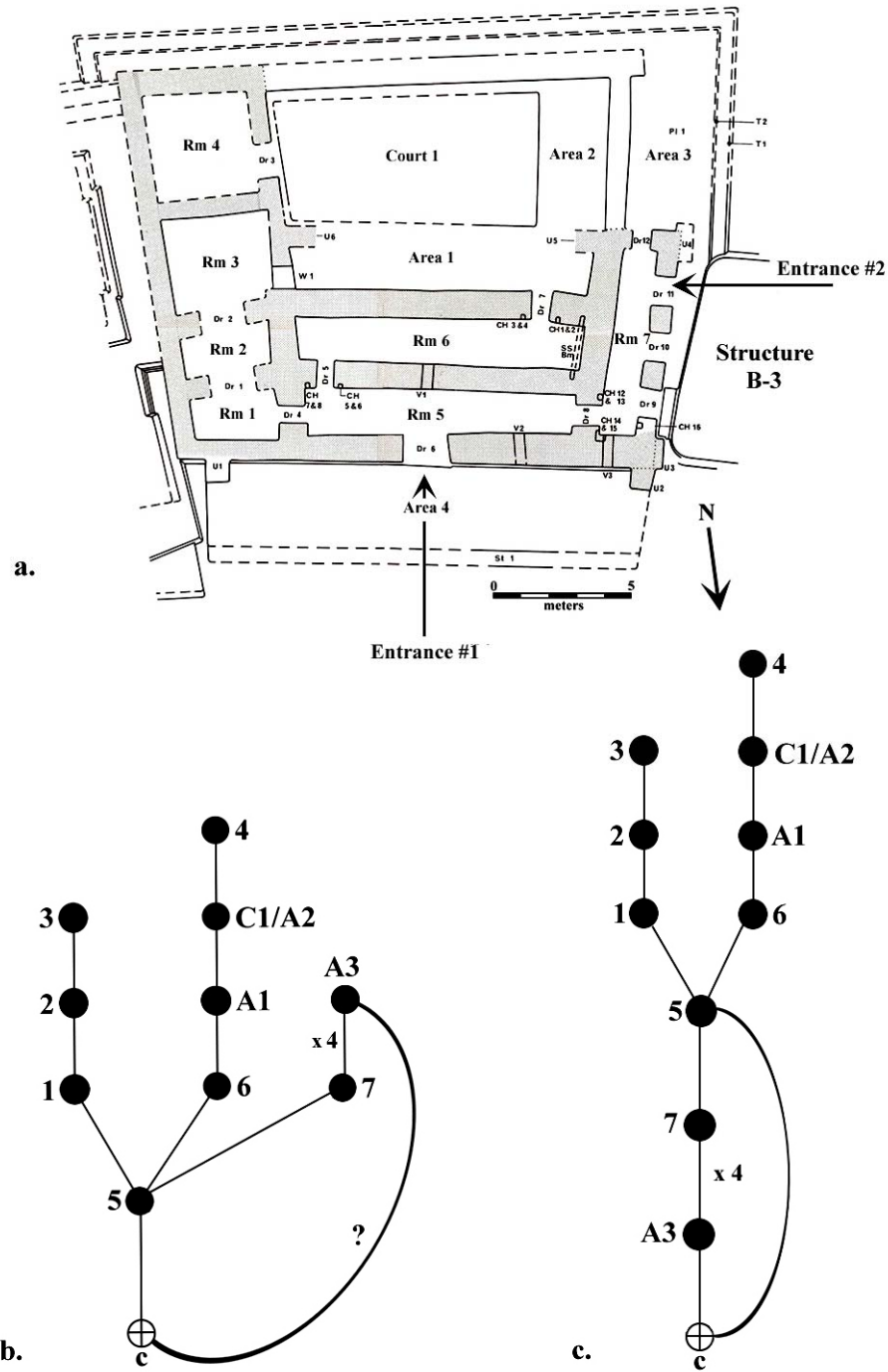


Figure 5.7a. Plan of Structure B-5, A, Altun Ha, Belize (adapted from Pendergast 1982:Fig. 10); b. gamma map of Structure B-5, A, justified from the perspective of entrance through Doorway 6 from Plaza A; c. gamma map of Structure B-5, A, justified from the perspective of entrance from Structure B-3 platform (assuming viability of this route) (diagrams by C.R. Andres).

also evident within each of the room blocks: as reflected by RA values, the rooms tend to be linearly arranged, with the deepest (Rooms 3 and 4) also being the most isolated (Table 5).

a. Structure B-5, A Altun Ha, Belize (assuming access from Area 4 and Str. B-3)			b. Structure B-5, A (assuming access from Area 4 only)		
	Depth	RA		Depth	RA
O	0	0.377	O	0	0.422
1	2	0.333	1	2	0.333
2	3	0.488	2	3	0.488
3	4	0.688	3	4	0.688
4	5	0.755	4	5	0.755
5	1	0.222	5	1	0.222
6	2	0.288	6	2	0.288
7	2	0.377	7	2	0.377
A1	3	0.400	A1	3	0.400
A2/C1	4	0.555	A2/C1	4	0.555
A3	1	0.533	A3	3	0.577
Mean	2.7	0.456	Mean	2.9	0.464
c. Structure B-5, B (assuming access from Area 4 and Str. B-3)			d. Structure B-5, B (assuming access from Area 4 only)		
	Depth	RA		Depth	RA
O	0	0.386	O	0	0.778
4	3	0.386	4	5	0.443
5	1	0.555	5	1	0.582
5b	5	0.443	5b	6	0.500
6	4	0.443	6	6	0.500
7	2	0.386	7	2	0.386
8	3	0.305	8	5	0.360
A1	3	0.305	A1	5	0.360
A2/C2	2	0.165	A2/C2	4	0.220
A3	1	0.220	A3	3	0.278
Mean	2.55	0.359	Mean	4.11	0.441

Table 5. Depth and relative asymmetry scores for Structures B-5, A and B, Altun Ha, Belize.

Overall, the building's layout was relatively asymmetrical and nondistributed during this phase: the plaza-oriented rooms exerted control over access to the deeper spaces in the compound and there was generally no more than a single route between intercommunicating spaces (the Room 7/Area 3 interface is the sole exception to this pattern) (Figures 5.7b and 5.7c).

Changes in layout evident from Structure B-5, A to Structure B-5, B had significant implications for accessibility and circulation within the building. The elimination the doorway

between Rooms 5 and 6 had the single greatest impact on access to the compound (Figure 5.8a). As Pendergast (1982:25) suggests, this change made it necessary for anyone entering the building from Area 4 to pass through Room 5, skirt the west side of the compound, and navigate the southern wall of the enclosure via a stile to gain access to Area 2/Courtyard 1. As access analysis of Structure B-5, B indicates, this modification made the building considerably deeper relative to Plaza B (compare Figures 5.7b and 5.8b). The increasing isolation of B-5, B's interior from the plaza is reflected in the dramatic rise in the carrier space's RA value (Table 5.5d). Furthermore, whereas Room 5 was the most integrating space in Structure B-5, A, relative asymmetry values indicate Area 2/Courtyard 1 assumed this distinction in Structure in B-5, B (Table 5). This is a significant change since it suggests relocation of the building's integrative "hub" from its foyer to a much deeper position within the compound (Figure 5.8a).

Interestingly, the gamma diagrams and a modest decline in mean RA values suggest the compound's growing inaccessibility from exterior areas of the community coincided with increasing integration of the building's interior spaces. This resulted from several architectural changes. First, the walls separating Rooms 1, 2, and 3 were removed, creating a single spacious room (Room 8). This altered the room (V) to connection (E) ratio for this part of the building from 3:3 in Structure B-5, A to 1:2 in Structure B-5, B. The opening of second doorways between Room 8 and Area 1, and Area 1 and Room 6 in Structure B-5, B also gave the building's spaces a more "distributed" quality than those of its predecessor. Together, these changes are reflected in a modest increase in the beta index from Structure B-5, A to Structure B-5, B (Table 2). The more integrated spatial organization resulting from these changes is also reflected in the increasing "ringiness" evident in the gamma diagrams (compare Figures 5.8b and 5.8c).

The changes associated with Structure B-5, B may also have contributed to increasing distinctions between the entrances to the compound. Supposing Structure B-5 could have been entered from Structure B-3, spatial analysis suggests Structure B-5 possessed an access arrangement similar to that documented for Structure N10-28 at Lamanai. Specifically, depth

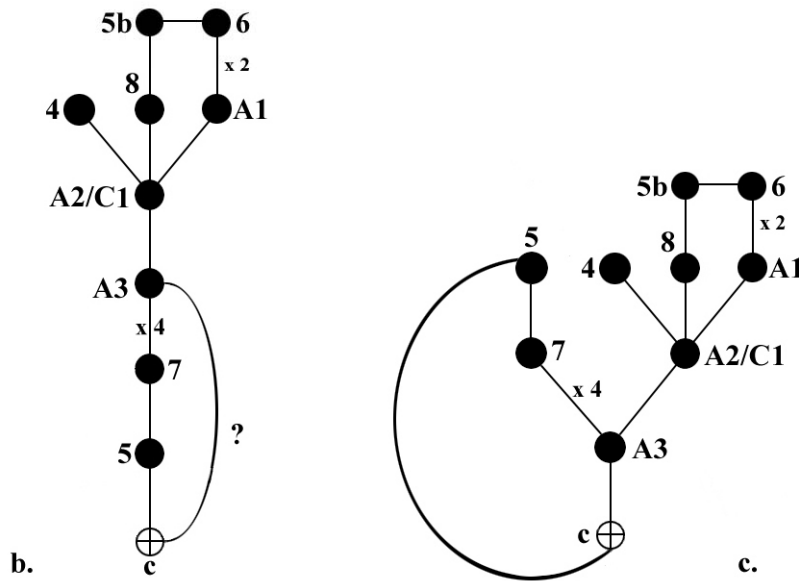
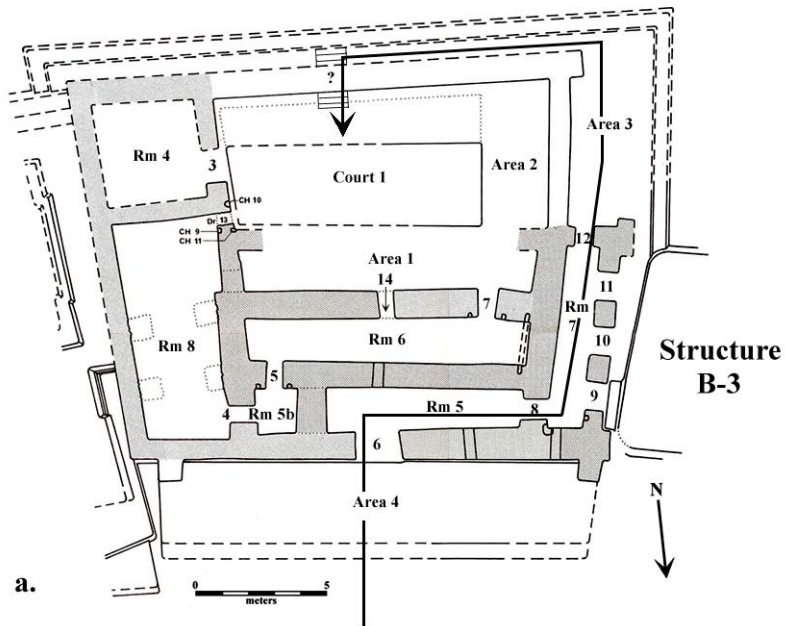


Figure 5.8a. Plan of Structure B-5, B, Altun Ha, Belize (adapted from Pendergast 1982:Fig. 10); b. gamma map of Structure B-5, B, justified from the perspective of entrance through Doorway 6 from Plaza A; c. gamma map of Structure B-5, B, justified from the perspective of entrance from Structure B-3 platform (assuming viability of this route) (gamma diagrams by C.R. Andres).

measurements and RA values for Structure B-5, B's spaces suggest the building possessed a dominant and a secondary entrance. The route from Structure B-3 would have bypassed Rooms 6 and 7 and provided an individual direct access to Area 3 (well on his or her way to the entrance to Courtyard 1/Area 2) (Figure 5.8a). Entrance through Doorway 6 apparently represented the longest and most circuitous route into the building, suggesting this was conceived as B-5, B's formal entrance. This interpretation is consistent with other factors, including the fact that this was the building's most impressive plaza-oriented side and that entrance from Area 4 involved passage through the single, centrally-placed, and arguably most formal exterior doorway. In final analysis, the more direct route to Structure B-5, B from Structure B-3 is in keeping with a casual link or a "side" entrance joining two qualitatively similar spaces. This possibility is supported by Pendergast's (1982:26) suggestion that Structures B-3 and B-5 were not only both elite residences, but that Structure B-5 was an expansion of the Structure B-3 "palace" compound. If this functional interpretation is correct, it would suggest that the B-3-to-B-5 route was most commonly used by "insiders", whereas the northern entrance may have been re-configured in Structure B-5, B to restrict the movement of non-residents. Although the changes defining Structure B-5, B seem to have originated in the 8th century A.D., this layout remained constant until the building's abandonment during the Terminal Classic period (Pendergast 1982:27-30).

Patterns of physical access to Late Classic period "ceremonial" structures

Certain Late Classic period buildings suggested to have served ceremonial functions at Lamanai, Chau Hiix, and Altun Ha reflect spatial patterns similar to those evident in elite residences. The sample of monumental ceremonial structures at the three sites encompasses several formally distinct sub-divisions.

Altun Ha Structures A-1, A-3, and A-8 have been pointed to as structures that most likely served ceremonial functions. These buildings are classified as "temple structures" and they are loosely linked by a set of architectural characteristics, including the modest size of their roofed

areas; limited numbers of rooms; association with elaborate interments; and a lack of benches, cord holders, and other interior features often associated with elite residential structures. The structures are comprised of vaulted masonry Buildings that either rested on tall pyramidal substructures (Altun Ha Structures A-1 and A-3) or on lower platforms associated with elaborate architectural sculpture (Altun Ha Structure A-8). Variations in spatial organization reflected in the buildings' plans, gamma diagrams, and a range of access related measurements suggest Structures A-1, 1st E; A-3, 1st D; and A-8, 2nd are not a formally cohesive sub-group (Figures 5.9-5.11, Table 6 and Table 7). Different measurements suggest similarities between different buildings. While mean depth and RA values link Structures A-1 and A-3, beta scores indicate Structures A-1 and A-8 possess more similar levels of integration. While none of the buildings are highly integrated, they vary sufficiently in spatial organization that few clear similarities emerge. Although a larger sample size is necessary before the spatial characteristics

a. Structure A-3, 1st D			b. Structure A-8, 2nd			c. Structure A-1, 1st E		
	Depth	RA		Depth	RA		Depth	RA
O	0	0.300	O	0	1.000	O	0	0.500
1	1	0.100	1	1	0.500	1	1	0.166
2	2	0.300	2	2	0.333	2	2	0.333
3	2	0.300	3	3	0.500	3	1	0.500
4	1	0.100	4	4	1.000	4	3	0.833
5	2	0.300						
Mean	1.6	0.233		2.5	0.666		1.75	0.466

Table 6. Depth and relative asymmetry scores for Structures A-3, 1st D; A-8, 2nd; and A-1, 1st E, Altun Ha, Belize.

Structure	Site	E	V	Maximum Depths	Beta Index	Exterior Entrances
A-1, 2 nd	Altun Ha	3	4	3	0.75	2
A-3, 1 st D	Altun Ha	6	5	2	1.2	2
A-8, 2 nd	Altun Ha	3	4	4	0.75	1

Table 7. Select Altun Ha ceremonial structures: Edges (E), Vertices (V), Beta Indices, and number of exterior entryways.

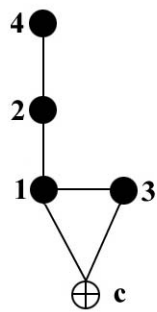
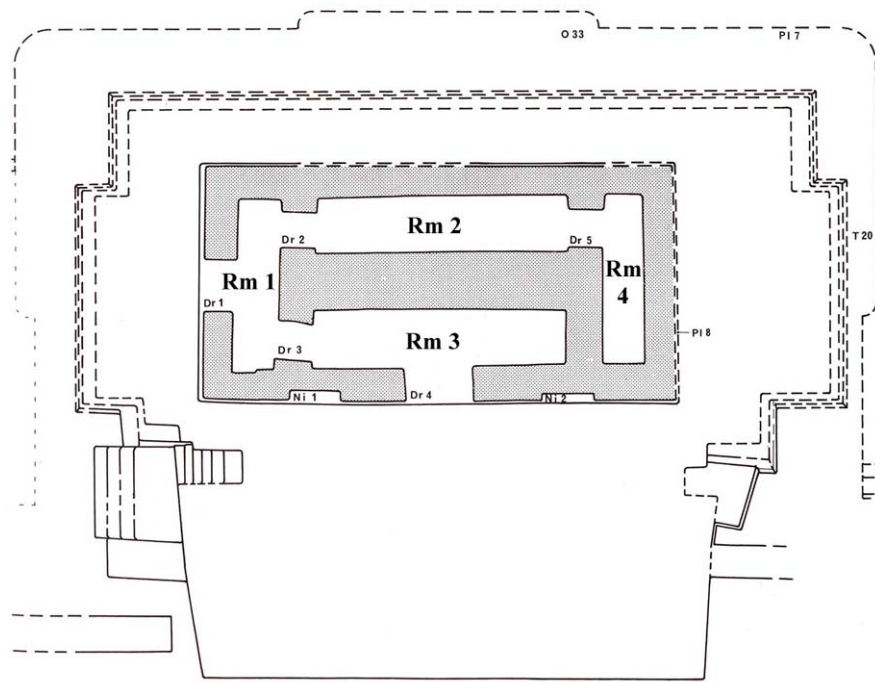


Figure 5.9. Plan of superstructure of Structure A-1, 1st E and F, Altun Ha, Belize (after Pendergast 1979:Fig. 25) and corresponding justified gamma map (diagram by C.R. Andres).

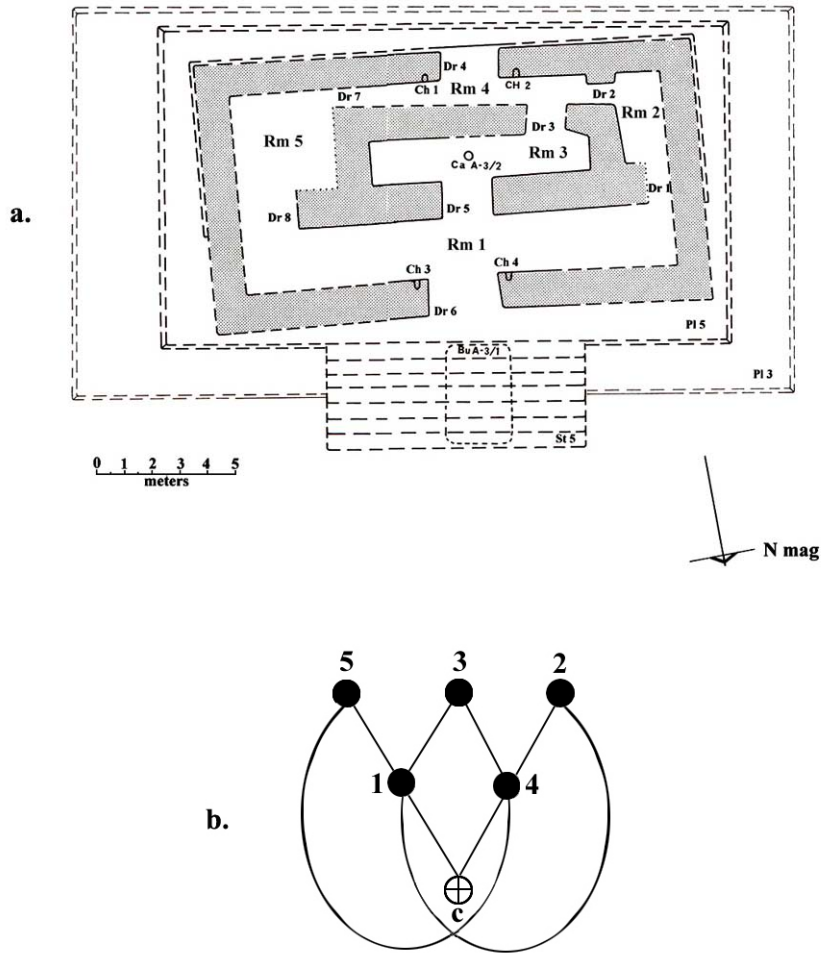


Figure 5.10a. Plan of Structure A-3, 1st D, Altun Ha, Belize (after Pendergast 1979: Fig. 56); b. corresponding gamma map (diagram by C.R. Andres).

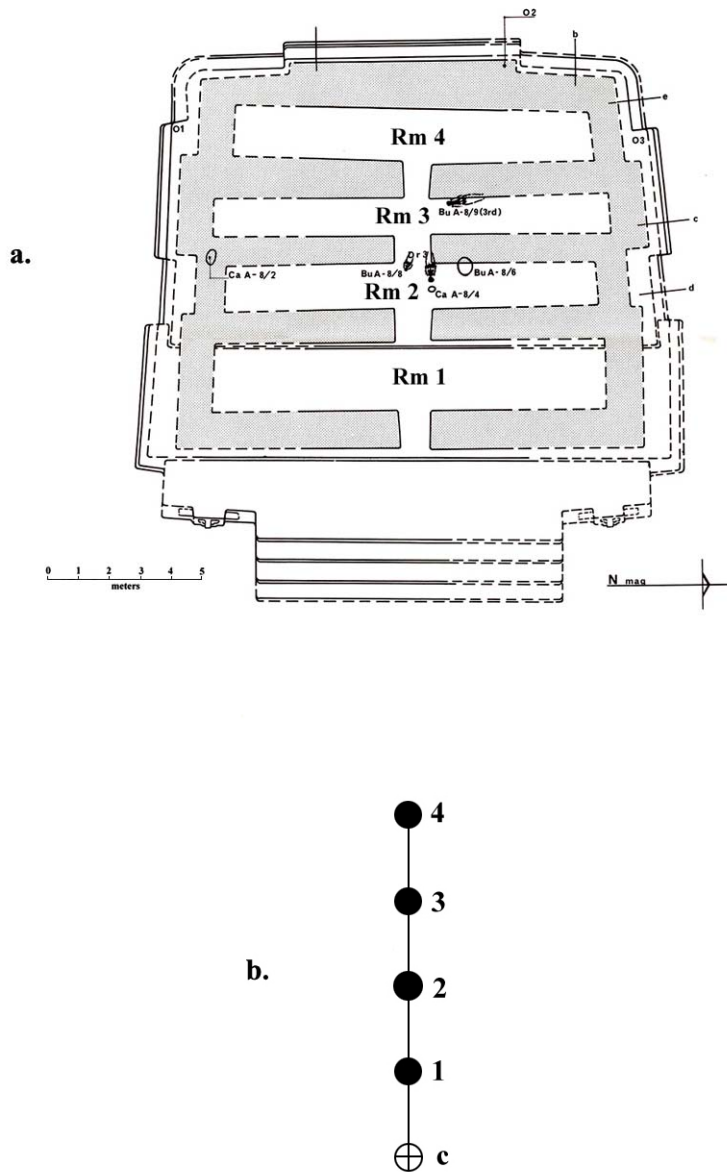


Figure 5.11a. Plan of Structure A-8, 2nd, Altun Ha, Belize (after Pendergast 1979:Fig. 31); b. corresponding justified gamma map (diagram by C.R. Andres).

of such structures can be meaningfully compared, this very preliminary consideration raises questions about the formal integrity of this particular group of buildings.

Lamanai Building Type Structures (LBTs). The second sub-category of ceremonial buildings includes Structures N10-9, N10-27, N10-43, and N10-56 at Lamanai; Structure 1 at Chau Hiix; and Structure B-4 at Altun Ha. These constructions are defined by their pyramidal substructures, mid level Lamanai Building Type structures, and open summits. They are the primary focus of the following section because they form a fairly coherent architectural sub-category, initially appeared during the Late Classic period, remained in use during the Terminal Classic period, and because they have the most significant access related implications for the “ceremonial” architectural category. While Altun Ha Structures A-5 and A-6 do not qualify as examples of Lamanai Building Type structures, the superstructures of these buildings are considered relative to LBTs because they share certain formal features.

The buildings associated with LBT structures can be divided into two categories. One group consists of relatively small, one or two roomed, corbel vaulted Buildings. These chambers were added to the plaza-oriented faces of Structures N10-9 and N10-56 at Lamanai during the first part of the Late Classic period. In each case, entrance was only possible by way of a central front doorway. Structure N10-9's and N10-56's LBTs were both rebuilt during the second half of the Late Classic period. Whereas Structure N10-9, A's LBT (A.D. 500-600) occupied the structure's first terrace, its replacement (A.D. 600-700) was reconstructed at a higher point on the substructure (Belanger et al. n.d.). In the case of Structure N10-56, the original Late Classic period (A.D. 550-625) LBT was raised approximately one meter above the plaza on a low platform. When this Building was remodeled, it was re-positioned about midway up the substructure (approximately 3-4 meters above plaza level) (Belanger et al. n.d.). While Structure N10-56, A's LBT was nearly square, the Building associated with Structure N10-56, B had a more elongated configuration. This larger Building would have functioned as a more effective

physical and visual barrier than its predecessor. While Structure N10-56, B's LBT was only accessible via a single plaza-oriented doorway, its rear wall appears to have been pierced by a pair of doorways. While the position of these Buildings obviously differs from the location of those found on the summits of Classic period "temple" structures at other sites, the relatively small, dark, inaccessible interior spaces of these single room Buildings are not unlike the interiors of more typical temple structures. This basic resemblance may indicate the two building types were functionally similar and that these Lamanai structures were simply a variation on the more common temple configuration. The fact these architectural features represent Late Classic period additions to earlier buildings suggests a movement towards increasingly restricted access during this period.

The second type of structures possessing Lamanai Building Type features at Lamanai, Chau Hiix, and Altun Ha appears to have less in common with Classic period ceremonial structures documented at other locations than those discussed above. LBTs were prominent features of Structures N10-43 at Lamanai, B-4 at Altun Ha, and Structure 1 at Chau Hiix during the Late Classic period. While these buildings had LBT at the same mid level position as the structures discussed above, these LBTs took the form of long, corbel vaulted chambers stretching nearly the entire width of their pyramidal substructures. The LBT associated with Structure B-4 at Altun Ha consisted of a pair of parallel rooms, while the features documented for Structures N10-43 at Lamanai and Structure 1 at Chau Hiix were single rooms. In each case, investigations have demonstrated that the Buildings were added to earlier, more open ceremonial structures during the 7th and 8th centuries A.D. (Andres 2000a; Pendergast 1981a, 1982; Belanger et al. n.d.). While access diagrams of these structures are much simpler than those of Maya elite residences, gamma analysis emphasizes the Buildings' unusual spatial qualities.

In addition to being unusually long and narrow, LBT features are distinguished from other building types by their depth and accessibility. Gamma diagrams emphasize the shallowness of these Buildings. Altun Ha Structure B-4, A, one of the "deepest" examples, has a

maximum depth value of 2 (Figure 5.12). Analysis of the Building associated with Structure A-6 at Altun Ha illustrates its similarity to Structure B-4. Like Structure B-4, Structure A-6 (A and B) consisted of a pair of very long parallel rooms and had a maximum depth of 2 relative any point of entry (Figure 5.13a). While a plan of Structure N10-43 at Lamanai has yet to be published, its LBT was only one room deep (Belanger et al. n.d.; Pendergast 1981a:41). The LBT associated with Structure 1 at Chau Hiix likewise consisted of a single extensive chamber.

Based on the data currently available, these Buildings had variable access. Altun Ha B-4 (A and B) had 9 doorways in the exterior wall of Room 1 and 5 doorways in the eastern wall of Room 2. A single doorway in each end of the Building provided an additional means of access to either Room 1 or Room 2 (Figure 5.12a). Passage between Rooms 1 and 2 in Structure B-4, A was possible via two doorways in the spine wall. The LBT added to Structure N10-43 at Lamanai also had 9 doorways on its plaza oriented side. However, unlike the Building at Altun Ha, this Lamanai LBT appears to have had few or no doorways in its back wall. While the LBT associated with Structure 1 at Chau Hiix has not been fully excavated, exposed portions suggest it had multiple doorways in its front wall. Clearing of its rear wall indicated it had no openings along this face. Taken together, these data suggest entry to these features would have been relatively unrestricted at each of the sites. However, once access to the features had been gained, the LBTs either prevented or limited further movement up the buildings. At Lamanai and Chau Hiix, entrance into the LBTs associated with Structures N10-43 and Structure 1 may have amounted to a dead end. While movement beyond Room 1 was possible in Structure B-4, A at Altun Ha, passage was unquestionably restricted, with the number of options reduced from 9 to 4 (Figure 5.12a).

Over the course of the Late Classic period, Structure B-4 at Altun Ha underwent a number of modifications that first increased and then reduced the inaccessibility of its LBT. The first of these changes added a third doorway to the spine wall separating Rooms 1 and 2 in Structure B-4, 2nd B (Figure 5.12b). The 3-doorway alignment created by this modification

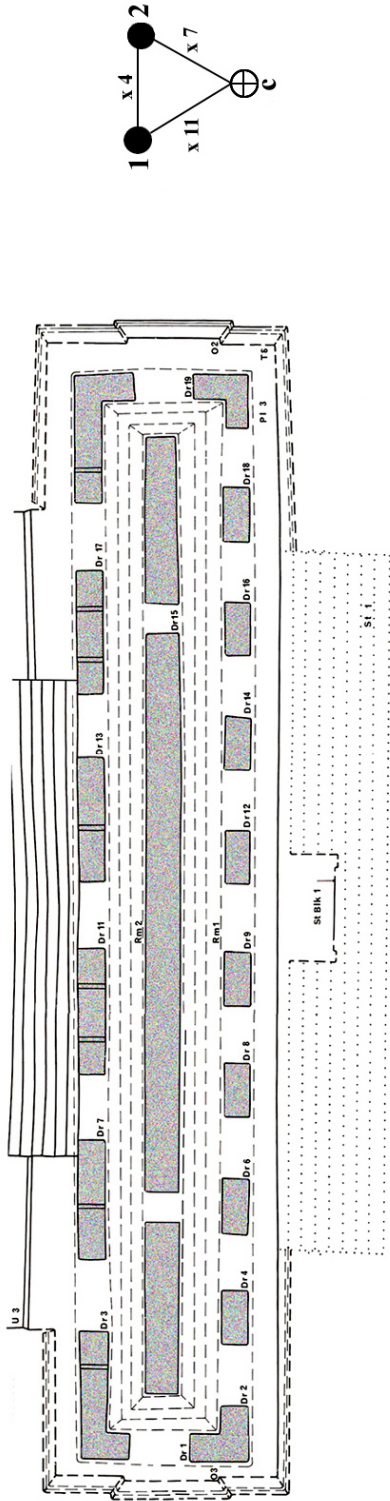


Figure 5.12a. Plan of Lamanai Building Type structure added to Structure B-4, 2nd A, Altun Ha, Belize (adapted from Pendergast 1982:Fig. 22) and gamma map representing layout of the LBT. Note that Platform 3 functions as the "carrier" space in this instance (diagram by C.R. Andres).

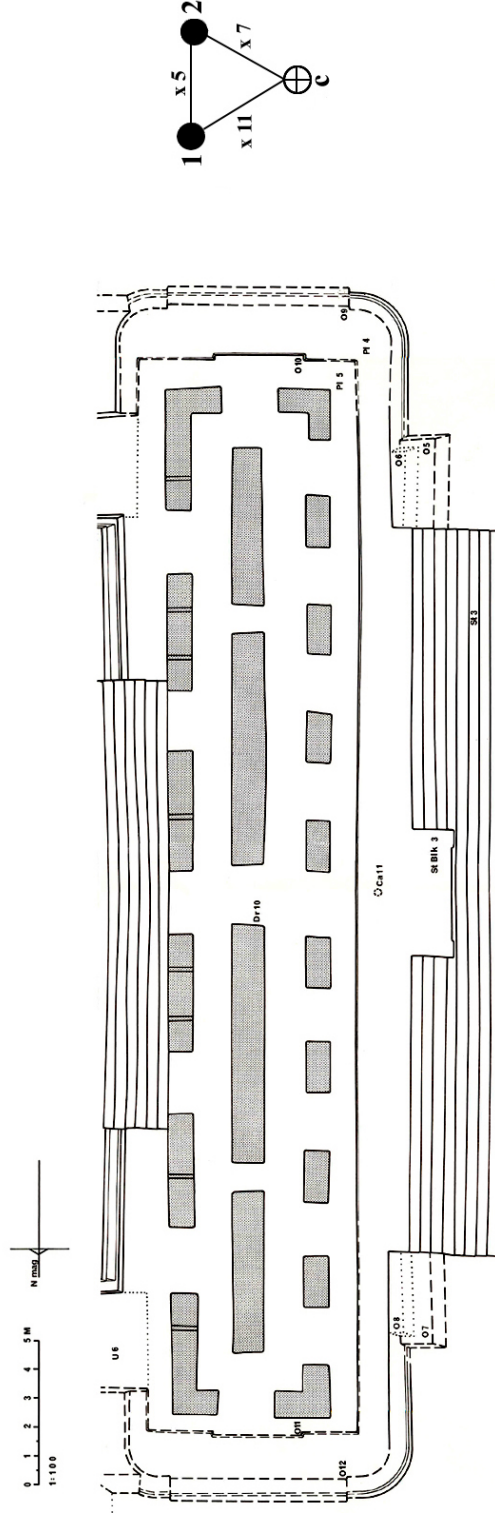


Figure 5.12b. Plan of LBT associated with Structure B-4, 2nd B, Altun Ha, Belize (after Pendergast 1982:Fig. 39) and corresponding gamma map (diagram by C.R. Andres).

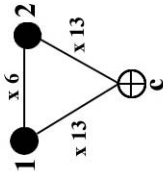
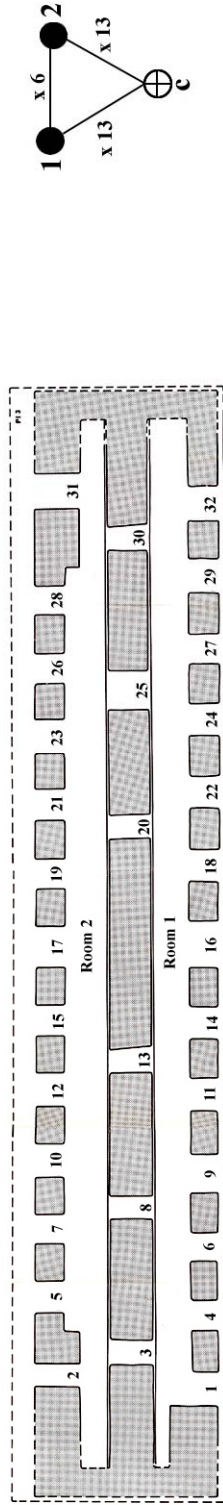


Figure 5.13a. Plan of Structure A-6, B, Altun Ha, Belize (adapted from Pendergast 1979:Fig. 71 and corresponding gamma diagram (diagram by C.R. Andres).

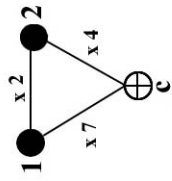
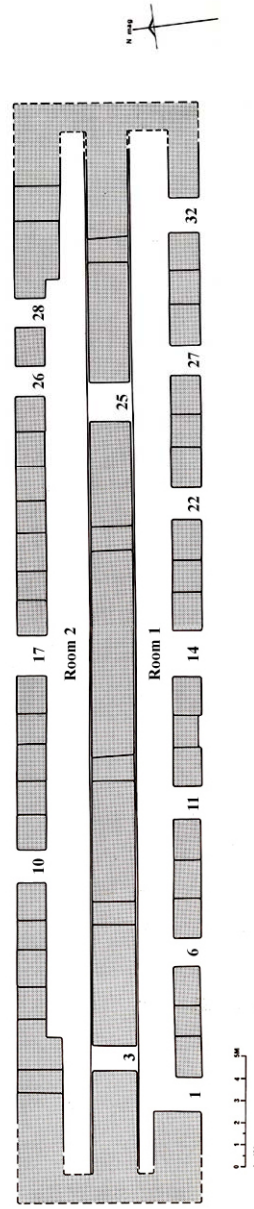


Figure 5.13b. Plan of Structure A-6, C, Altun Ha, Belize (adapted from Pendergast 1979:Fig. 74) and corresponding gamma diagram (diagram by C.R. Andres).

reduced the Building's barrier-like qualities, making it both possible to see and pass directly through the LBT. This movement toward increased access was dramatically reversed however in Structure B-4, 2nd C. In this phase, the doorways between Rooms 1 and 2 were sealed, Room 2 was filled with rubble, and one of the doorways (Doorway 8) in Room 1's western wall was sealed (Figure 5.14). These changes not only made it impossible to pass through the Building, but created two small and relatively private spaces (Rooms 2A and 2B) at either end of the Building. This trend towards more restricted access was reversed yet again in Structure B-4, 2nd D when the LBT was buried by new frontal terraces and an axial stair (Pendergast 1982). These changes transformed Structure B-4 into an open platform whose summit could be readily accessed from plaza level by a series of unobstructed stairways.

Visual Effects of Changes in Late Classic Period Built Environments

The possibility that Maya buildings were planned and constructed in ways that visually linked them with a variety of natural and human made features has received a moderate amount of attention in the literature. Miller (1988:185, 1992:164), Tate (1989:416), Dunning (1992:148), and Kowalski and Dunning (1999:285) have all proposed that major buildings at Copán, Yaxchilán, and Uxmal were oriented to establish sight lines between buildings and topographic features. Scholars with an interest in archaeoastronomy (e.g., Tate 1989:417, 1992:249) have proposed that the placement of Maya monumental buildings was determined by alignments with heavenly bodies. While possible, these have yet to be conclusively demonstrated.

Scholars have also proposed that important residential and ceremonial structures were intentionally oriented to pre-existing buildings. Schele (1981) has suggested that the placement of temple structures at Palenque was motivated by a desire to establish visual relationships between the "new" buildings of the Cross Group and pre-existing monuments commissioned by earlier rulers. Hartung (1976, 1980) pursued similar lines of inquiry in the Palace at Palenque, suggesting that later courtyards were constructed so that their diagonal axes defined sight lines

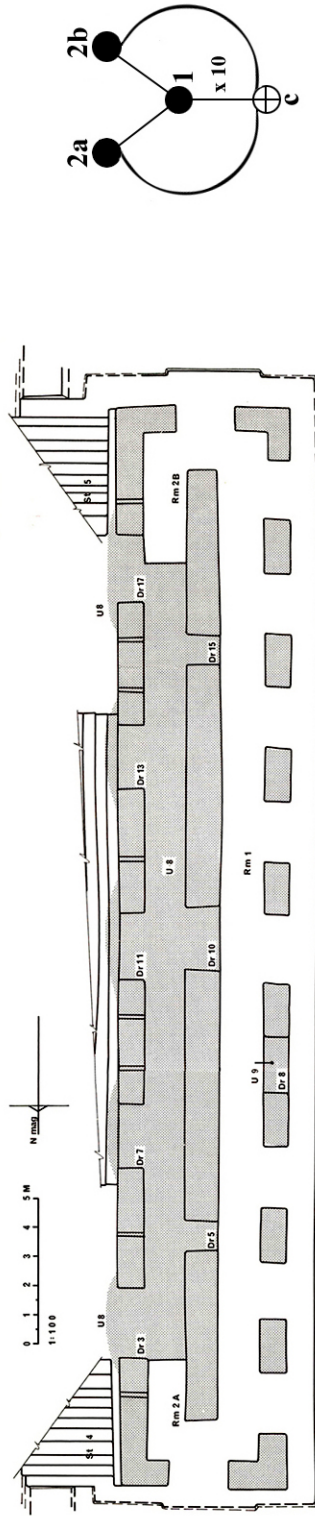


Figure 5.14. Plan of modifications to LBT of Structure B-4, 2nd C, Altun Ha, Belize (adapted from Pendergast 1982: Fig. 44) and corresponding gamma map (diagram by C.R. Andres).

anchored in the central doorways of major temple structures constructed by the ancestors of the ruler responsible for enlarging the Palace (1980:74). Hartung also (1980:78) noted other alignments, including sight lines corresponding with windows in the Palace. As discussed in Chapter 3, Harrison (1989, 1999) has also focused on sight lines, suggesting that building placement at Tikal reflects the “surveying” of key architectural features from the doorways of existing structures in the Central Acropolis.

In each case, the authors interpret these visual relationships from a politico-religious perspective, equating spatial relationships with acts of reverence and building placements with statements of dynastic legitimacy through emphasis of links with earlier political regimes. It is the excellent architectural preservation, exceptional historical records, and ability of these scholars to link individual Maya rulers to specific building projects at Palenque and Tikal which allows for these interpretations.

While an absence of the conditions at Palenque and Tikal means that this approach is not possible at Lamanai, Chau Hiix, and Altun Ha, the architecture at the Belizean centers lends itself to alternative forms of analysis which take into account visual relationships. The results of this analysis suggest visual qualities of Maya buildings fulfilled functions above and beyond those considered by Schele, Hartung, and Harrison.

Visual qualities of Lamanai Building Type structures

Building on David Pendergast’s (1979, 1982, 1986a, 1992) observations, the addition of Lamanai Building Type structures to ceremonial buildings including Structures N10-9 and N10-43 at Lamanai, Structure B-4 at Altun Ha, and Structure 1 at Chau Hiix, would have created visually inaccessible spaces on the plaza-oriented faces of these buildings. These changes were introduced during the Middle-to-Late Classic period with the initial construction of LBTs. The unequal visual relations potentially arising from these additions to the built environment are noteworthy.

Attention to sight lines (methods adapted from Moore 1996), suggests the spatial qualities of LBTs would have limited the ability of individuals to peer into the Buildings from plaza level in several ways (see also Pendergast 1982, 1986a, 1992). The Buildings' elevation would have been one factor that restricted visual access to their interiors. The physical characteristics of LBT's facades would also have introduced a series of visual restrictions. On one level, the piers separating the entrances to the Buildings would have acted as obstacles, fragmenting views and screening activities in the Buildings (Figure 5.15a-5.15c). Lighting would also have been a critical factor. While qualities of light in Maya centers would have varied seasonally and according to time of day, the difficulty of peering into dim spaces from brightly lit ones would have restricted visual accessibility. At certain times, patterns of light and shadow associated with LBTs may even have rendered individuals positioned in the Buildings invisible from below. The fact that very few of the doorways penetrating the front, rear, and spine walls of LBTs and other range type structures were aligned is noteworthy from this perspective. This arrangement suggests that individuals standing in doorways generally would not have been silhouetted by light passing through the structures.

Placement of oneself at the privileged end of this dynamic reinforces the visual advantage of an individual positioned in one of these Buildings. Besides creating private spaces and screening the fronts of the larger structures to which they were added (Pendergast 1986a), LBTs would have provided commanding views across the plazas onto which they faced (Figure 5.16). Lighting conditions would have facilitated views out from the Buildings: individuals entering plazas below the structures would have been visible against light colored backgrounds. While this visual dynamic is unlikely to have been unidirectional¹⁷, use of LBTs' interiors would have visually privileged those gazing out into ambient spaces, giving them the option to be seen or not seen. Sight line analyses consequently buttress observations suggesting that addition of LBTs

¹⁷ Pendergast (1982) has proposed that the open roofs of LBTs, which were accessible by way of stairs, may have served stage-like functions.

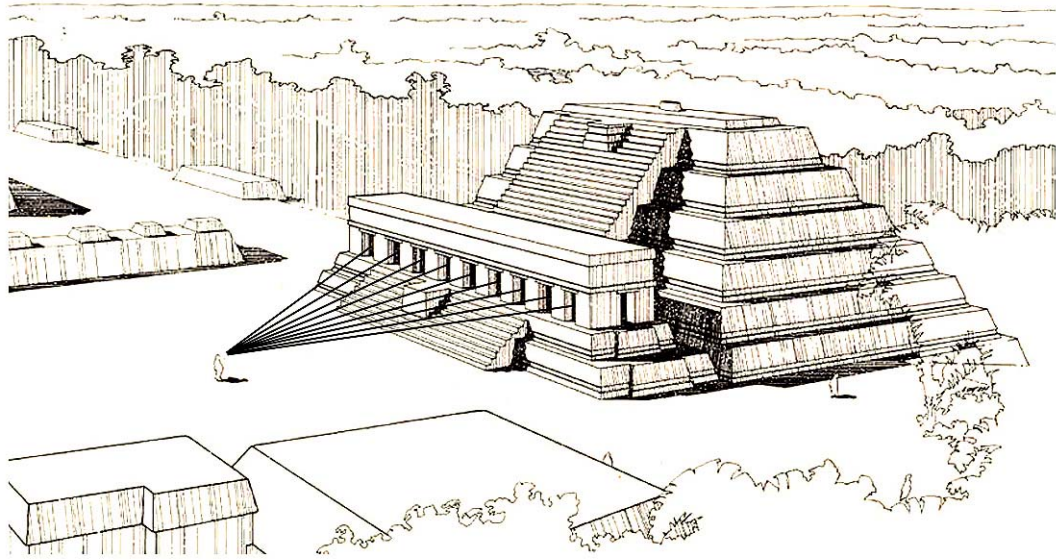


Figure 5.15a. View of Structure B-4, 2nd A, Altun Ha, Belize showing visual access to Lamanai Building Type structure from plaza level (adapted from Pendergast 1982: Fig. 30).

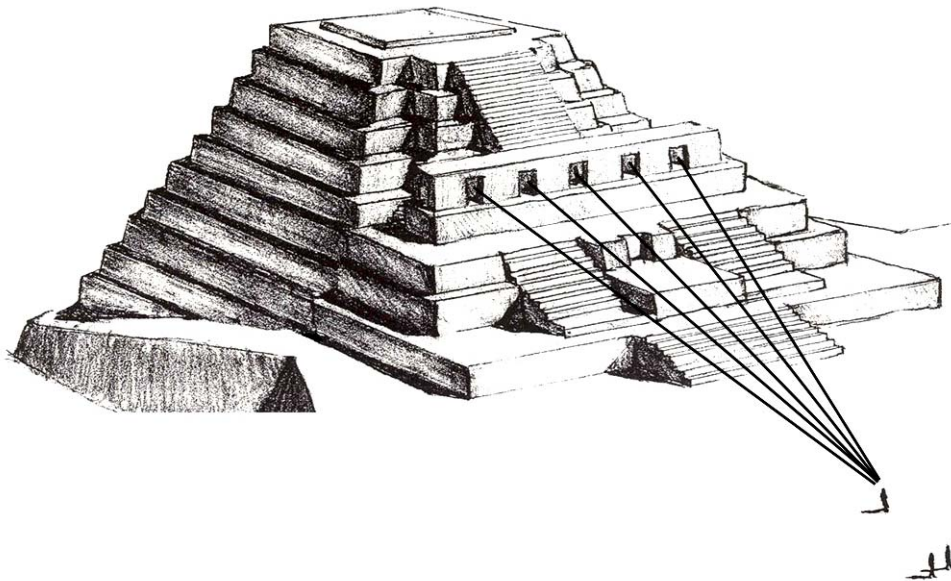


Figure 5.15b. Reconstruction drawing of Structure 1, 2nd A, Chau Hiix, Belize showing visual accessibility of Lamanai Building Type structure from plaza level (original drawing by S.L. Oldenburg, modified by C.R. Andres, used here courtesy of Dr. K. Anne Pyburn).

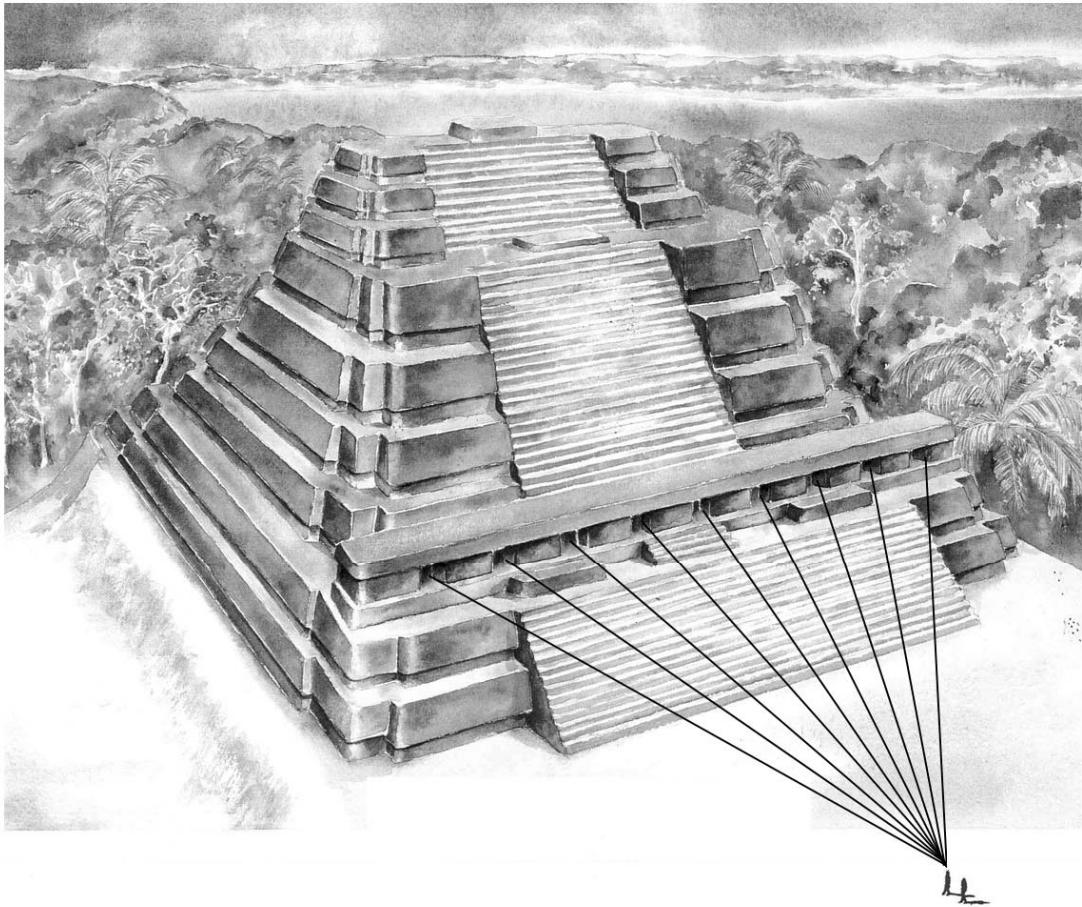


Figure 5.15c. Reconstruction of Structure N10-43, Lamanai, Belize showing visual access to Lamanai Building Type structure (in the 7th century A.D.) (drawing by L. Belanger from the *Lamanai Guide Book*, adapted by C.R. Andres).

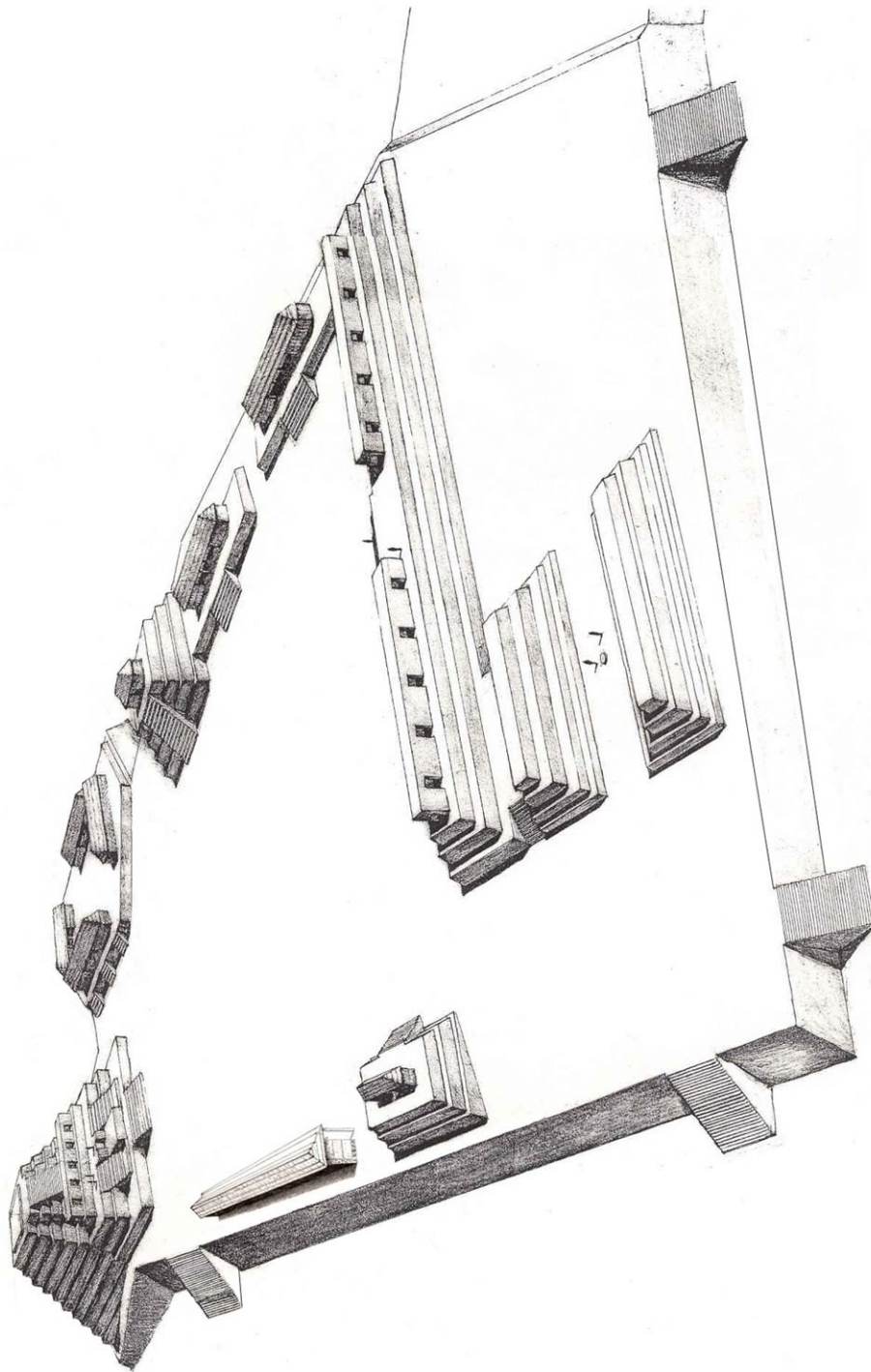


Figure 5.16. Reconstruction drawing of the main platform, Chau Hiix, Belize showing the view of the Main Plaza afforded by Structure 1 during the Late-to-Terminal Classic period (drawing by S.L. Oldenburg with additions by C.R. Andres. Used here courtesy of Dr. K. Anne Pyburn).

to buildings at Lamanai, Chau Hiix, and Altun reduced visual accessibility to the constructions during the Late Classic period (Andres 2000a, 2002a, 2002b; Andres et al. 2004; Pendergast 1982, 1986a, 1992).

Sealed doorways. Infilling of doorways is reported in ceremonial structures at many locations and has implications for changing visual relationships. Reduced numbers of doorways would have augmented the visual inaccessibility of buildings initially resulting from elevated and shadowed openings. Elimination of exterior doorways in elevated range structures might be expected to effect occupants and outsiders in similar ways. In reality, however, an individual positioned in an open doorway would command the same outward perspective regardless of the number of openings in a facade. An individual viewing a building from the plaza level, on the other hand, would experience a reduced number of sight lines with each sealed doorway.

Examples of modifications which reduced sight lines in this way include doorways sealed in the LBTs of Structures B-4 at Altun Ha and N10-43 at Lamanai (Pendergast 1982; personal observation 2002). The systematic reduction of doorways in Structure A-6 at Altun Ha from 32 to 19 (15 of which were exterior doorways) would have produced a similar effect (Pendergast 1979) (Figures 5.13a and 5.13b). Ultimately, attention to sight lines suggests the sealing of doorways during the Late Classic period would have tended to increase the one-sidedness of the visual dynamic which already privileged building occupants over plaza level observers.

Views from open summits. Consideration of the built environment from the perspective of visual relations also has significant implications relative to the configuration of the larger structures associated with LBTs. As previously noted, structures of this type are characterized by large pyramidal platforms, mid level chambers (LBTs), and open summits (Pendergast 1981a). While it is the absence of superstructures that makes these buildings anomalous (Pendergast 1982), this layout has yet to be explained in terms of a practical function. Of the buildings with LBTs at Lamanai, Chau Hiix, and Altun Ha, Structure B-4 at Altun Ha is the only building with a

permanent feature on its summit: masonry altars stood on top of the structure during each of its four construction phases (Pendergast 1982). Based on this association of altars with Structure B-4, Pendergast (1982) suggests the structure's summit was the site of open-air rites and offerings. The spatial qualities of these buildings, however, suggest it is useful to consider how buildings associated with LBTs were also predisposed to other functions.

The form of Structure B-4 at Altun Ha, Structures N10-9 and N10-43 at Lamanai, and Structure 1 at Chau Hiix introduces the possibility that the buildings functioned as observation points. Whereas superstructures limited view sheds from the tops of typical temple structures, the open summits of structures with LBTs at Lamanai, Chau Hiix, and Altun Ha would have provided uninterrupted 360 degree panoramas of the surrounding the landscape. The perspectives available from these buildings may have been important on multiple levels. Most immediately, the summits of these buildings would have provided views of activities taking place in each of the communities (Figure 5.17a-5.17c). Based on the buildings' locations, one can speculate the structures were also important in monitoring approaches to the communities. In the case of Chau Hiix and Lamanai, Structures 1, N10-9, N10-43, and N10-56 provide commanding views over water approaches along Western Lagoon and the New River. Structure B-4 at Altun Ha would have provided a similar perspective over the surrounding coastal plain. Finally, attention to sight lines suggests the possible regional significance of large structures with open summits. Harrison (1999) has discussed how the visibility of monumental constructions across significant distances may have facilitated communication between centers. The fact that Structure 1 at Chau Hiix is presently visible from the summit of N10-43 at Lamanai and Structure B-4 at Altun Ha can be made out from the top of Structure 1 at Chau Hiix despite being obscured by vegetation suggests sight lines linked the communities in prehistory. Although buildings with LBTs probably did not function primarily as observation points, the emergence of these unusual structures at Lamanai, Chau Hiix, and Altun Ha during the Late Classic period may in part be attributable the visual control they provided certain members of these communities.

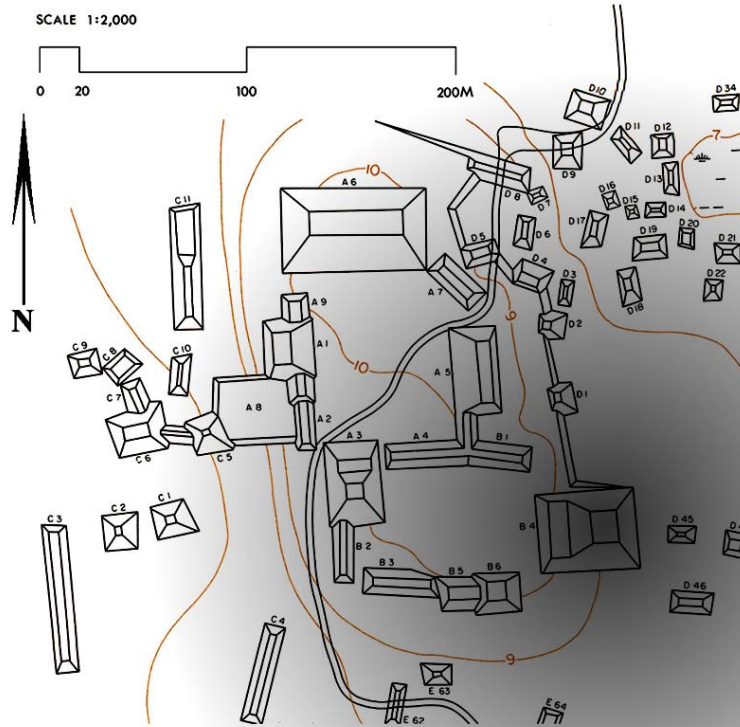


Figure 5.17a. The site center at Altun Ha, Belize showing views possible from the summit of Structure B-4 (adapted from Pendergast 1979:Altun Ha Base Map, Map 2).

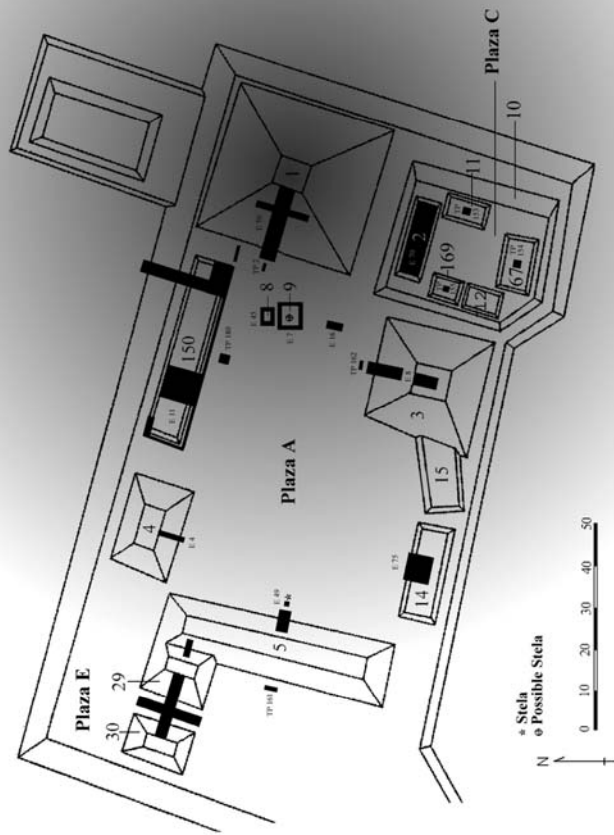


Figure 5.17b. Map of the eastern end of the main platform at Chau Hiix, Belize showing the view of the central precinct and surrounding area possible from the summit of Structure 1 (Map by A.S. Goldsmith, T. Cuddy, W. Smith, M.F. Lane, and T. Sweely. Modified by C.R. Andres).

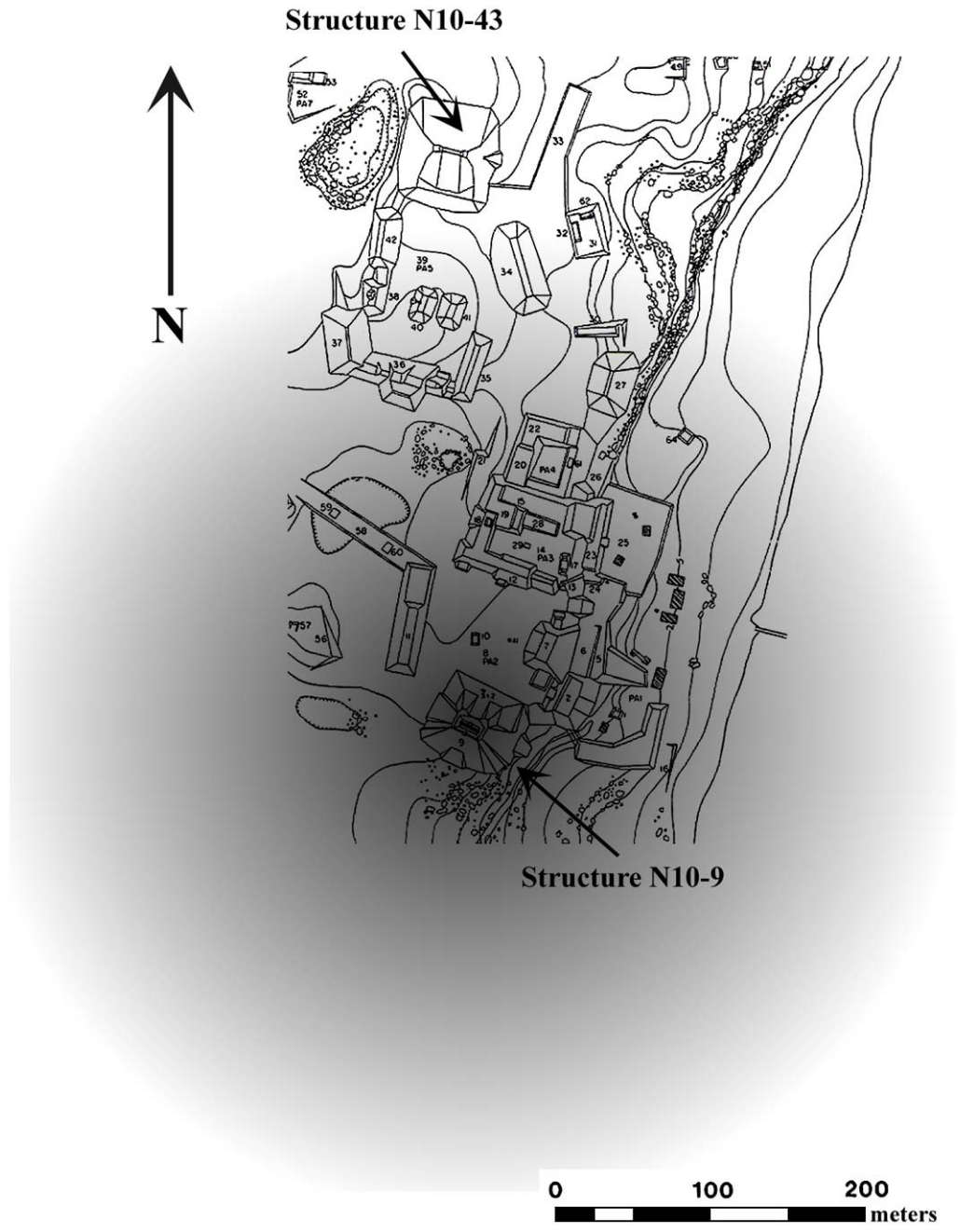


Figure 5.17c. The site center at Lamanai, Belize showing views from the summit of Structure N10-9 (19 meters high). Note that at 33 meters in height, Structure N10-43 (another Lamanai Building Type Structure) offers a similar view of northern areas of the community (adapted from Pendergast 1981:Fig. 1).

Dominant buildings as screens. Besides limiting visual access to central precincts from off-platform locations, monumental structures increasingly served to partition spaces and screen plazas during the Late Classic period. While examples abound at Lamanai and Altun Ha, this effect is most apparent at Chau Hiix because of the distribution of the monumental architecture along the east-west axis of the main platform. As maps of the central precinct at Chau Hiix suggest (Figure 5.18), the eastern margins of the community's plazas and courtyards tend to be defined by particularly massive buildings: Plaza A is bounded by Structure 1, Plaza D by Structure 5, and Plaza B by Structure 7. Supposing the primary approach to each of these spaces was from the east, these buildings would have screened the plazas from view until they were physically accessed. The dramatic enlargement of Structures 1, 5, and 7 between A.D. 500-800 indicates the buildings achieved maximum barrier-like qualities by the end of the Late Classic period. As discussed in greater detail below, this placement of dominant buildings at Chau Hiix probably had significant implications relative to architectural viewing order, the direction of traffic flow, and a "privacy gradient" in the community.

While this dissertation focuses on the spatial qualities of the built environment as opposed to the broader topics of semiotics or the symbolism of individual Maya structures, it is important to acknowledge the extent to which Maya buildings probably functioned in these ways. Commenting on architecture in general, Blanton (1989:413) observes that "as a communications media, monumental architecture is actually relatively efficient. The initial costs of construction may be great, but once built a massive building or plaza can be seen by thousands of people over great lengths of time, broadcasting continuously for even thousands of years." The complexity of the Maya built environment suggests that architectural elements probably functioned as signifiers that combined to form codes (e.g., Eco 1986). The iconography associated with many large Maya buildings indicates that structures also possessed powerful symbolic properties (e.g., de Montmollin 1995:65). While iconographic analysis has been attempted at some sites, uneven preservation of architectural sculpture prevents such an approach at Lamanai, Chau Hiix, and

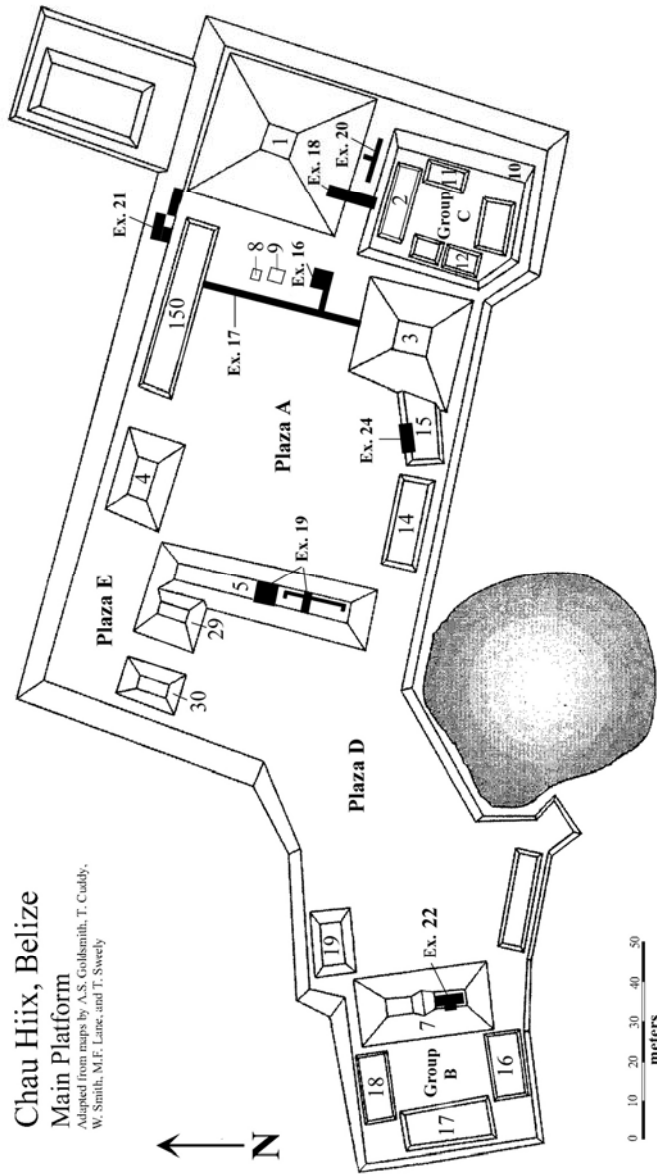


Figure 5.18. Map of the main platform at Chau Hiix, Belize showing how Structures 1, 5, and 7 screen Plaza A, the ballcourt, and the Group B Courtyard assuming an eastern approach to these spaces (site map by A.S. Goldsmith, T. Cuddy, W. Smith, M.F. Lane, and T. Sweely. Adapted by C.R. Andres).

Altun Ha. It should, nevertheless, be recognized that the elaborate ornamentation of structures on the main platform at Chau Hiix would have conveyed a considerable amount of information.

Assuming that Structures 1, 5, and 7 at Chau Hiix supported the sculptural programs suggested by archaeological findings, the messages imparted by these “buffer” buildings may well have mediated between visitors and residents and/or different social segments within the community.

Clustering of buildings around plazas and courtyards. Establishment of permanent structures in formerly undeveloped locations arguably altered spatial relationships in Maya communities as dramatically as the construction of the massive elevated plazas upon which the buildings were located.

The clustering of buildings around plazas and courtyards is a pattern that emerged early in Maya history (Potter 1985). Due to the apparent cultural importance of plazas and courtyards and their continued use over long periods of time, buildings accumulated around their perimeters. As a result of this accretion, physical barriers were established in locations where they were initially absent and sight lines into formerly accessible spaces were narrowed and eliminated.

With the exception of a noteworthy group of modifications (discussed below), reduced visual access to spaces often seems to have been a secondary consequence of architectural activity. Factors leading to the construction of new buildings were probably numerous and varied according to context. Assuming that the domestic identifications of the masonry structures forming elaborate plazuela groups are correct, population growth may partly explain the expansion of such groups over time. Interpretation of the most elaborate of these groups as residences of paramount elites suggests factors such as conspicuous consumption of labor, space, and material resources also drove construction campaigns (e.g., Pyburn 1998a:118).

The tight “packing” of elaborate buildings into most available spaces flanking the courtyard of Lamanai’s Ottawa complex probably reflects the cumulative result of both of the above tendencies. The visual impenetrability such complexes acquired by the Late Classic period

can be seen as the natural consequence of this accretion (Figure 5.19). Whether driven by dynastic agendas or the need for new ceremonial facilities (c.f. Pendergast 1979:139), construction activity in civic-ceremonial compounds produced results similar to those evident in residential contexts: as existing buildings expanded and new structures filled vacant spaces, plazas became less physically and visually accessible. As noted by Pendergast (1979:193, 195; 1982:143), this pattern is particularly apparent on the western side of Group A and along the southern margin of Group B at Altun Ha. In both cases, architectural development of these spaces was more or less continuous by the Late Classic period. The same situation is evident at Lamanai where the south and west sides of the plaza fronting Structure N10-43 were screened by an unbroken mass of architecture by the end of the Classic period.

While the Classic period in general is characterized by a gradual movement towards increasingly insular space in Maya centers, limitations on access to space that seem much more intentional are evident at Chau Hiix and Altun Ha during the Late-to-Terminal Classic period. The most dramatic change in access to site center space at Chau Hiix is associated with construction of Structure 150. From what can be determined, the north side of the main platform at Chau Hiix was undeveloped before the Late-to-Terminal Classic period. Prior to the construction of Structure 150, visual access to the Main Plaza would have been relatively unimpaired from the north. While the main platform is several meters high on this side, an individual positioned sufficiently distant would have been able to overcome the visual limitations introduced by these differences in elevation. Construction of 43-meter-long Structure 150 on the platform's northern edge would, however, have radically altered visual access to this side of the main group. Time-lapse reconstructions demonstrate the extent to which an off-platform observer would have had a broad field of vision into the plaza through the 55-meter-wide gap between Structures 1 and 4 (Figure 5.18a). However, following construction of Structure 150, an individual's field of vision would have been reduced to two fairly narrow sight lines corresponding with the spaces between Structure 1 and the east end of Structure 150 and the gap

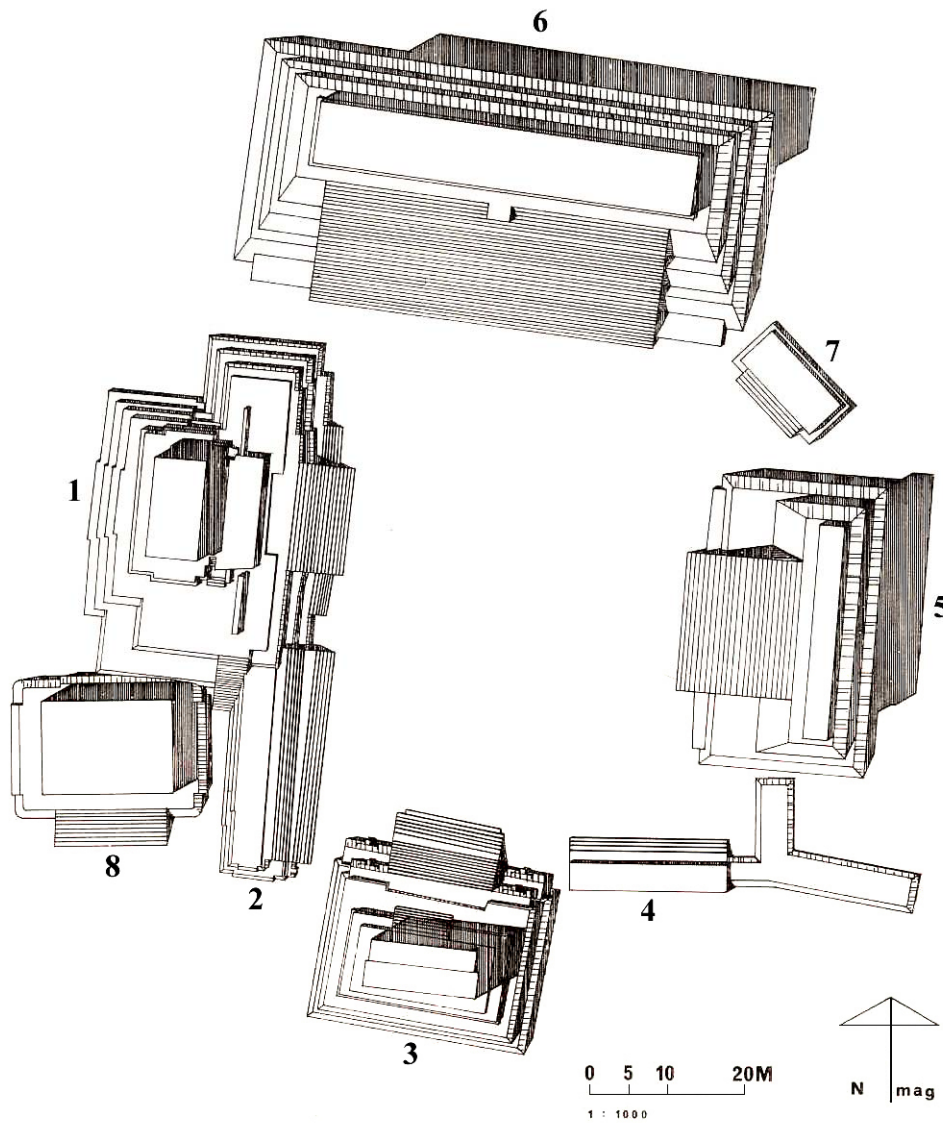


Figure 5.19. Map of Group A, Altun Ha, Belize showing the positioning of Structures A-2 and A-7 (after Pendergast 1979:35, Fig. 1).

between Structure 150 and Structure 4 (Figure 5.18b). Structure 150 thus formed a substantial screen which shielded significant portions of the Main Plaza from the views of those residing immediately north of the central precinct.

While the form and location of Structure A-7 at Altun Ha varies from that of Structure 150, the building would have had much the same visual effect (Figure 5.19). Standing approximately 1.75 meters above the plaza, the masonry platform probably supported a perishable structure (Pendergast 1979:186-187). While excavations of the poorly preserved building were unable to pinpoint its construction date, they suggest it post-dates the Early Classic period, perhaps quite substantially.¹⁸ Its positioning may well reflect a concern with limiting access to the group. Notably, it gives the impression of having been wedged between Structures A-5 and A-6 and oriented in such a way as to bridge a substantial portion of the intervening space. Structure A-7 would have greatly reduced the width of the sight line into this corner of the plaza while still permitting physical movement around its flanks.

Structure A-2 at Altun Ha is another example of a building that Pendgerast (1979:195) suggests primarily functioned as a visual barrier. In this case, he proposes that Structure A-2 was constructed in large part to create a privacy barrier between Structure A-8, a presumed elite residence, and Plaza A at Altun Ha (Figure 5.19).

Compared with the gradual, long-term movement towards more private spaces in architectural groups in many Maya communities, these changes appear calculated. The role these Late Classic buildings played in blocking views into plazas was arguably a significant part of their function.

¹⁸ Pendergast (1979:86-187) has commented on the building's "afterthought"-like appearance.

Secondary architectural units. Several relatively minor construction units added to buildings at Lamanai, Chau Hiix, and Altun Ha during the Late Classic period seem to have primarily been intended to alter physical access and views into buildings and courtyards. The first of these involved construction of a wall segment on the A-1 platform at Altun Ha as a component of the 1st D modifications (Figures 5.20a and 5.20b). As Pendergast (1979:84) notes, this freestanding screen wall (Unit 8) would have concealed anyone climbing the building via Stair 4 from observers in Plaza A. The fact the wall segment eliminated the view of the only part of the ascent visible from below strongly supports Pendergast's (1979) contention that this was the unit's intended function.

In certain cases, Late Classic period alterations introduced changes that limited views into buildings from exterior areas. The most dramatic example of such a modification can be seen in Structure N10-28 ("Tulip") at Lamanai. As already suggested, an earlier Late Classic period configuration incorporated a pair of aligned central doorways. This arrangement created a sight line directly through Tulip's central rooms and into the courtyard beyond (Figure 5.21a). Late in the Late Classic period, however, masonry units were added to the east jambs of two doorways (Figure 5.21b). In the case of the central interior doorway the opening was incrementally narrowed with two units of construction (personal observation 2002). While small in scale, these modifications significantly impacted the Building's transparency, making it impossible for anyone positioned north of Structure N10-28 to see through the Building and into the N10[3] Courtyard.

Two architectural units with even more profound access related implications have been documented on the north side of the Ottawa Group at Lamanai (Figure 5.22). By the end of the Late Classic period, expansion of Structure N10-17 had significantly reduced the opening between it and Structure N10-28. The width of this opening was further reduced through construction of a doorjamb in this already narrow space (Shelby 2000). The passageway between the battered terrace faces of Structures N10-15 and N10-28 was also constricted by the Late

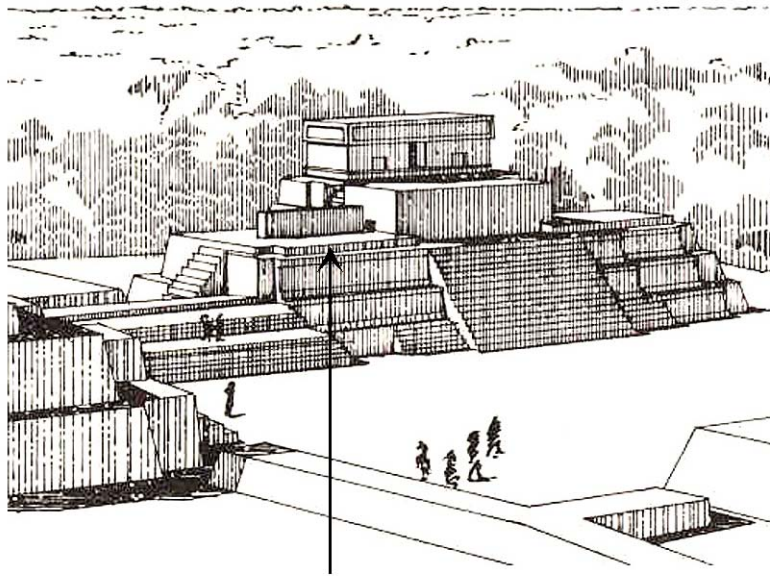


Figure 5.20a. View of Structure A-1, Altun Ha, Belize from the southeast showing Unit 8 (adapted from Pendergast 1979:Fig. 78).

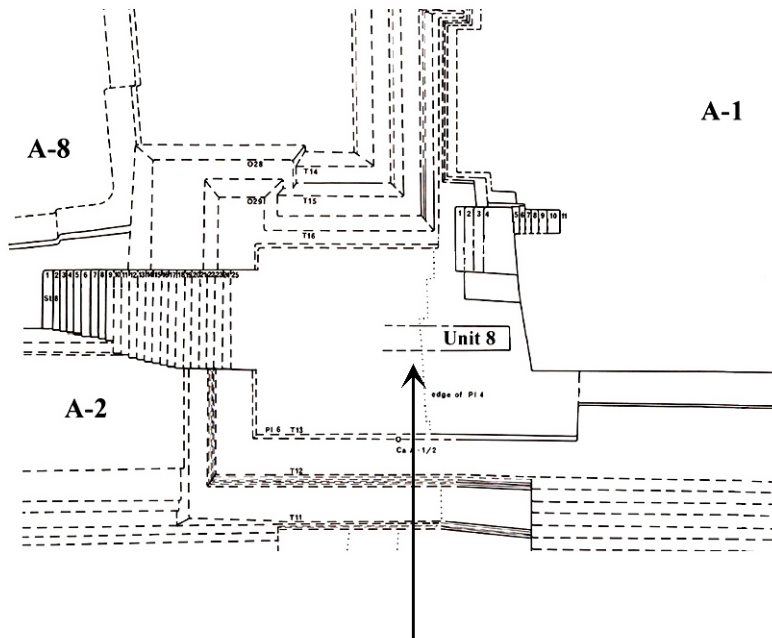


Figure 5.20b. Plan of Structure A-1, 1st D, Altun Ha, Belize showing Unit 8 (adapted from Pendergast 1979: Fig. 24).

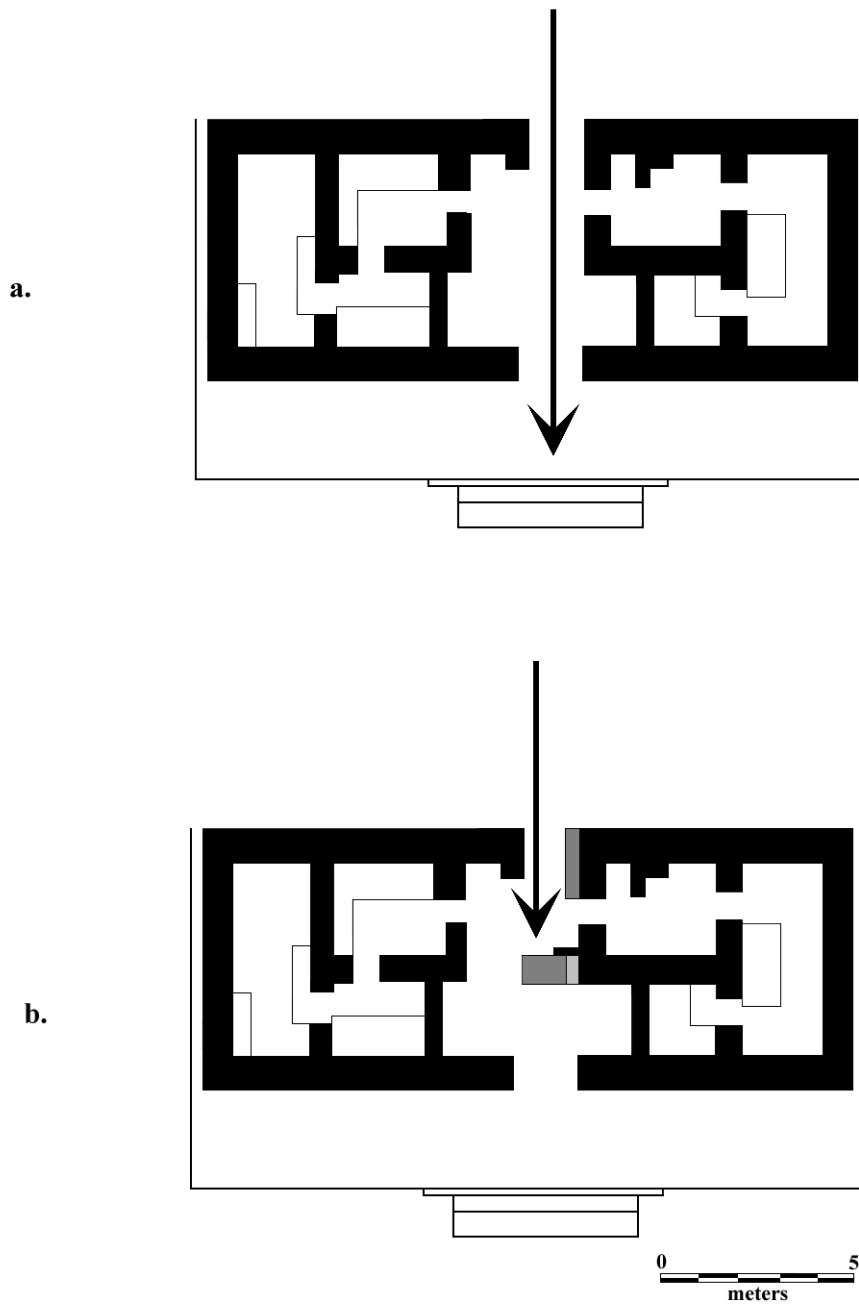


Figure 5.21. Plan of Structure N10-28 ("Tulip"), Lamanai, Belize showing the view through the structure from the north into the N10[3] Courtyard (a) before and (b) after modifications to doorways in the Late Classic period (adapted from Graham 2004:Fig. 3 and sketch map by C.R. Andres, 2002).

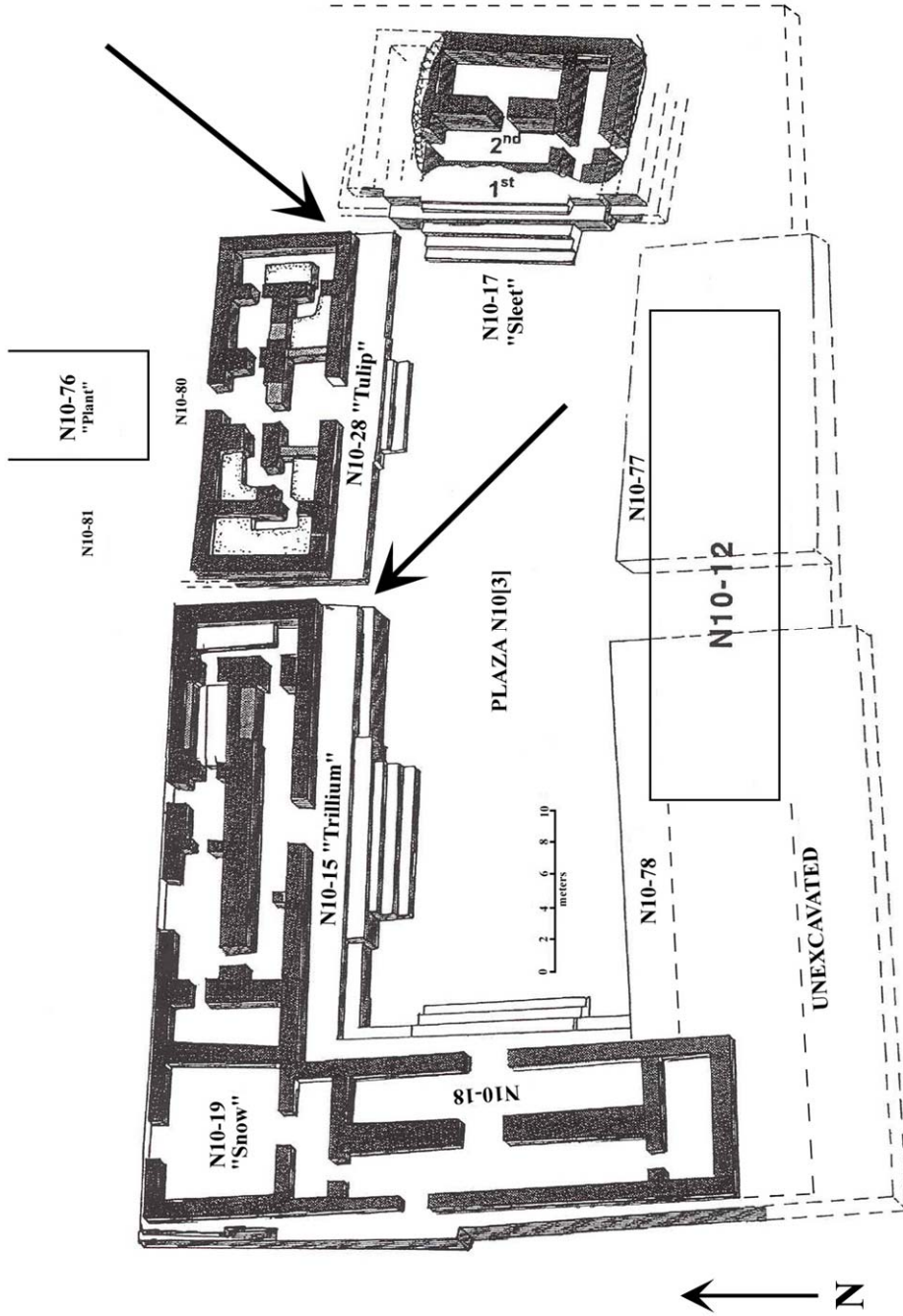


Figure 5.22. Plan of the Ottawa Group, Lamanai, Belize with arrows showing locations of masonry units constructed between the building platforms during the Late-to-Terminal Classic period (drawing by C. Belanger in Graham 2004:Fig. 3).

Classic period. Both openings were, however, further reduced at the end of the Classic period. In the first case, the passageway between Structures N10-17 and N10-28 was sealed by extending the pre-existing doorjambs across the space between the platform faces (Shelby 2000). Construction of a wall in the gap between Structures N10-15 and N10-28 achieved a similar effect at this location (Figure 5.23) (personal observation 2002). The access related implications of these features are significant. In the period preceding these changes, Ottawa's Late Classic period courtyard was already relatively private. The N10[3] Courtyard was elevated on a mass of earlier construction and almost completely encircled by buildings and building platforms. The sealing of these two entrances, however, created an unbroken barrier along Ottawa's north side and essentially transformed the group's interior into a sunken courtyard. Access from the north was only possible by passing through the buildings themselves and descending to the courtyard level via stairs. These two volumetrically modest walls would therefore have exerted a powerful effect, not only reducing physical access to the group but completely eliminating views into the courtyard from the north.

Clearing of fill from Ottawa's southern accessway in 2002 also suggested that units similar to those described above may also have been constructed in the space between Structures N10-77 and N10-78 (Figure 5.22). The area of the southern accessway was extensively modified at the end of the Late Classic period and is associated with traces of a series of partially demolished architectural features (personal observation 2002). While the construction sequence in this area is complex and remains open to interpretation, the remains of several east-west oriented masonry features were encountered in the accessway in 2002. These features have the appearance of wall stubs (personal observation 2002) and it appears possible the units are remains of staggered screen walls constructed in the accessway. It appears the features would have restricted physical access to the group by requiring people to wend their way around the barriers and through the reduced entryways. They may also have reduced visual access to the compound from the N10[9] Plaza to the south.

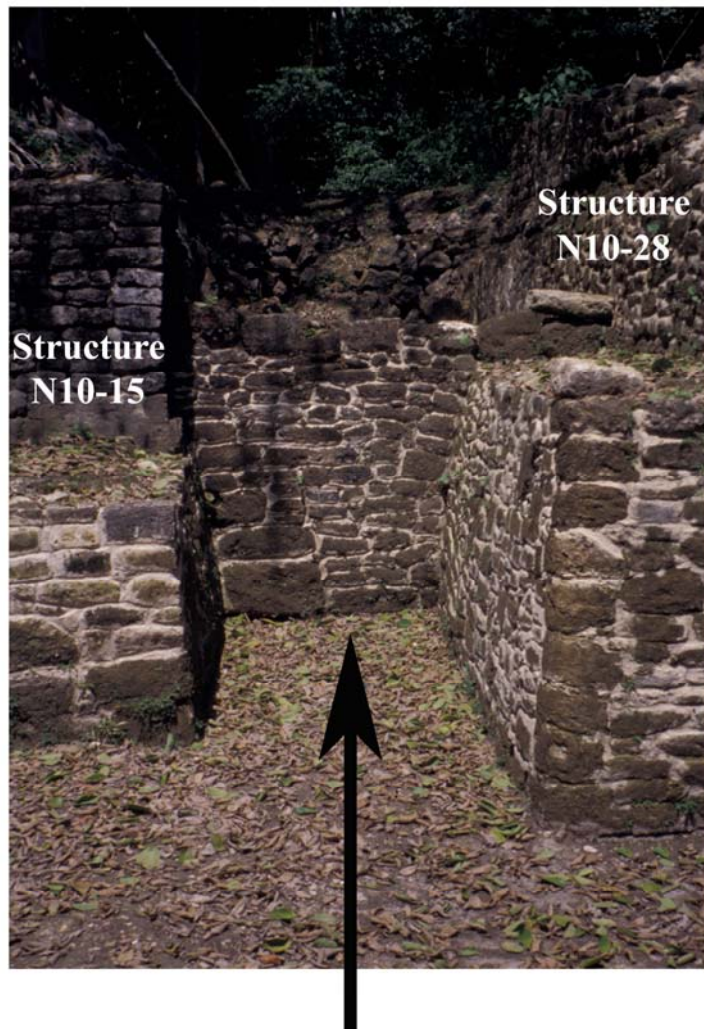


Figure 5.23. Masonry unit constructed between Structures N10-15 and N10-28 in the Ottawa Complex, Lamanai, Belize during the Late-to-Terminal Classic period (photograph by C.R. Andres, 2002).

A modification to Structure 16, the southern building in Group B at Chau Hiix, provides a final example of a feature arguably intended to restrict access to architectural space. Based on mapping of Group B, excavation of Structure 16 was initiated under the assumption that a relatively narrow space separated Structures 7 and 16 (Figure 5.24 inset). Clearing along Structure 16's north face, however, showed the platform to be substantially shorter than anticipated. As indicated in the section drawing, the mound's contours provided little indication of the extent of its masonry components (Figure 5.25). Excavations not only revealed the platform face to be less extensive than expected, but suggested the area between its northern terminus and Structure 7 was the focus of architectural activity. Examination of this area revealed a 40-centimeter-thick deposit of compact gray soil with numerous limestone fragments, pebbles, and high plaster content extending from the base of the humus to the plaza floor surface. The homogeneity of the stratum and the seamless transition between this area and western parts of the building suggest the material reflects an expansion of Structure 16 into the accessway separating it from Structure 7. These data are significant for they point to the presence of a feature formally similar to secondary architectural units identified by researchers at Xunantunich (e.g., E. Harrison 1996:73, 77). The expansion of Structure 16 calls to mind Late Classic period efforts to reduce access to similar elite residential compounds at Lamanai and Xunantunich. The platform plugs documented at Xunantunich, the previously discussed passageway seals at Lamanai, and the Chau Hiix unit each affected the most architecturally impressive and spatially exclusive residential groups at the centers. As discussed in greater detail in the final chapter, an abundance of evidence suggesting these architectural groups functioned as the primary residences of the communities' paramount elites (Andres 2002c; E. Harrison 1996; Pendergast 1992:66-67) has significant implications for changing patterns of interaction between different social groups in Late Classic period Maya communities.

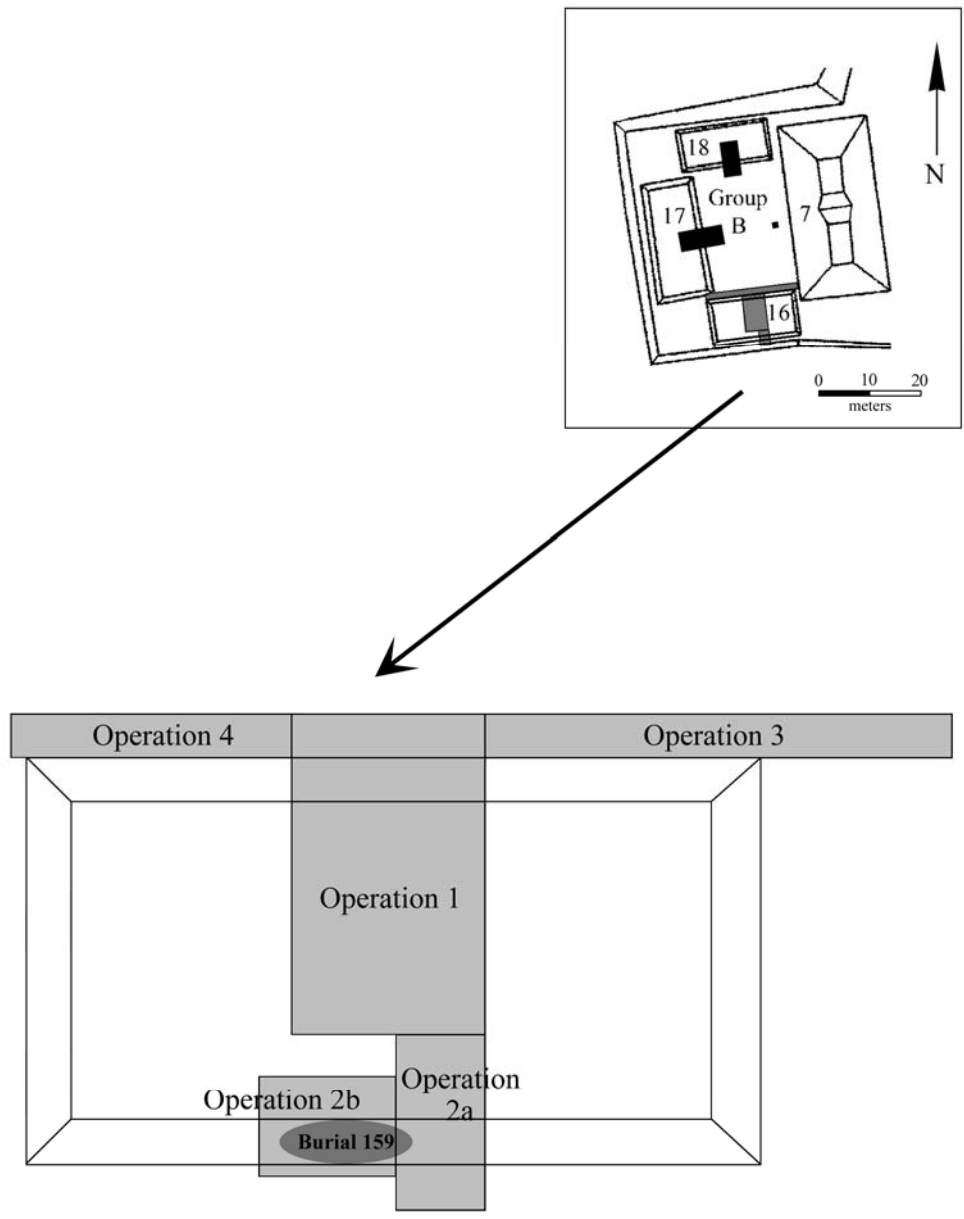


Figure 5.24. Overview of operations comprising Excavation 12 in Structure 16, Group B, Chau Hiix, Belize (drawing by C.R. Andres, 2003).

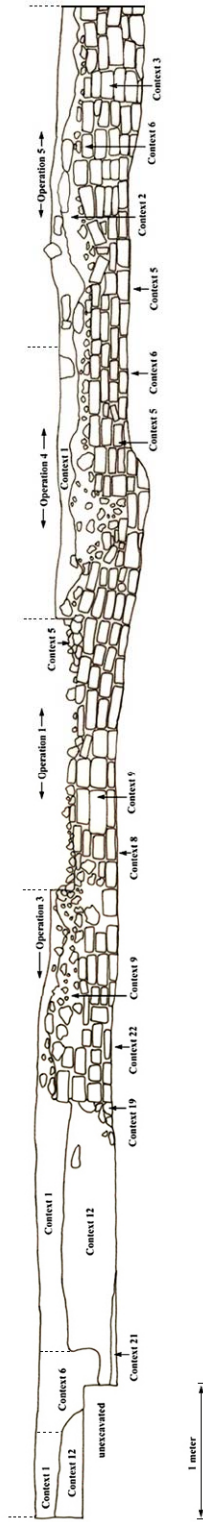
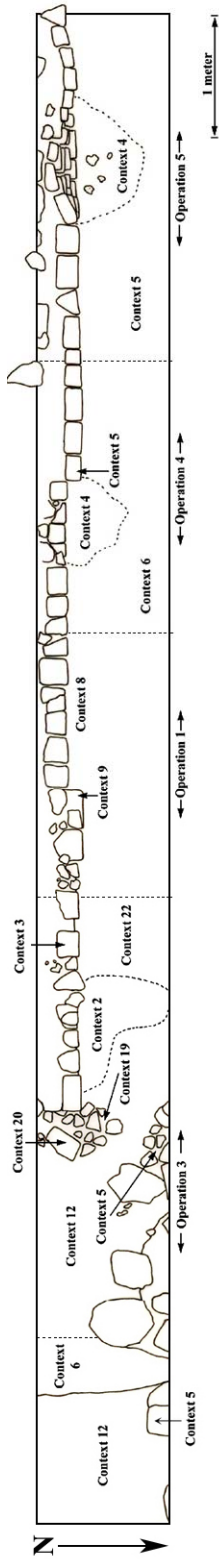


Figure 5.25. Plan and north section of Excavation 12, Structure 16, Chau Hix, Belize (drawing by C.R. Andres, 2001).

Changes in the Physical Accessibility of Late Classic Maya Architectural Groups

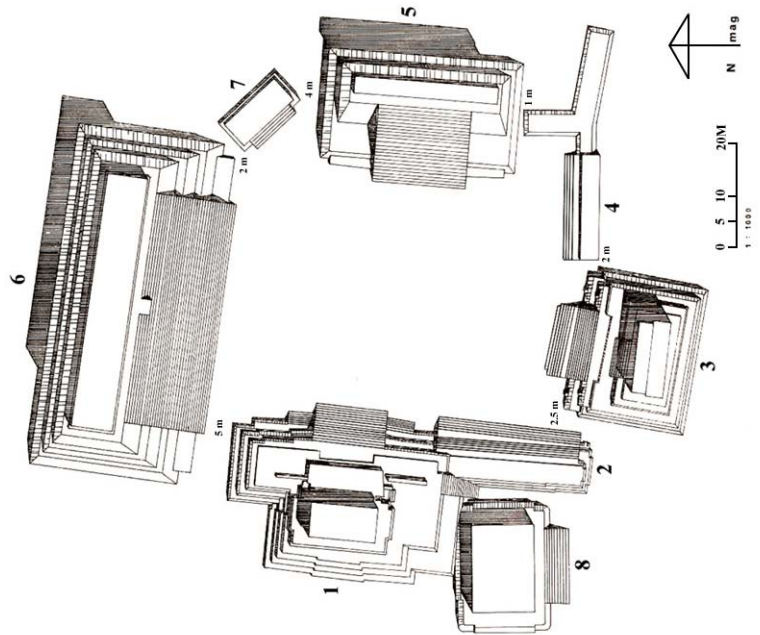
Maya site centers and architectural groups present their own unique set of analytical challenges. Changes in accessibility to Maya architectural groups are more difficult to measure than those effecting individual buildings for a number of reasons. The most significant challenge relates to the fact that Maya site centers are often characterized by fairly continuous spaces. Courtyards and plazas often flow into one another and commonly have multiple entrances. The long use-life and architectural complexity of Maya building groups makes it difficult to determine how many points of entry existed at any one point in time. Patterns of movement through Maya settlements are not as obvious as traffic flow patterns suggested by the layouts of well preserved buildings. Since the quantitative methods of settlement analysis (alpha analysis) advocated by Hillier and Hanson (1984) require control of these variables, alpha analyses are not particularly useful in the Maya area. One must consequently rely on other approaches when considering the accessibility of larger assemblages of Maya buildings.

While no single method emerges as a clear alternative to the alpha analyses proposed by Hillier and Hanson (1984), studies by Hammond (1972b) and Awe et al. (1991) have introduced approaches that are more suitable to exploring the spatial qualities of Maya building groups. These authors have demonstrated the utility of time-lapse reconstructions of architectural relationships and of various types of graphs in considering access related issues in Maya communities. By documenting the number of entrances to plazas at Lubaantún, Hammond (1972b) was able to rank order spaces and construct “planar graphs” illustrating interconnections between courtyard groups. His study allowed for observations concerning the accessibility of different architectural assemblages at the site. By considering a range of variables, Awe et al. (1991) demonstrated that the smallest, highest, and most restricted access courtyards at Lubaantún were also those located the greatest distance from entrances to the site center. Based on this observation, the authors have convincingly argued for a close relationship between the courtyards’ spatial characteristics and social exclusivity in the Classic period community. These

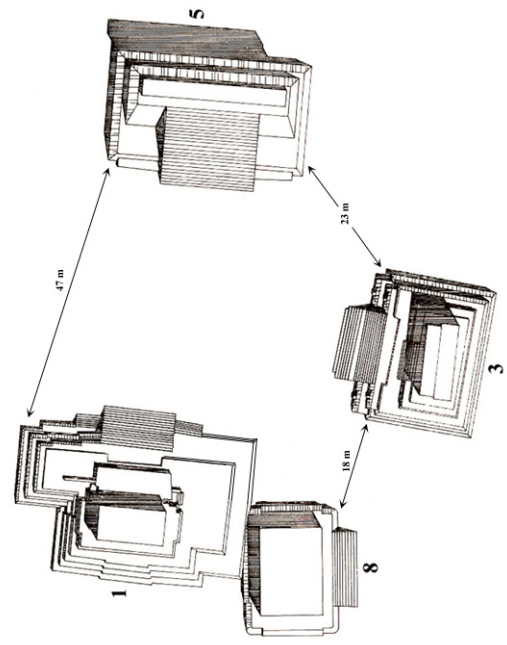
techniques are useful to the extent they can also be employed to explore the spatial characteristics of Late Classic period architecture at Lamanai, Chau Hiix, and Altun Ha.

Time-lapse methods are most revealing at Chau Hiix and Altun Ha where they illustrate the impact of Late Classic period construction programs on access patterns. Comparison of Groups A and B at Altun Ha during the Early Classic and Late Classic periods (Figures 5.26 and 5.27) shows how the breadth of spaces providing access to the plazas was significantly reduced. My quantification of Hammond's (1972b) time-lapse approach (through measurements derived from maps) indicates the combined breadth of interstructural spaces in Group A was reduced from 88 to 16 meters between the Early and Late Classic periods. Similar measurements suggest open space around Group B's perimeter was reduced from 42 to 19 meters. While these figures are best viewed as estimates, they quantify the groups' Late Classic period enclosure. In each case, a reduction in interstructural space by at least 50 percent reinforces Pendergast's (1979, 1982, 1986a) observations concerning the plazas' significantly altered characters. Similar calculations are possible at Chau Hiix. The consideration of Structures 14 and 150 during the Late-to-Terminal Classic period dramatically reduced the size of Group A's interstructural spaces (Figures 5.28a and 5.28b). Although it is again safest to approach any measurements as estimates, addition of these buildings would have reduced open space totals around the plaza's perimeter from 113 meters during the Middle Classic period to as little as 47 meters during the Late-to-Terminal Classic.

The graphs used by Hammond (1972b) and Awe et al. (1991) are well-suited to the conditions at Lubaantún and Cahal Pech. Cahal Pech's location high on a natural promontory overlooking the Macal River provided the site with an inaccessible, citadel-like quality. The hilltop location also placed clear limits on architectural development in the community. Lubaantún's location on a ridge in the foothills of the Maya Mountains (Hammond 1972b:84) meant topography played a significant role in determining the extent of the monumental



b.



a.

Figure 5.26a. Plan of Group A, Altun Ha, Belize as it may have looked at the end of the Early Classic period (ca. A.D. 500); b. Plan of Group A, Altun Ha, Belize showing architectural infilling thought to have taken place between A.D. 500 and 750 (adapted from Pendergast 1979:Fig. 1).

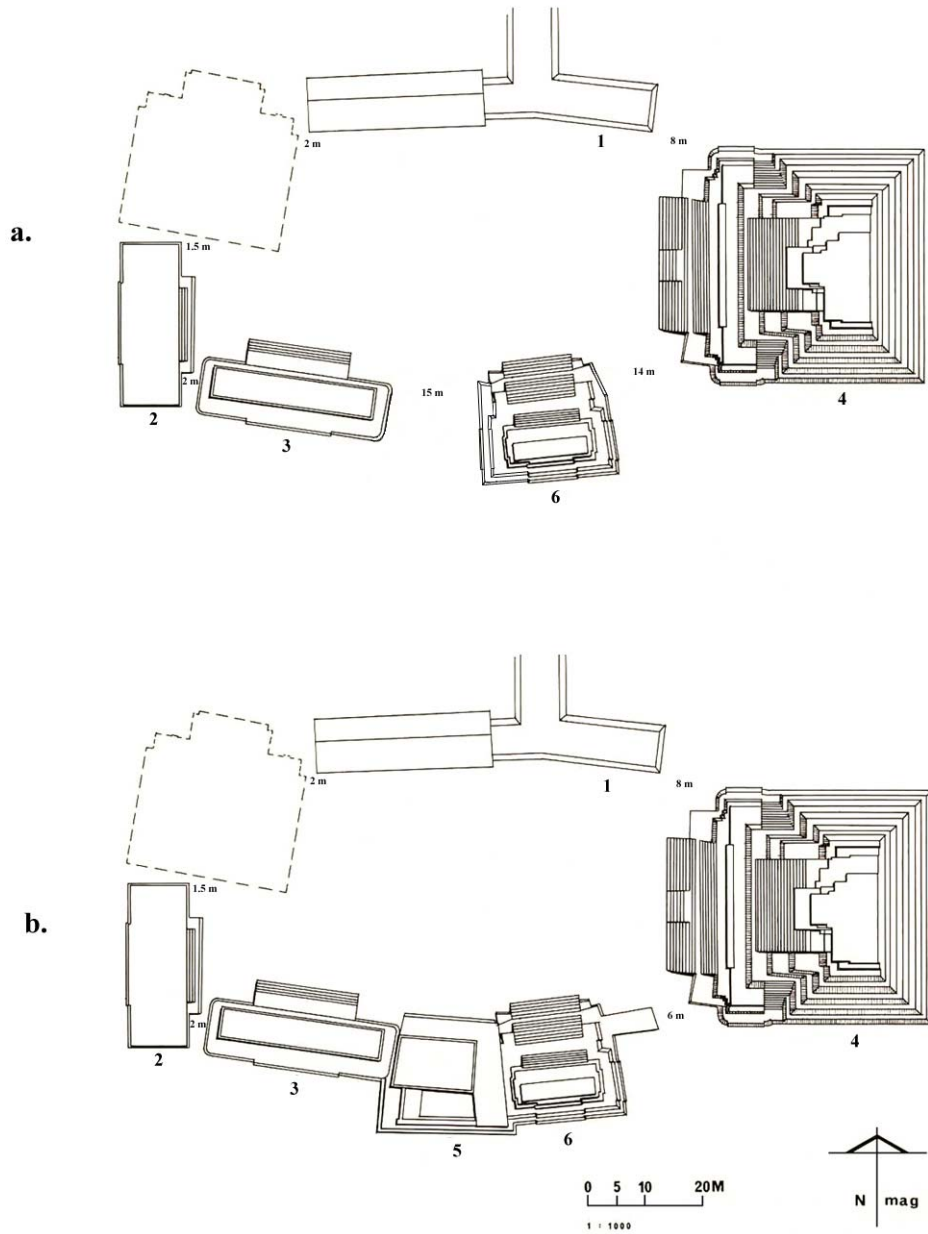


Figure 5.27a. Plan of Group B, Altun Ha, Belize showing areas occupied by structures before A.D. 600; b. Plan of Group B, Altun Ha showing major access related changes resulting from the construction of Structure B-5 and modification of Structure B-6 in the second half of the Late Classic period (adapted from Pendergast 1982:Fig. 1).

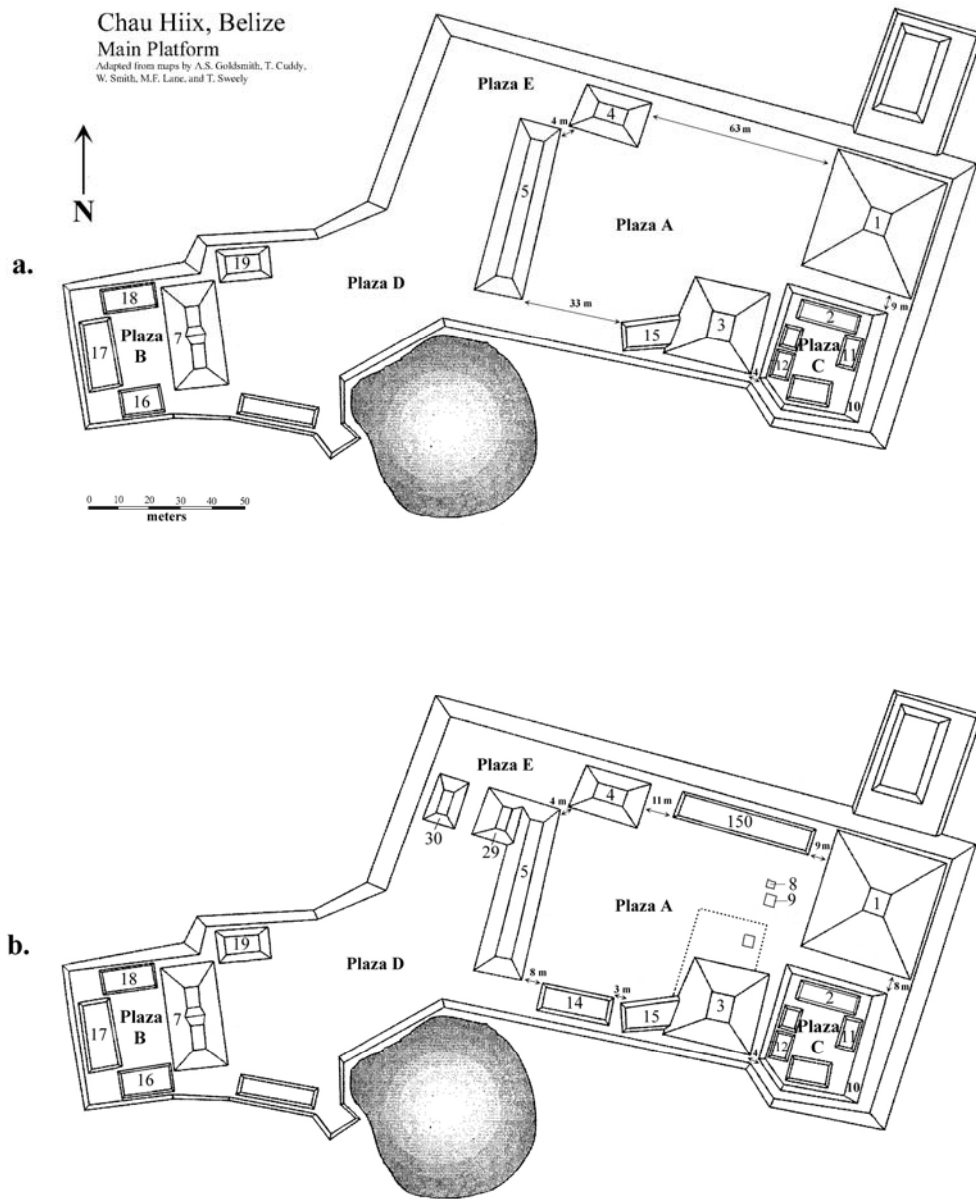


Figure 5.28a. The main platform at Chau Hiix, Belize as it may have appeared at the end of the Early Classic period (ca. A.D. 500); **b.** the main platform at Chau Hiix during the Terminal Classic period (ca. A.D. 900) (adapted from maps by T. Cuddy, A.S. Goldsmith, W. Smith, M.F. Lane, and T. Sweely).

architecture here as well. Because of these topographic constraints, architectural assemblages Cahal Pech and Lubaantún are compact and defined by numerous small confined plazas arranged in linear configurations. Graphic analyses proved particularly useful at these locations because access seems to have been more emphatically structured than at many Maya sites.

While development at Chau Hiix seems to have been less confined by natural landforms, the main platform provided a focus for architectural development arguably similar to the hilltops at Cahal Pech and Lubaantún. Concentration of monumental structures on the main platform resulted in spatial organization similar to that evident at Cahal Pech and Lubaantún. Graphs are useful in documenting the way individual changes contributed to an overall reduction in access to spaces in the central precinct at Chau Hiix during the Late Classic period.¹⁹

Application of Awe et al.'s (1991) approach emphasizes the varying depths of spaces on the main platform at Chau Hiix. While the size/height/distance relationship Awe et al. (1991) document at Lubaantún is not as dramatic at Chau Hiix, the two centers exhibit certain similarities during the Classic period. Most notably, Group B is fully consistent with expectations arising from the pattern identified at Cahal Pech (Table 8a). The other small plaza (Plazas C) on the main platform is also one of the most elevated spaces in the site center. In this case, however, the correlation between small size, elevation, and distance from the primary accessway breaks down because of Group C's lagoon-side location.

Recognition of Group B's small size, elevation, and distance from the eastern accessway suggests the existence of a spatial hierarchy at Chau Hiix. As maps of the community show (Figure 5.29), the site center is essentially a series of plazas arranged along an east-west axis. Application of Awe et al.'s (1991) approach highlights the extent to which east-to-west movement would have resulted in passage from larger into progressively smaller spaces (the

¹⁹ These approaches are ill-suited to the relatively open and sprawling settlements at Lamanai and Altun Ha.

Chau Hiix, Belize

Main Platform

Adapted from maps by A.S. Goldsmith, T. Cuddy,
W. Smith, M.F. Lane, and T. Sweely

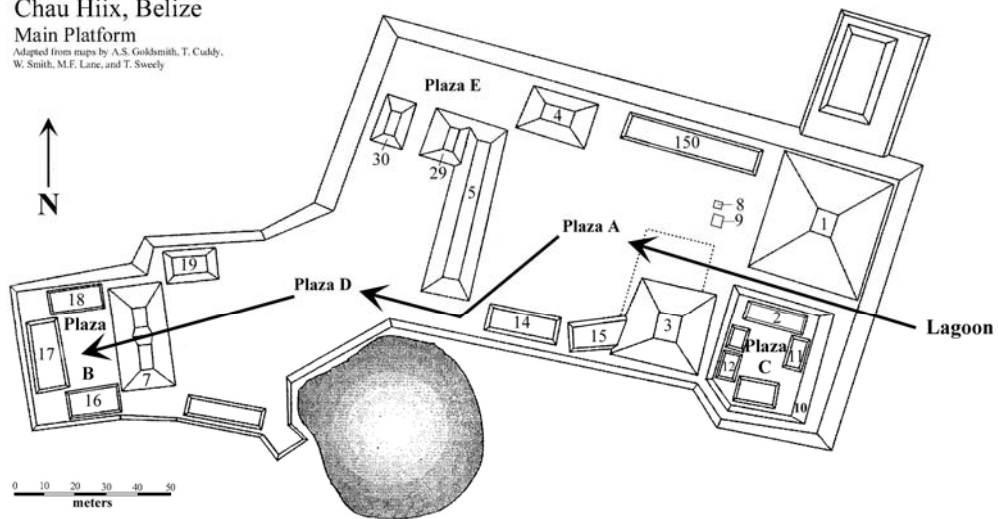


Figure 5.29. Map of the main platform at Chau Hiix, Belize showing how Structures 1, 5, and 7 screen Plazas A, D, and B when the site is entered from the east (adapted from maps by A.S. Goldsmith, T. Cuddy, W. Smith, M.F. Lane, and T. Sweely).

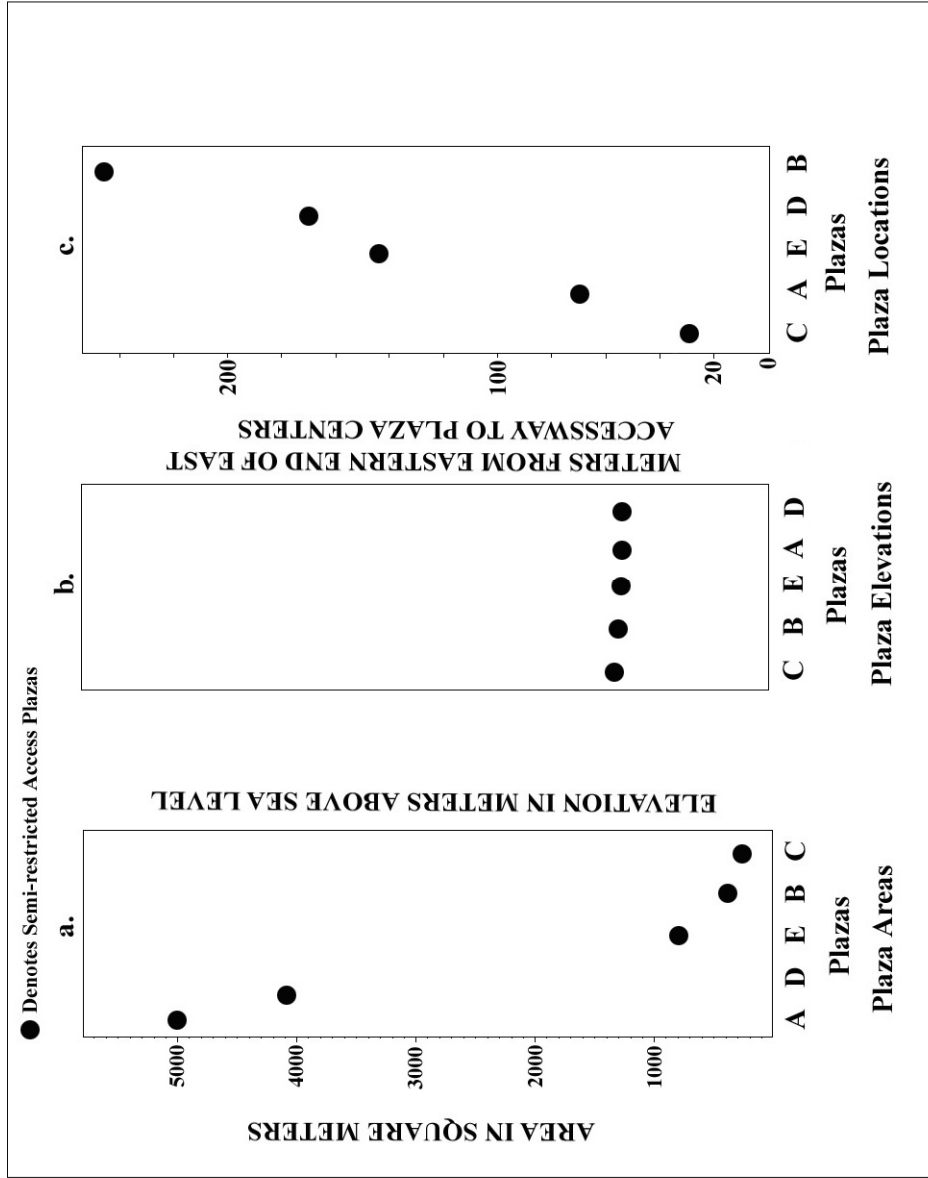


Table 8. Graphs comparing plaza areas, elevations, and locations at Chau Hiix, Belize (graphs by C.R. Andres, methods after Awe et al. 1991).

lagoon > Plaza A > Plaza D > Plaza B) (Figure 5.29 and Table 8a). Placement of dominant structures at each plaza's eastern end (Structure 1/Plaza A, Structure 5/Plaza D, and Structure 7/Plaza B) indicates western groups were (1) physically removed from the formal entrance to the site center and (2) separated from this point by an increasing number of barriers. Based on what is known of the architectural sequence at Chau Hiix, enlargement of Structures 1, 5, and 7 during the Late Classic suggests the buildings' screen-like functions reached their maximum extent during this period. In practical terms, this arrangement of spaces and buildings suggests an east-to-west privacy gradient at Chau Hiix. The placement of the greatest number of buffers between Group B and the presumed formal entry to the site center made this space the site's "deepest." Following Awe et al.'s (1991) and Hillier's and Hanson's (1984) logic, this would have rendered the Group B least susceptible to violation by outsiders.

In addition to highlighting Group B's extremely private nature, Awe et al.'s methods suggest the arrangement of plazas at Chau Hiix may reflect patterns of movement through the site center. Michael Love (1999:144) have proposed that the arrangement of stelae at Maya sites reflects pathways traversed by elite visitors to Maya communities. The roughly linear and tiered arrangement of spaces at Chau Hiix suggests the built environment may reflect a similar formal pattern of movement. Assuming (high status) visitors arrived at Chau Hiix by water and entered the Main Plaza from the east, the route through the site center to the Group B "palace" complex would have required negotiation of the community's most impressive monuments (Figure 5.29). Having rounded Structure 1 and traversed Plaza A, it would have been necessary to circumvent Structure 5, and move through Plaza D to reach Structure 7. Due to the fact spaces were screened by dominant buildings, a plaza would only have become visually accessible once its "buffer" building was negotiated. Following entry into a "deeper" space, visitors' attention would be drawn to the next focal point: the dominant building at the opposite end of the space opening up before them. Placement of these buildings on the far sides of plazas would have maximized their impact by providing ample opportunity for them to be viewed as people traversed the intervening

spaces. The approach to Group B along this east-west route would have culminated in negotiation of Structure 7. While Structure 7 has not been completely exposed, preliminary investigations suggest it may be an example of a passageway range structure (e.g., Ball and Taschek 2001:200; Chase and Chase 2001:110-113; Harrison 1999; Iannone et al. 2004:159-160; Seibert 2004). If so, entrance to Group B would have involved ascent of the building's axial stair, movement through its central passageway, and descent into the interior courtyard. The Group B courtyard would consequently have been the space where Late Classic period architecturally structured distinctions between "inhabitants" and "visitors" were most pronounced at Chau Hiix.

Terminal Classic Period Changes in the Built Environment

While the Terminal Classic (ca. A.D. 800-950) is a key interval during which to consider changes in the Maya built environment, it must be approached differently than earlier periods. First, the Terminal Classic period is marked by a narrowing of the discussion. Since Altun Ha was largely abandoned at the end of the Late Classic period (Pendergast 1979, 1982) this community drops out of consideration after about A.D. 800. A shift in the type of construction evident at Lamanai and Chau Hiix also demands an analytical approach distinct from that applied to Late Classic period architecture. Significantly, the Terminal Classic period is marked by greater emphasis of perishable construction at Lamanai and Chau Hiix. Since vaulted masonry architecture disappears at this time in the southern Maya lowlands, the types of data available for consideration change. While information relating to building size, placement, and orientation is preserved from the Terminal Classic period, the more detailed data that can be extracted from masonry structures (ground plans, doorway placements, traffic flow patterns, etc...) are less readily available. Due to an absence of these data, the quantitative methods employed in the first part of this chapter are no longer feasible. It is consequently necessary to approach Terminal Classic period built environments at Lamanai and Chau Hiix from more impressionistic and phenomenological perspectives.

Views of the Terminal Classic period have changed dramatically in the past twenty-five years. While the Maya “collapse” was traditionally viewed as a widespread phenomenon, the Terminal Classic is now recognized as a dynamic transitional period during which individual Maya communities moved in very different directions (Demarest, Rice, and Rice 2004). Perhaps because of the political, social, and economic flux, Terminal Classic period architecture at Lamanai and Chau Hiix has a transitional feeling. To this effect, built environments at both sites exhibit a mixture of characteristics. Some elements seem to be Late Classic period retentions (e.g., reuse of Classic period materials, buildings, and locations), while others foreshadow Postclassic period construction practices (e.g., a movement from masonry to perishable materials, an emphasis of increasingly open architectural layouts, and a preference for plaza level construction).

The Infilling of Late Classic Period Buildings

The filling of structures with rubble is not unknown during the Classic period. As Pendergast (1982:76) indicates, Structure B-4 at Altun Ha had portions of its interior packed with rubble as it was gradually adapted and reconfigured (e.g., Figure 5.14). The filling and burial of buildings, however, seems to have become increasingly common and to have taken place on a larger scale after A.D. 800. Later examples of this practice are also distinguished by the apparent rapidity with which the work took place and the extent to which the process entirely eliminated interior spaces. Such infilling has been documented in the Ottawa Group at Lamanai and for Structure 7 at Chau Hiix.

The Ottawa Group, Lamanai. As already indicated, the Ottawa Group is made up of the buildings surrounding the N10[3] Plaza at Lamanai (Figure 5.22). Ottawa has the distinction of being not only one of the few clearly identifiable “palace” complexes at Lamanai, but is the dominant example of this class of architecture (Pendergast 1992:67). Due to its size and centrality, the group is thought to have functioned as the residence of the community’s paramount

elites (ibid.). The decorative qualities of certain buildings also suggest they may have fulfilled administrative and/or small-scale ceremonial functions (Pendergast 1981b:4, 1985a:93; Graham 2004:224; Shelby 2000).

Ottawa has become a major focus of research because of the window it provides into transformational processes in the community during the Classic-to-Postclassic transition (Graham 2004; Pendergast 1992). Significantly, Lamanai experienced a building boom during a period when many southern lowland Maya communities were being abandoned. The Ottawa Group experienced more energy investment (in terms of labor and resources) than any other part of the Terminal Classic community (Pendergast 1985a:97, 1985b, 1986a:231, 1990:172). It is not only the volume of construction but its continuous nature during the 9th and 10th centuries that makes Ottawa an important barometer of sociopolitical change in the community (Graham 1987:73, 76-77, 2004).

The filling of architectural spaces is the most dramatic change affecting Ottawa during the Terminal Classic period. The process appears to have begun with Structure N10-17, extended to other buildings, and to have eventually affected the courtyard itself. In the case of Structure N10-17, the building was transformed during the Late-to-Terminal Classic period through the construction of Structure N10-17, 1st (“Snow”). Preparation for this construction involved filling Structure N10-71, 2nd (“Sleet”)’s rooms with rubble. The earlier Building was then encased within a platform (Pendergast and Loten fieldnotes). Whereas Sleet consisted of a series of vaulted rooms only slightly elevated above the plaza (Figure 5.4), Snow took the form of a substantial two-terrace platform with an outset axial stairway flanked by stairside outsets (Belanger et al. n.d.; Pendergast and Loten fieldnotes). Since Snow’s platform showed no evidence of a masonry superstructure, the Terminal Classic period Building was probably perishable and more open than its Late Classic period predecessor.

Other buildings in the group also underwent substantial modifications. During the Late-to-Terminal Classic period the doorways on the west end of Structure N10-77 were sealed with masonry units (Figure 5.30) (Graham 2004:Fig. 5). Apparently coincident with similar treatment of neighboring buildings, Structure N10-77's vaults were chopped and its rooms were packed with *sascab*. A Roaring Creek Red dish encountered on the floor of one of the rooms suggests this activity took place during the early part of the Terminal Classic period (probably the early 9th century A.D.) (Graham 2004:237). An essentially identical pattern of events has been documented for Structures N10-15, N10-17, N10-18, and N10-19. The only difference in treatment of the buildings on the two sides of the group is that the structures on the north seem to have had their walls more substantially reduced than those on the south (Graham 2004; Pendergast and Loten fieldnotes pp. 8, 15-17; Shelby 2000:Fig. 2.28). In the cases of Structures N10-77 and N10-78, the outer corners of the vault masses, which would have protruded through overlying fill, were chopped (Graham 2004). Extensive burning in Structure N10-77, the placement of ceramic offerings in the abandoned buildings, and destruction of Structure N10-28's elaborate polychrome frieze suggest the demolition was carried out systematically and was ceremonially sanctioned (Graham 2004:236-237; Pendergast and Loten fieldnotes pp.16).

Once this preparation was complete, the reduced Late Classic period buildings were buried beneath 2.5-4 meters of chert boulders (Figure 5.30) (Pendergast 1986a:232; Shelby 2000). Courtyard clearing efforts directed by Dr. Elizabeth Graham, David Pendergast, and Claude Belanger indicate the fill was methodically laid up in discrete units. These units (which most likely reflect individual task units--Claude Belanger personal communication 2002) were stabilized with battered boulder core faces. Systematic removal of core has demonstrated that this process proceeded from east to west through the complex (Pendergast 1986a:233; Claude Belanger personal communication 2002). Following filling of the courtyard, this construction phase was capped with a plaster floor (designated "Boulders") which converted the Late Classic



a.



b.

Figure 30a. View of the Southern Accessway of the Ottawa Complex, Lamanai, Belize looking south; b. detail of the Southern Accessway showing the west face of Structure N10-78 and doorways which were filled during the Late-to-Terminal Classic period (Photograph by C.R. Andres, 2002).

period complex into a huge elevated platform (Pendergast 1985a:95; Graham 2004). This surface provided a foundation for a series of largely perishable buildings (discussed below). The area immediately north of Ottawa was also built up with several meters of the Boulders fill at this time (Graham 2004:232). It also became a focus of subsequent Terminal Classic period construction activity.

This conversion of Ottawa was originally thought to be a protracted process that spanned as much as two centuries (Pendergast 1985a:95). However, recent investigations and adjustment of Lamanai's ceramic chronology now suggest Boulders was begun earlier than originally thought--most likely during the early years of the Terminal Classic--and completed more quickly--probably by about A.D. 850 (Graham 2004).

Structure 7, Chau Hiix. The 2003 excavations in Structure 7, the dominant structure at the west end of the main platform at Chau Hiix (Figure 5.24), documented a portion of the best preserved Building encountered at the site to date. These investigations also revealed Terminal Classic period modifications similar to those reported at Lamanai.

The 2003 investigations indicated that Structure 7 probably supported a pair of corbel vaulted range-type structures. Based on the construction characteristics of the excavated Building and cultural material marking terminal use of its interior, Structure 7 primarily appears to be a Late Classic period construction. Clearing of a substantial portion of one of the Buildings' rooms provided a significant amount of architectural data. The room that was examined had an interior space of 2.20 meters in width and contained a sizeable bench (Figure 5.1). The height of the surviving walls was variable: while part of the east wall stood to the vault spring, the west wall was only preserved to a height of 1.4 meters (Andres 2004, n.d.a.).

The clearing effort also documented a complex sequence of post-construction events. Exposure of the final floor revealed that three hearth features had been intruded into its surface (Figures 5.1 and 5.31). These features were lined with large sherds from Late-to-Terminal



Figure 5.31. Terminal Classic period sherd-lined hearth features intruded into the interior floor of Room A, Structure 7, Chau Hiix, Belize (Photograph by C.R. Andres, 2002).

Classic period bowls and storage jars. A variety of objects, including a concentration of lithic debitage; several fragments of a large pink granite *metate*; and a fine-grained, lithic object with battering at one end which may have functioned as a striker (Pyburn, personal communication 2003) were scattered around the hearths. While there is little direct evidence of how the structure functioned prior to this time, the casualness of these activities seems at odds with the formality of the architecture (Andres 2004, n.d.a.).

Following deposition of these artifacts, Structure 7 underwent large-scale modifications much like those documented in the Ottawa Complex at Lamanai. The Building's vaults were chopped at the spring line and the rooms were packed with more than two meters of clean, densely consolidated fill (Andres 2004). Although no evidence of a later building was preserved atop Structure 7, these events are consistent with stabilization of the structure to receive further construction. Either the final building project was abandoned prior to completion or the structure was built of perishable materials (Andres 2004, n.d.a.).

Perishable Terminal Classic Period Construction

Increasing use of perishable materials in the construction of site center buildings is a second pattern characteristic Terminal Classic period architecture at Lamanai and Chau Hiix. Recently investigated Structures 5 and 150 at Chau Hiix and buildings in the Ottawa Group at Lamanai serve as examples of such construction.

Structure 150, Chau Hiix. Structure 150 at Chau Hiix came under scrutiny in 2001 following identification of a subtle yet extensive masonry concentration on the northern edge of the main platform (Andres n.d.a.). Surface indications, together with the number and size of the structures defining the rest of the main group indicated the potential importance of this area. The prominent position of this "gap" in the site plan lead to investigation of the locale in an effort to evaluate the applicability of various models of urban development and inter-site relations at Chau Hiix (Andres 2001).

Excavations at this location exposed a building that measured approximately 43 meters in length (east-west) and between 1.5 and 3 meters in width (north-south). Investigations also established that Structure 150 was the focus of at least two major construction efforts. The initial construction (1st A) incorporated a low masonry bench that rested directly on the plaza surface (Figure 5.32). The orientation of this bench indicates the building faced south onto the Main Plaza. An almost complete absence of architectural debris indicates this Late-to-Terminal Classic phase feature was sheltered by a largely (if not entirely) perishable Building.²⁰ While multiple reconstructions are possible, the most likely suggests affinities with the false-fronted structures documented at Postclassic Cozumel (e.g., Freidel and Sabloff 1984) and Terminal Classic and Postclassic period C-shaped structures of the Petén and Pasión regions (Rice 1986:304-309; Tourtellot 1988a:50). The mixed material constructions reported at Cozumel consisted of benches which supported single, free-standing masonry walls. These walls functioned as façades and supported perishable roofs (Figure 5.33). Evidence from Chau Hiix suggests the earliest phase of Structure 150 (1st A) may have been a variation of such a building. Specifically, excavations indicate this structure's bench was extended towards the northern edge of the main platform during the Early Postclassic period. While no wall stub has been identified, demolition of such a wall would have provided the material necessary for the enlargement evident in the later building (Structure 150, 1st B).²¹ In the case of Structure 150, 1st A, this wall would have abutted the north edge of the bench and restricted visual access to the Building and the Main Plaza (Figure 5.34). Such an arrangement probably oriented a false front (the actual "back" of the southward facing Building) towards the off-platform neighborhoods to the north.

Since Structure 150, 1st A's superstructure was largely perishable, the appearance of the Building's plaza-oriented side must be inferred from the ground plan. The structure's elongated,

²⁰ Fragments of burned daub are the only evidence of a superstructure (Andres 2002b, n.d.a.).

²¹ The masonry used to extend the bench is estimated to be equivalent to the amount required to construct a six-foot high wall.

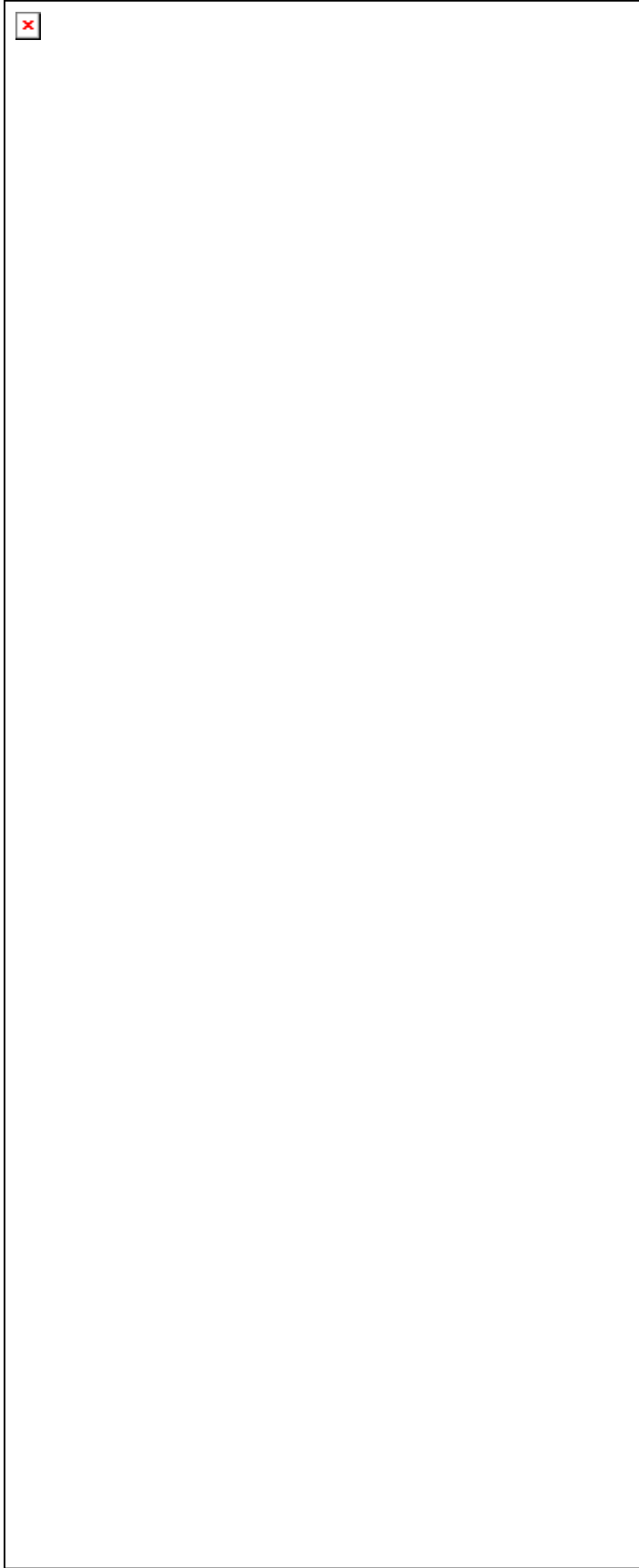




Figure 5.33. Reconstruction of Postclassic period false-fronted structure, Cozumel, Mexico (after Sabloff 1990:135).

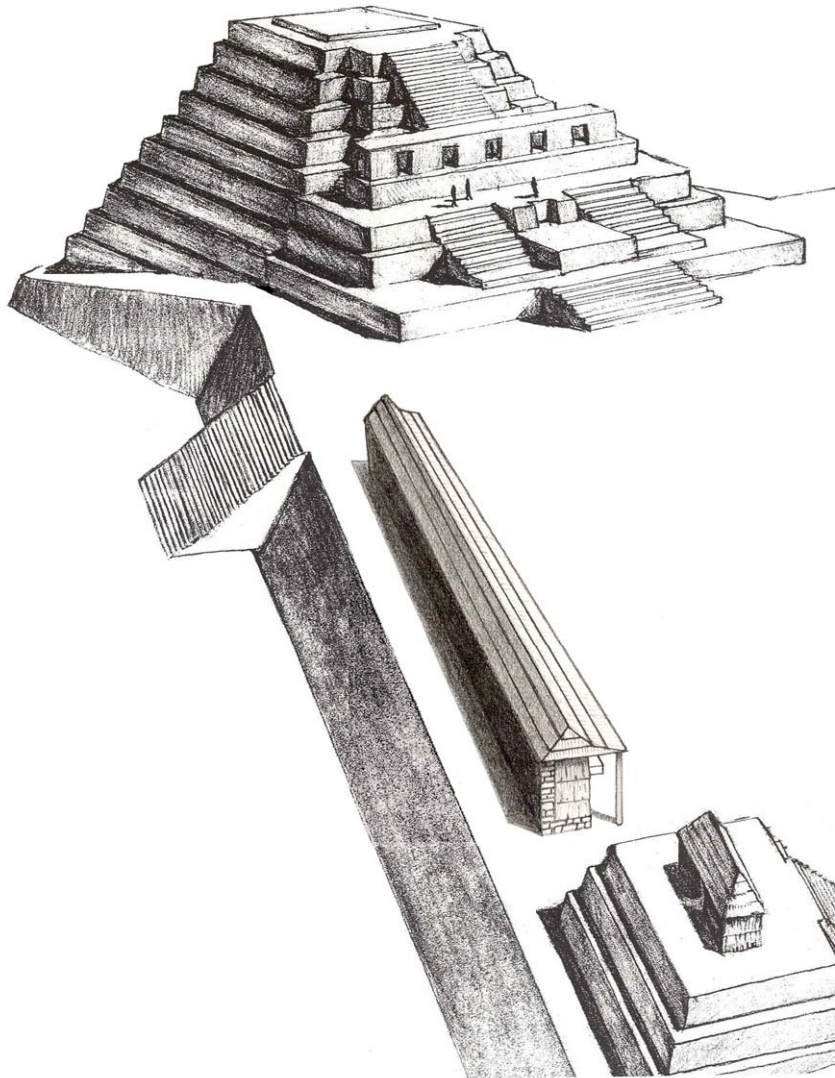


Figure 5.34. Reconstruction of Structure 150, 1st A, Chau Hiix, Belize showing the building during the Late-to-Terminal Classic period (original drawing of the site center by Sarah L. Oldenburg 1999--adapted by C.R. Andres, 2003).

hall-like form suggests a roof supported by columns or posts. Since no masonry column drums have been encountered at Chau Hiix, roof support was probably afforded by perishable members such as those associated with other Terminal Classic and Postclassic period “long house” type buildings in Petén and Yucatán (e.g., Pugh 2001:547; Ringle and Bey 2001:279). Supposing this was the roofing system in use at Chau Hiix, it would link the community with neighboring Lamanai where 12th-century Structure N10-2’s timber roof was supported by a double row of extremely large wooden columns (Pendergast 1981a:44, 1986a:235). Column “sockets” equivalent to those reported at Lamanai (Pendergast 1981a:46, Fig. 17) cannot be identified at Chau Hiix due to tree disturbance. However, it is conceivable that cut stone blocks encountered south of the Structure 150’s bench may be remains of plinths that served as footings for perishable supports.

Structure 150’s construction methods and spatial qualities suggest it is a transitional building. On one level, the structure undeniably restricted access to the main platform: it largely blocked physical movement and sight lines to Group A from the neighborhoods immediately north of the main platform. At the same time, the Building’s south face was probably significantly more accessible than those of structures of earlier periods. In contrast to the relatively solid masonry facades of more typical Late Classic period buildings, Structure 150, 1st A is likely to have been quite open. Supposing 1st A’s south face was composed of a colonnade, the Building would have consisted of an unenclosed space that was essentially a roofed area of the plaza. Continuity between the structure and the plaza would have been increased by the fact the bench rested directly on the plaza surface. Once one gained access to the Main Plaza at Chau Hiix, it is likely the open and low-lying building’s interior would also have been visually accessible. In short, Structure 150 probably possessed spatial qualities that were limiting and others that were more permissive depending upon the direction from which the building was approached.

Structure 5, Chau Hiix. Structure 5 at Chau Hiix is a second building that clearly incorporated a significant perishable component during the Terminal Classic period (Figure 5.29). Excavations carried out in 1995 investigated the substructure of this 60-meter-long north-south oriented platform and demonstrated that its eastern face was terraced (Figures 5.35a and 5.35b). The excavations also identified remains of several modest masonry features (designated with lower case letters in the section drawings) that appear to have been superimposed over the original terraces. While this secondary construction phase requires further investigation, it may reflect an effort to render the platform's imposing eastern face more accessible by constructing a stairway over the earlier terrace system. Supposing the terraces were constructed during the Late Classic (a likely scenario), the stairway may well have been added during the Terminal Classic period.

The excavations of Structure 5 carried out in 2003 concentrated on the platform's summit (Andres 2004). Although the top of the building was badly damaged by trees uprooted during Hurricane Keith in 2000, investigations indicated the platform supported at least one (and probably a pair) of structures during the Terminal Classic period. A combination of areal excavations and trenches revealed the southern half of the mound was occupied by a Building associated with a bench much like that documented for Structure 150 (Figure 5.36). Exposure of the bench indicated it measured 1.8 meters in depth, between 13 and 15 meters in length, and that it faced east onto the Main Plaza. An operation placed at the platform's mid-point furthermore indicated the bench did not extend the entire length of the summit. These data are significant because they suggest Structure 5 in fact supported a pair of buildings, each associated with a masonry bench, and with an accessway between them. Careful excavation failed to identify any evidence of a collapsed masonry component on the mound's summit. This negative evidence strongly suggests Structure 5's superstructures were constructed from perishable materials like Structure 150.

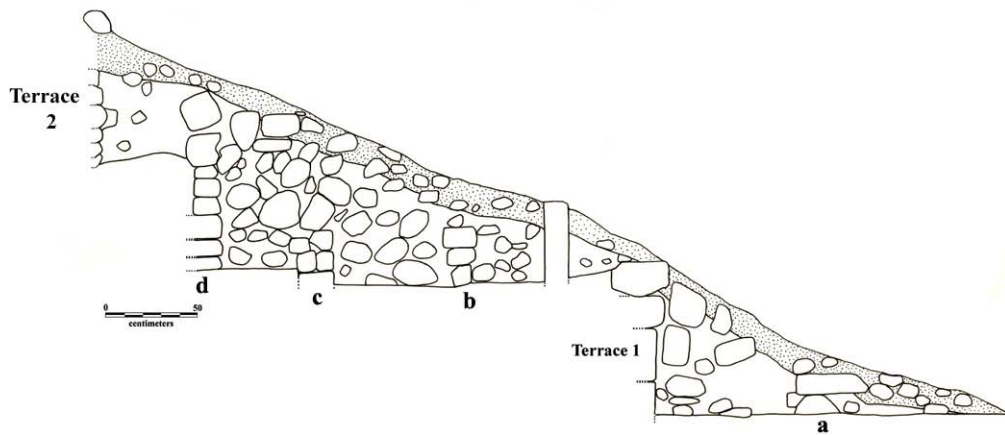


Figure 5.35a. North section of Operation 1, Excavation 45, Structure 5, Chau Hiix, Belize (original drawing by V. Versluis, 1995--redrafted by C.R. Andres, 2004).

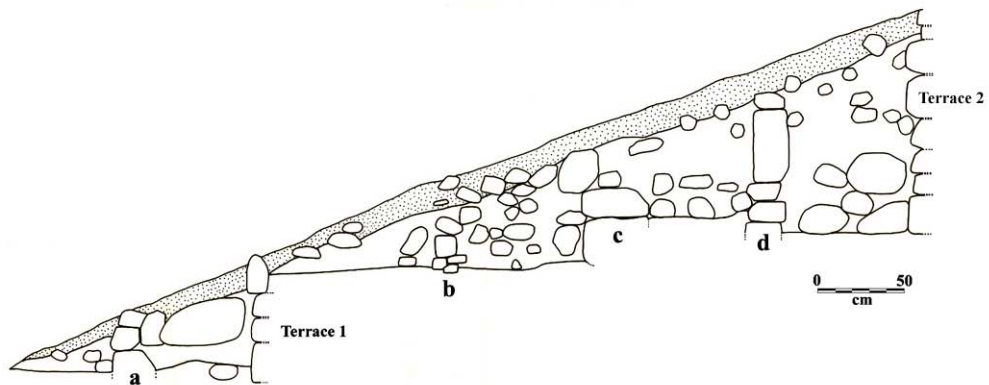


Figure 5.35b. South section of Operation 1, Excavation 45, Structure 5, Chau Hiix, Belize (original drawing by V. Versluis 1995--redrafted by C.R. Andres, 2004).

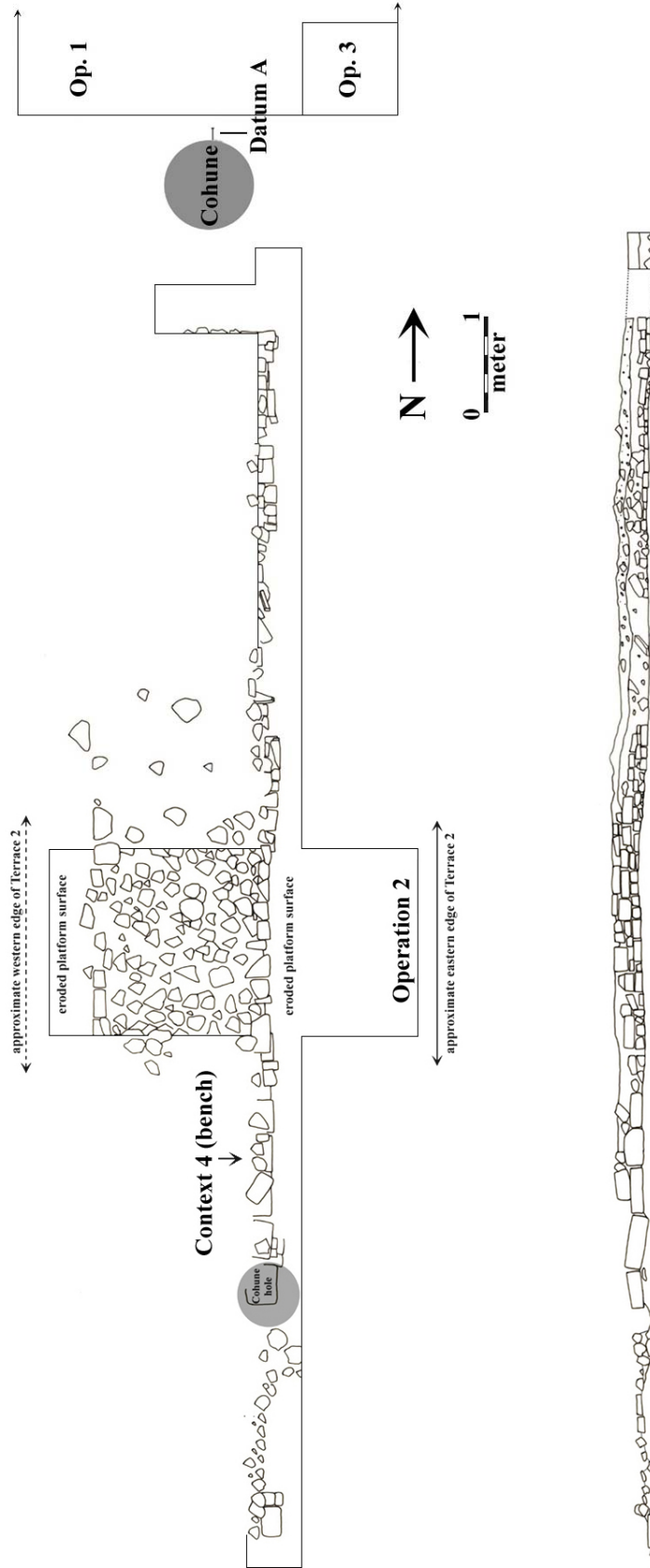


Figure 5.36. Plan and west section of masonry bench (Context 4) of the final construction phase on the south summit of Structure 5, Chau Hiix, Belize (drawing by C.R. Andres, 2004).

The Ottawa Complex, Lamanai. Once Ottawa was converted from a sunken courtyard group into a huge platform, a number of structures were built on this substructure and the elevated area immediately to the north. The Terminal Classic period buildings established in this area differed substantially from those they replaced in being constructed from less permanent materials (Graham 2004:234).

On the south side of Ottawa, Structures N10-77 and N10-78 were replaced by Structure N10-12. This single extensive structure spanned the Late Classic period southern accessway to the group (Figure 5.21) and consisted of a low masonry platform that supported a sequence of at least three Terminal Classic period buildings. As discussed by Graham (2004:235-236), only one of these buildings (Structure N10-12, 1st) was definable. The 2002 investigations exposed a roughly rectangular configuration of cut stones (one course in height) resting on a poorly preserved plaster floor (ibid.; personal observation 2002). These data suggest the structure that stood at this location was a perishable construction whose walls consisted of poles resting on the cut stone blocks that defined the Building's perimeter (Graham 2004:235, 237). Although underlying Structures N10-77 and N10-78 have yet to be fully cleared, the contrast between these entirely masonry Late Classic period buildings, which faced inward onto Ottawa's highly restricted courtyard, and the seemingly more visually and physically accessible Building that supplanted them is striking.

This shift from masonry to perishable construction is also evident in the area just north of Ottawa. As indicated by Pendergast (1986a:232, 1998:95-96) and Graham (2004:234), the plaza north of Structures N10-15, N10-19, and N10-28 was also buried by some 3,000 cubic meters of Boulders core. A number of buildings (including Structures N10-76 and N10-80) constructed on this extension consist of low, single terrace masonry platforms that supported perishable superstructures (Graham 2004; Pendergast 1985a:96).

Structure N10-76 ("Plant") proved to be the most completely preserved of the structures clustered just north of the buried remains of Structure N10-28 (Figure 5.22). The 2002

investigations (which I supervised) showed that this structure consisted of a low rectangular platform defined by a well constructed masonry facing (Graham 2004:232). Since no evidence of a superstructure was encountered, the Building which occupied the platform is thought to have been perishable. Structure N10-76 was dated to the Terminal Classic period by means of a pair of San José V-type/Roaring Creek Red dishes associated with a burial encountered on the structure's centerline (Graham 2004:234; personal observation 2002).

Excavations focusing on Structure N10-76 in 2002 also exposed the northern portion of another building (Structure N10-8--"Paper") which extended over the area originally occupied by Structure N10-28 (Graham 2004:234). While only partly preserved, the building clearly pre-dated Structure N10-76 and had been incorporated into this building's construction (Graham 2004:234; personal observation 2002). Structure N10-80 also appears to have been a mixed material construction.

The fact that Structures 5 and 150 at Chau Hiix were probably civic-ceremonial and/or administrative structures (e.g., Andres 2004, n.d.a., n.d.b.), while most of the buildings surrounding the N10[3] Courtyard at Lamanai were elite residences (Graham 2004) indicates that use of perishable materials was not limited to one functional category in the Terminal Classic period communities at Lamanai and Chau Hiix.

The conversion of earlier buildings into Terminal Classic period building platforms, the establishment of structures with increasingly open configurations, and a growing reliance on perishable construction materials suggests the movement towards insularity and restricted access evident during the Late Classic at Lamanai and Chau Hiix underwent a reversal during the Terminal Classic period. While this pattern is not absolute, developments at Lamanai and Chau Hiix that suggest an overall movement towards increased transparency and accessibility in these Terminal Classic period built environments.

Early Postclassic Period Built Environments at Lamanai and Chau Hiix

During the Early Postclassic (A.D. 950-1200), architecture at Lamanai and Chau Hiix reflects a continued movement away from the physically confining, inwardly-focused patterns evident during the Late Classic period. Noteworthy to this extent is a continued preference for perishable construction materials, emphasis of open building forms, and a shift towards plaza-level construction. These overlapping characteristics are often simultaneously expressed in Early Postclassic ceremonial and elite residential architecture at Lamanai and Chau Hiix and contribute to a more accessible quality than was evident during the Late Classic (A.D. 550-800).

Increasingly open building types

Continued movement away from the architectural compartmentalization of earlier periods contributed to the increasingly open nature of built environments at Lamanai and Chau Hiix during the Early Postclassic period. This openness was largely due to the less confining spatial characteristics of individual buildings in the two communities. Relevant changes are reflected in entirely new buildings as well as in structures that were remodeled during the Early Postclassic period. Both processes resulted in the gradual replacement of largely enclosed structures with perishable and perhaps more visually accessible buildings.

Structure 150, Chau Hiix. Structure 150 at Chau Hiix is an excellent example of this first type of change. During the Early Postclassic period, Structure 150 was the focus of renewed construction activity. The second building phase (Structure 150, 1st B) substantially enlarged Structure 150, 1st A's bench by extending it north towards the edge of the main platform. The material used in this remodeling probably came from demolition of Structure 150, 1st A's north wall (Figure 5.34). Since no other architectural components have been documented for Structure 150, 1st B, its superstructure was either entirely perishable or the original Late-to-Terminal Classic period building was converted into an open-air platform (Figure 5.37) (Andres n.d.a.).

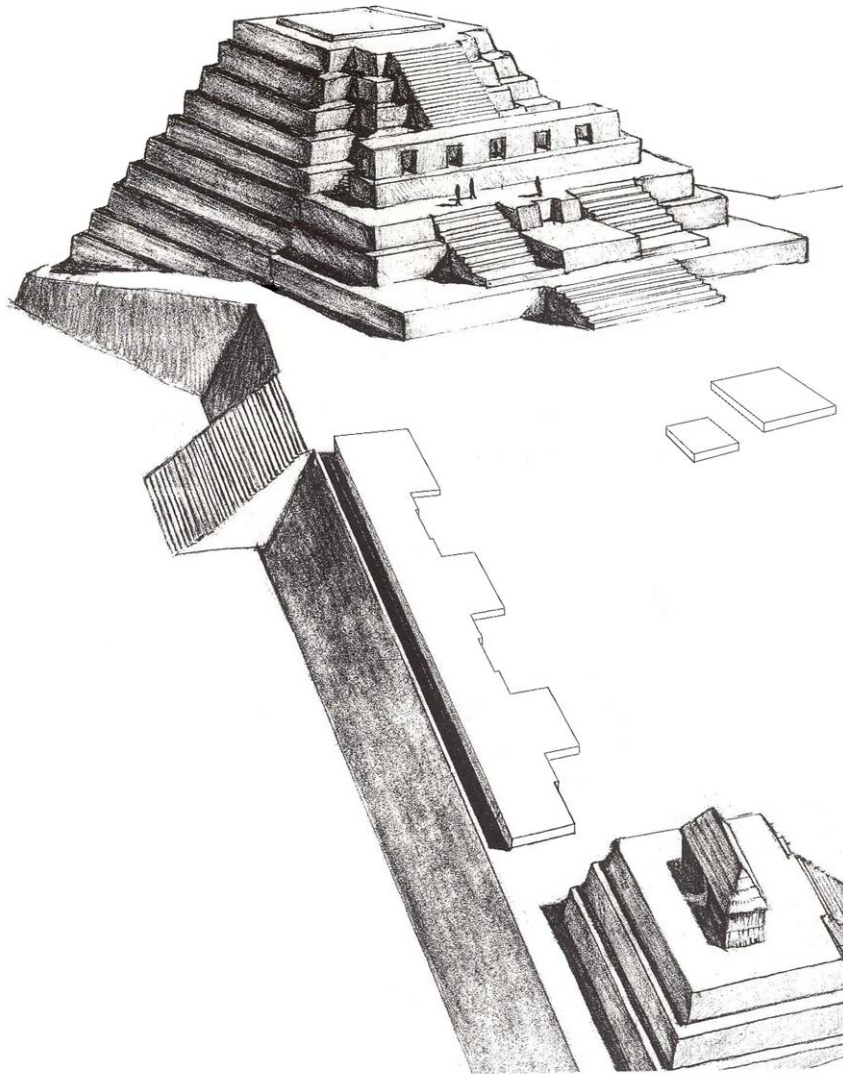


Figure 5.37. Reconstruction drawing of the northeastern corner of the main platform at Chau Hiix, Belize showing Structure 150, 1st B and Structures 8 and 9 during the Early Postclassic period (A.D. 950-1200) (original drawing by Sarah L. Oldenburg--modified by C.R. Andres, 2003).

Remodeling of Structure 150 apparently corresponded with elevation of adjacent portions of the main platform by as much as 30-40 centimeters. We are uncertain if this construction involved resurfacing the entire plaza (Andres n.d.a.) or construction of a secondary, step-like platform against Structure 150, 1st A's southern bench face (Andres 2004). Materials sealed within this construction unit include scroll foot bowls or dishes (most likely Augustine Red-- Robert E. Fry, personal communication March 2004) and San José V-type/Roaring Creek Red vessels (e.g., Gifford 1976:292; Graham 1985, 1987:Figs. 2d, f, and h).

The changes evident in Structure 150, 1st B minimally suggest the Building was rendered more accessible during the Early Postclassic period. Whether the plaza was elevated or a step-like unit was added to Structure 150, the bench's height would have been reduced. This would have made its surface more accessible. The changes reflected in Structure 150, 1st A may have been more spatially dramatic. Supposing the building functioned as an open-air platform, it would have significantly altered the character of the site center. While the first phase of the building established a significant barrier between the Main Plaza and much of the community, the changes associated with Structure 150, 1st B would have reversed this pattern. This spatial reversal is consistent with other Postclassic changes in the central precinct at Chau Hiix (see below) (Andres 2002a; Andres et al. 2004).

Structure N10-2, Lamanai. Structure N10-2 and the buildings of the Ottawa Group are examples of Early Postclassic period perishable structures that replaced Classic period masonry constructions. Structure N10-12 is noteworthy because it exhibits many of the spatial qualities seen in Structure 150 at Chau Hiix.

The community at Lamanai became increasingly focused on the New River Lagoon during the Postclassic period (Pendergast 1985a:98, 1986b, 1991, 1993; Graham 2004:239) and Structure N10-2 reflects this shift: it not only occupies the zone between the Ottawa Group and the water, but faces westward onto the lagoon. This orientation is a departure from Classic period

patterns to the extent it reflects an increasingly outward focus. Structure N10-2's elevation on a platform built into the terrace separating lagoon-side development from the N10[2] Plaza suggests the Building was visible from the lagoon (Pendergast 1981a:Fig. 17; personal observation 2002).

Trenching along Structure N10-2's centerline revealed underlying construction dating as early as the Early Classic period. Following a period of probable disuse (Loten 1985:89), this building was capped by four construction phases spanning the Terminal Classic through Late Postclassic periods (Pendergast 1975:39, 1981a:44, 1986a:236, 241). Of these buildings, only Structure N10-2, a 12th-century building, was sufficiently preserved to allow for a complete reconstruction. This structure, however, is distinguished by its unusual spatial qualities and its almost exclusive use of perishable materials (Pendergast 1981a:44). The building consisted of a single very large (10 x 20 meter) room accessed via a broad axial stairway. Excavations indicated the superstructure's walls were composed of wattle and daub and that its flat roof was built from timbers. Perhaps most distinctive is the fact the roof was supported by two rows of huge wooden columns (Figure 5.38). As indicated by Pendergast (1981a:44), this design feature suggests affinities with buildings in Postclassic Yucatán (Pendergast 1981a:44). Structure N10-2 has been interpreted as a ceremonial structure based on a combination of physical attributes and associated deposits. Perhaps the single most diagnostic feature supporting this interpretation is a square masonry altar located in each of the buildings in the construction sequence (Pendergast 1986a:236). As Pendergast (1975:39, 1981a, 1981b:4, 1986a) and Loten (1985:88-89) indicate, the more than 50 human burials and offerings included in the Postclassic modifications provide a strong indication that Structure N10-2 was a primary focus of late ceremonial activity.

As the reconstruction suggests (Figure 5.38), Structure N10-2 had little in common with earlier buildings. Whereas Classic period temple structures were dark, stuffy, and private, Structure N10-2 gives the impression of having been a much more flexible building. Structure N10-2's generously proportioned interior and colonnaded facade contrast strongly with the small

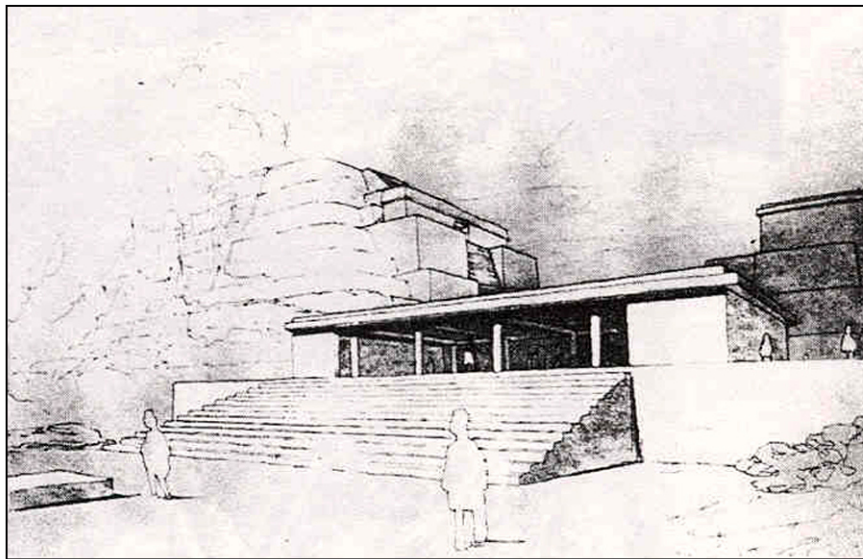


Figure 5.38. Reconstruction drawing of Structure N10-2, Lamanai, Belize during the 12th century A.D. (after Pendergast 1981:17).

interior spaces and nearly solid masonry faces of Late Classic period civic-ceremonial structures. While the chambers atop Classic period temple structures were difficult to access and clearly incapable of accommodating many people, Structure N10-2 was both visually and physically accessible. While the building's modest elevation would have spatially distinguished it from other parts of the community, its well-lit interior would have been visible from plaza level. The building's stairs were broad and easily navigable and the open facade suggests little concern with control of traffic flow. The building's interior was sufficiently expansive to accommodate sizable gatherings. Finally, Structure N10-2's moderate elevation and westward orientation were ideally suited to trapping breezes from the lagoon--a quality which no doubt made it far more comfortable than functionally equivalent buildings of earlier periods.

The Ottawa Group, Lamanai. The replacement of Classic period masonry building with largely perishable structures that began in Ottawa during the Terminal Classic persisted into the Postclassic period (Graham 2004). The fact that these Early Postclassic buildings were more lightly built than their predecessors means that architectural data from this period are spotty. However, the location, size, and other physical characteristics of these Early Postclassic structures have been documented through excavations carried out by Dr. Elizabeth Graham and David Pendergast (Graham 2004; Pendergast and Loten fieldnotes; personal observation 2002).

Established on the south side of Ottawa during the Terminal Classic period, Structure N10-12 ("Trillium") continued to be the site of construction during the Early Postclassic period (Figure 5.22) (Pendergast 1981b:4). The 2002 investigations revealed Structure N10-12, 1st was demolished and that the material used in its construction was spread on its floor to form the low platform that supported Structure N10-12, 2nd (Graham 2004:234, 237-239; Pendergast and Loten fieldnotes pp.2). At the time of Structure N10-12, 2nd's construction, a number of Buk Phase (Early Postclassic) burials were intruded into Structure N10-12, 1st (Graham 2004:237; Pendergast and Loten fieldnotes pp. 2). These burials were sealed within Structure N10-12, 2nd

whose superstructure was constructed from perishable materials (Graham 2004:234-235, 237, 239).

Similar patterns are reflected in Structures N10-17 (“Slux”) and N10-29 (“Felino”) at Lamanai. Both were modest, single-terrace Postclassic building platforms constructed on top of the Boulders Platform. Slux was constructed on the group’s east side over the location once occupied by Structure N10-17, A (Snow).²² Structure N10-29 (Felino) was located in the approximate center of the Boulders platform and consisted of a concentration of “unshaped stones set in an apparent circle” (Pendergast and Loten fieldnotes pp. 24). While their preservation was poor, both Slux and Felino were low masonry platforms that seem to have supported perishable Postclassic buildings (Pendergast 1985a:95).

Emphasis of Plaza-level Construction

The final architectural pattern distinguishing the Early Postclassic period at Lamanai and Chau Hiix is the increasing number of construction projects taking place at or near ground level. This has already been noted in the case of Structure 150 at Chau Hiix. Structure N10-2 at Lamanai also reflects this tendency to the extent the building was positioned on a relatively low substructural platform as opposed to being constructed on the high pyramidal platforms typical of Classic period civic-ceremonial structures at many other locations. As already discussed relative to an increase in open building types, emphasis of plaza-level construction activity is evident in (1) the remodeling of earlier buildings and in (2) cases of entirely new construction.

Structure N10-9, Lamanai. The Early Postclassic is associated with a focusing of architectural activity at the bases of Classic period civic-ceremonial structures (Andres 2000a). This was initially observed by David Pendergast (1981a:43; 1986a:234, 241) for Structure N10-9 at Lamanai. This structure is thought to have been well-maintained during the Classic period. Its

stairs and stairside outsets were renewed several times and its platform terraces were maintained (Pendergast 1981a:43). However, during the Early Postclassic period, patterns of construction and maintenance shifted. Although the structure remained a focus of continuous construction, its flanks fell into disrepair, as evidenced by deterioration of the Classic period platform terraces during the Early Postclassic (Pendergast 1981a:43). Modifications were instead concentrated on the structure's primary axis. The central stair was renewed and impressive stairside outsets were added during the 12th or 13th centuries A.D. (Pendergast 1981a:43). The building's Lamanai Building Type structure was also retained during this period (ibid.).

Structure 1, Chau Hiix. Structure 1 at Chau Hiix demonstrates the same overall pattern of Postclassic maintenance and renewal reflected in Structure N10-9 at Lamanai. Investigations in 1995 and 1997 revealed that the lower portion of the building's axial stairway was reconstructed during the Early Postclassic period (Andres 2000b; Andres and Pyburn 2004). This stair, which consisted of at least eight broad steps constructed from double courses of rough-cut limestone blocks, was superimposed upon the much better preserved underlying Classic period staircase (Figure 5.39). The fact that the two construction phases were separated by a significant amount of fine debris may reflect an intermediate period of abandonment. Interestingly, the stairways seem to have varied significantly in scale and extent. The steps of the Late Classic period stair were tall and shallow, averaging 30 centimeters in height and 25 centimeters in depth (Andres and Pyburn 2004). Based on the data at hand, this relatively steep stairway seems to have extended from the plaza surface to the structure's summit. In contrast, the risers of the Early Postclassic steps were low (10-15 centimeters in height) and the treads were long (often 30-40 centimeters deep). Unlike the earlier stair, this Postclassic stair apparently terminated at a low

²² Because of its separation from the earlier building by the intervening Boulders fill, Slux is not actually considered part of the Structure N10-17 construction sequence (Pendergast and Loten fieldnotes pp. 12, 15).

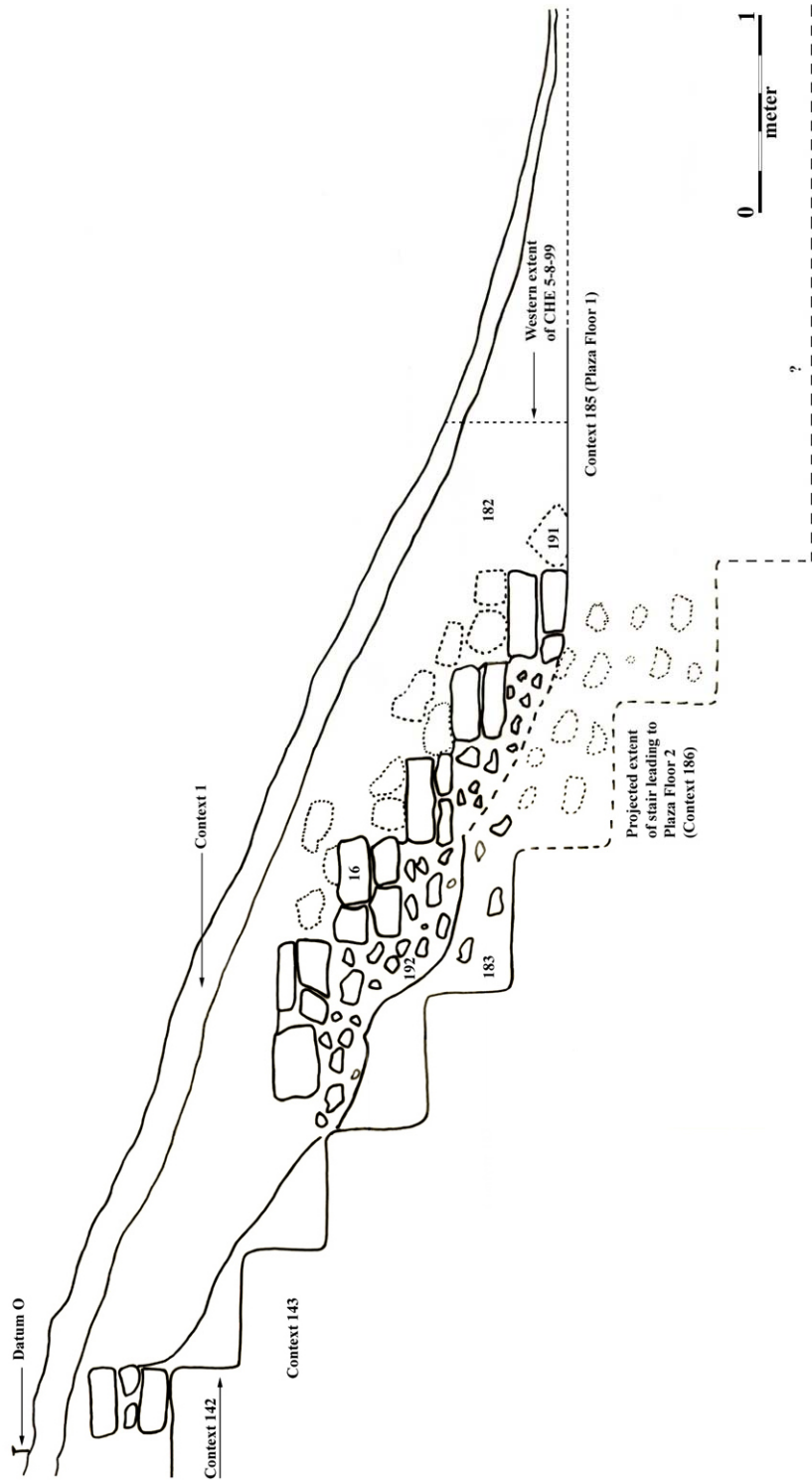


Figure 5.39. Detail of south section of Excavation 50, Operation 6, Structure 1, Chau Hiix, Belize showing Early Postclassic period axial stairway and underlying Classic period stairway (drawing by C.R. Andres).

platform located approximately three meters up the building's western façade. Together, these data suggest that activities associated with Structure 1 may have shifted from high on the building during the Classic period to just above plaza level during the Early Postclassic. The construction characteristics of the five-meter-wide outset Postclassic stair also suggest the building was more accessible during the Postclassic than the Classic period.

Similarities between Structure N10-9 at Lamanai and Structure 1 at Chau Hiix became particularly evident in 2003. At this time, a trench was placed between Structures 1 and 2 to examine the intermediate accessway (Andres 2004). These investigations revealed that Structure 1 was not uniformly abandoned. Trash and architectural debris accumulated at the base of the building's first terrace indicate that Structure 1's south side ceased to be maintained after the Late-to-Terminal Classic period. When viewed together with data from the structure's west side, these developments argue for increasingly focused use of Structure 1 after the Terminal Classic period.

This expenditure of resources in plaza-level construction is also reflected in Postclassic period buildings that were founded at previously undeveloped locations at Chau Hiix and Lamanai.

Structures 8 and 9, Chau Hiix. Structures 8 and 9 are diminutive platforms that were added to the main group at Chau Hiix late in the site's history. Based upon observations made by David Pendergast (Pendergast n.d.; personal communication to Pyburn 1994) and the significant number of Chen Mul effigy censers recovered on and around these buildings, the structures have been dated to the Late Postclassic period (A.D. 1200-1450) (e.g., Andres 2000a; Andres and Pyburn 2004; Pyburn 1994). The fact the buildings were also associated with Buk Phase ceramics--now thought to be diagnostic of the Early Postclassic (Graham 2004:228), however, suggests Structures 8 and 9 may have been constructed during the first half of the Postclassic period (A.D.

950-1200). The buildings' spatial qualities are consistent with architectural developments characteristic of both time periods.

Structures 8 and 9 are located on Structure 1's primary axis and have been thoroughly investigated as a component of Postclassic research at Chau Hiix (Figures 5.29 and 5.37) (Andres 2000a; Andres and Pyburn 2004; Cook 1996; Cook and Pyburn 1995; Wrobel 2000).

Excavations showed that Structure 8, the more poorly preserved of the buildings, consisted of a concentration of roughly aligned cut stones probably removed from earlier architectural contexts. A Late Postclassic censer deposit associated with the platform suggests it was conceived as an altar or shrine (Andres and Pyburn 2004; Cook 1996; Cook and Pyburn 1995).

Structure 9 is located several meters south of Structure 8 and consists of a single course of large, vertically-set limestone slabs. Though the three-meter-square platform would have been sufficient to accommodate a small dwelling, an absence of architectural debris and domestic refuse suggests it did not support a superstructure (Andres and Pyburn 2004). The masonry the building is constructed from is also likely to have been robbed from other locations in the site center. Structure 9's classification as a ceremonial structure is largely based upon the materials and features recovered within, on, and around the shrine. Two elaborate human burials, one dating to the Terminal Classic and the other to the Early Postclassic period, were encountered in the building. The shrine's surface was littered with a variety of objects, including a concentration of Late Postclassic Chen Mul modeled effigy incensarios, jade beads, animal teeth, a tapir skull, and shell fragments (Andres 2000a; Cook 1996:8-9; Cook and Pyburn 1995:5). Probable stela fragments encountered around the building also suggest the platform may have been associated with a re-set Classic period monument that was subsequently vandalized.²³ These materials,

²³ Monuments appear to have been removed from other areas of the main platform as well as from smaller ceremonial groups surrounding the site center (Pyburn 1991). Crooked Tree residents describe the removal and destruction of at least one monument from the vicinity of Chau Hiix during the past 30 years (Andres and Pyburn 2004).

together with several human burials placed in the building (Andres and Pyburn 2004; Wrobel 2000; Andres et al. 2004) indicate it possessed a ceremonial function.

Non-residential Postclassic period platforms at Lamanai. Beginning in the Early Postclassic period, structures similar to those reported at Chau Hiix were constructed at a variety of locations in the site center at Lamanai. In several of these cases, these platforms were established at the bases of Classic period temple structures like Structures 8 and 9 at Chau Hiix. Structure N9-59 was one of three small, low masonry platforms constructed at plaza level on the primary axis of Structure N9-56 during the Postclassic period. This structure, whose facing was constructed from “vertically set single stones”, served as a base for a resited Classic period stela (Pendergast 1981a:51, 1986a:242). The incorporation of jade and shell beads, several Postclassic censers, and other vessels into Structure N9-59 (Pendergast 1981a:51, 1985a:100, Fig. 4) indicates that platforms of this type were a focus of similar offertory activities at Lamanai and Chau Hiix.

Two “tiny” platforms seemingly of later date, but also faced with vertically-set facing stones were constructed in the plaza in front of Structure N10-9 (Pendergast 1986a:241). Yet another pair of small platforms was constructed in the area west of the N10[3] (Ottawa) Courtyard (Pendergast 1985a:99, 1986a:241). The fact these structures supported re-positioned Classic period stelae suggests they functioned in a manner similar to those at Chau Hiix (Andres and Pyburn 2004).²⁴

This pattern of construction may also have extended to Structure N10-27 (a Classic period ceremonial structure). Construction of a small platform and an extensive plaster floor immediately west of the building during the 12th-13th centuries may indicate it retained its ceremonial significance into the Postclassic period. While the possibility exists that the platform

²⁴ While I am unaware of any discussion of this pattern in the literature, the tendency of these Postclassic platforms to occur in pairs may be significant. Two Late Classic period stelae placed on such platforms in front of Structure N9-56 at Lamanai were arranged so that they faced one another (Pendergast 1981a:51). With this in mind, paired platforms of this type may reflect the presence of multiple re-set stelae in Postclassic contexts where the monuments are now missing (e.g., Chau Hiix).

was a residence, the extent of the modification could also indicate it was part of a construction effort “related to continuing maintenance of the primary axis of Structure N10-27 as the ceremonial focus of the area” (Pendergast 1985a:99; 1988:7). Small masonry platforms were also constructed in northern areas of Lamanai during the Postclassic period (e.g., Pendergast 1981a:51).

A final building consistent with this type of open and low-lying Postclassic construction has been reported in the plaza at the base of Structure N10-9. This structure was considerably larger than the two previously mentioned constructions documented in this same area (which were constructed on top of it). This “extensive [and] low platform” was constructed in the center of Plaza N10[9] on Structure N10-9’s primary axis and was probably associated with a perishable superstructure (Pendergast 1985a:98, 1986a:241).

Viewed together, these Postclassic structures are spatially distinct from Late Classic period buildings. In contrast to earlier buildings, these platforms seldom exceed a half meter in height. The fact they are generally found in open plazas suggests people could have approached them from a variety of directions and that it would have been difficult to restrict access to the buildings. Placement of the buildings no more than a step above plaza level suggests they would have been physically accessible to anyone who approached them. Finally, the location of these unenclosed platforms in relatively large, open areas suggests they were fully visible. Viewed together, these spatial qualities suggest that events focused on the buildings could have involved large numbers of individuals and that they were public facilities.

Summary

This chapter has employed quantitative and more phenomenological forms of architectural analysis at Lamanai, Chau Hiix, and Altun, Belize to evaluate observations concerning the spatial characteristics of Maya built environments across time. As the discussion has demonstrated, changing construction practices and preservation issues mean that Late Classic

period (A.D. 550-800) built environments are most amenable to standardized and replicable spatial analyses like those borrowed from space syntax. In contrast, Terminal Classic (A.D. 800-950) and Early Postclassic period (A.D. 950-1200) architecture is more productively approached from the perspective of experiential observations derived from buildings and building assemblages.

This section of the dissertation has presented data suggesting that built environments at Lamanai, Chau Hiix, and Altun Ha exhibit parallel patterns during the Late Classic period. The movement towards increasing enclosure and restricted access to space observed by Pendergast (1979, 1982) at Altun Ha and by scholars at more distant locations (e.g., Fry 1985) is evident in each of the communities. The extent of these changes, however, does appear to vary between the sites, for it is Altun Ha where we see the clearest examples of architecture functioning as barriers and partitions, where patterns of pedestrian movement are most highly structured, and where spaces in civic-ceremonial and elite residential contexts seem to have become most segregated during the Late Classic period.

Following the abandonment of Altun Ha at the end of the Classic period (Pendergast 1979, 1982, 1986a), built environments at Lamanai and Chau Hiix exhibit novel but similar patterns during the Terminal Classic period. Increasing use of perishable construction materials and elimination of the small, dark interior spaces characteristic of corbel vaulted buildings suggest a movement towards increasing physical and visual accessibility in built environment at both locations. It is also during the Classic-to-Postclassic transition that buildings with unusual spatial characteristics (Structure N10-28 at Lamanai and Structure 150 at Chau Hiix) appear in the communities. The potential significance of these buildings, which may have served novel political and administrative functions, is discussed in greater detail in the concluding section.

Finally, the spatial characteristics of Early Postclassic period architecture at Lamanai and Chau Hiix suggest that civic-ceremonial and elite residential facilities at both locations demonstrate a continued movement towards greater physical and visual accessibility. This

tendency is reflected in a continued reduction in the number of enclosed spaces, the increasing openness of Postclassic period civic-ceremonial buildings, and reduced use of architecture to create vertical distinctions in pre-Hispanic Maya communities.

CHAPTER 6

INTERPRETATIONS AND CONCLUSIONS

Ideology as practiced dominance has clear behavioral associations. Primary among these are the practices of inclusion and exclusion by which dominant groups control social discourse. Exclusionary practices may seek to control when and where social interaction takes place between members of various social groups. The maintenance of dominance is in part dependent upon promoting social distance between the elite and other groups. A primary mechanism of exclusion is to erect physical and symbolic barriers that discourage interaction between groups. Elites seek to limit interaction to times and places of their choosing, where they control both the agenda and the presentation of discourse (Love 1999:129).

As the final portion of the discussion, this chapter focuses on drawing together the theory, methods, and data that have been considered separately in earlier sections. In so doing, it discusses issues of pattern identification and interpretation and considers the patterns defined in the built environments at Lamanai, Chau Hiix, and Altun Ha during the Late Classic, Terminal Classic, and Early Postclassic periods from the perspective of the theoretical works introduced in Chapter 4. Ideas put forward by Scott, Girshick Ben-Amos, Foucault, Giddens, and Thomas are examined relative to the results of the spatial analysis to evaluate hypothesized links between architectural change and social relationships in pre-Hispanic Maya society.

Documenting and Interpreting Architectural Change

While this discussion suggests pre-Hispanic Maya architecture can be a fairly reliable reflection of shifting social and political relationships, scholars hold a variety of views on this issue. Some Mayanists are skeptical of archaeologists' abilities to identify meaningful patterns in ancient architecture and extract socially relevant information from them. Scholars have raised concerns over efforts to identify urban "templates" (widespread site planning principles) in the Maya area despite the recent popularity of such approaches (e.g., Ashmore

1989, 1991, 1992; Ashmore and Sabloff 2002, 2003; Houk 1996, 2000). Webster (1998:18), for example, has argued that:

whole site layouts or large portions of them, are not designed systems of architecture so much as historical accretions, with all the noise and sloppiness that characterize evolved, as opposed to engineered, systems. Large-scale accretions consisting of many structures built at different times cannot easily be read as texts.

Webster's reservations are based largely on observations concerning the pragmatic ways in which members of pre-contact period Maya communities approached architecture and consequently distorted it. Just as there are cases where buildings were carefully entombed and survive virtually unscathed (e.g., Fash 1998:237, Fig. 5), the Classic Maya did not hesitate to destroy, alter, or abandon other structures (Webster 1998:16). Even scholars who advocate hermeneutic approaches to Maya architecture acknowledge the extent to which transformation processes can thwart interpretive efforts. As Ashmore and Sabloff (2002:201) themselves observe:

Centers with relatively short and simple political histories are relatively easy to interpret spatially. Those with longer development, but relatively little upheaval, manifest more elaborate but relatively robust and internally consistent plans. Sites with longer and more turbulent political histories, however, materialize a more complex cumulative mix of strategies and plausibly, therefore of varying planning principles invoked by subsequent ancient builders.

These authors all raise legitimate concerns that must be taken into account when undertaking spatial analysis of any Maya center. Fortunately, however, these issues do not loom as large in the present discussion as they do in other types of investigations.

The primary reason this study of the architecture at Lamanai, Chau Hiix, and Altun Ha avoids the problems identified in critiques of Ashmore's (1989, 1991, 1992) and Ashmore and Sabloff's (2002) work (e.g., Smith 2003; Webster 1998:18) is that I am not asserting that Maya centers were structured according to widespread cosmological templates or built as

images of ideal cities. While these principles may be reflected at some locations, it is not my goal to identify them at Lamanai, Chau Hiix, and Altun Ha. It is these idealized urban plans (e.g., Ashmore 1989, 1991, 1992) that seem most susceptible to distortion by subsequent community development (e.g., Webster 1998:18). I am instead suggesting that the patterns deserving attention here are those cumulatively produced by many spatially similar architectural changes. The likelihood these transformations were not carried out at precisely the same time suggests they may not be the result of single urban planning programs. However, the fact that the spatial patterns documented in Chapter 5 appear in elite residential and civic-ceremonial contexts at three neighboring Maya sites at roughly the same time not only indicates intentionality, but suggests they are a reflection of broad social processes.

As inhabited spaces, Maya communities were constantly experiencing architectural changes. However, consideration of (1) the occupational histories of Lamanai, Chau Hiix, and Altun Ha; (2) my focus on late portions of the communities' architectural sequences; and (3) the ways that physical transformations were enacted at these locations suggests access patterns are less vulnerable to distortion than other types of architecturally-reflected information.

While Lamanai, Chau Hiix, and Altun were all occupied for long periods of time, the access related changes examined here affected the communities relatively late in their histories. In the case of Altun Ha, these changes date to the periods leading up to the site's abandonment. The fact that Altun Ha was depopulated at the end of the Classic period means there was little opportunity for these transformations to be muddied by subsequent urban development (e.g., Pendergast 1992).

Lamanai and Chau Hiix clearly experienced lengthier occupations than Altun Ha and were the focus of Terminal Classic and Postclassic period construction campaigns. At Chau Hiix, however, architectural changes taking place after A.D. 800 were extensive but fairly superficial, resulting in a discontinuous veneer of late additions and modifications (Andres

and Pyburn 2004; Andres n.d.a., n.d.b.). The absence of a preserved Postclassic platform floor made it possible to outline Terminal Classic and Postclassic period structures with shallow areal excavations (Andres 2002, 2004). This approach permitted us to work around later buildings placed in gaps between Classic period structures and to document their relationship to Classic period features.

Terminal Classic and Postclassic period construction activity was much more intensive at Lamanai than at Chau Hiix. This is particularly true of the Ottawa Complex, which saw a tremendous amount of architectural superimposition during the Classic-to-Postclassic transition (Graham 2004; Pendergast 1985). However, even while demolition destroyed upper portions of earlier buildings, encasement of the architecture in subsequent construction preserved a record of the Classic period access-related modifications. Thus, even in cases where architectural modifications were extensive, they do not appear to have obscured spatial patterns in the architecture of earlier periods.

A final issue worthy of consideration here is the effect that any distortions introduced by transformation processes are likely to have had on architectural patterns at the three sites. The masonry traffic control features documented for the Late Classic period are certainly the most durable features considered in the discussion. However, the fact they are also the oldest and those constructed from the most desirable/salvageable materials, suggests they were most prone to dismantling. There is also substantial evidence that site center spaces were associated with perishable barriers (suggested by the presence of “cord holders” at Lamanai and Altun Ha – Pendergast [1982:22-23]). If these factors are taken into account, the number of Late Classic period traffic control features documented at Lamanai, Chau Hiix, and Altun Ha almost certainly underestimates the extent of enclosure in built environments during this period. This may very well indicate that Late Classic period Maya communities were more segregated and differentiated than the data at hand suggest. This line of reasoning, of course, also raises the possibility that Terminal Classic and Postclassic period built environments,

which were primarily composed of perishable structures, were not nearly as accessible as I am interpreting them as being. However, based on indications that late buildings were relatively low-lying and possessed open architectural layouts (e.g., Pendergast 1981a, Figs. 16 and 17), this seems unlikely.

The Late Classic Period

As indicated at the end of Chapter 5, spatial analyses suggest that built environments at Lamanai, Chau Hiix, and Altun Ha underwent similar transformations during the Late Classic period. Both individual buildings and architectural complexes became more and more enclosed--a trend which suggests that access to these spaces became increasingly restricted during this period.

Architecture as a Reflection of Social Process

While the architectural changes evident at Lamanai, Chau Hiix, and Altun Ha during the Late Classic period can also be approached from a variety of perspectives, it is my contention that they reflect stresses that were emerging in Maya society at the end of the Classic period. The fact that building programs resulted in features that increasingly distanced elites from non-elites suggests relationships between different social segments were not constant. Architectural developments affecting elite residential compounds suggest that wealth concealment was becoming increasingly prevalent during the Late Classic period. The possibility that elites found it necessary to conceal resources from less advantaged members of Maya communities seems ominous when one considers that wealth display was a central element of elite status during earlier periods. If this is a tendency reflected by built environments, it suggests the Late Classic period was marked by mounting tension between the “haves” and “have nots” in Maya communities.

While stresses affecting Late Classic period Maya communities may in part reflect economic disparities, the fact that similar changes are evident in civic-ceremonial and elite residential contexts suggests that these changes reflect broader sociopolitical transformations. Efforts by paramounts to physically distance themselves from community members in both contexts hint at changes in the very basis of elite status. If one approaches the openness of built environments of the earlier periods as evidence of the more personal nature of power relationships, the architectural patterns of the Late Classic period suggest physical removal became an increasingly important element of elite status. From such a perspective, the built environment can be viewed as a mechanism employed by Classic period elites to create heightened social distance²⁵ and to increasingly remove themselves from public scrutiny.

Elite residential contexts as “offstage” social sites. Scott’s (1990) observation concerning the need for elites to sequester off-stage social sites is particularly useful in considering the architectural changes affecting elite residential compounds. As discussed in Chapter 5, the reconfiguration of entryways to Structure B-5 at Altun Ha (Pendergast 1982), the sealing of accessways to the Ottawa Complex at Lamanai (Graham 2004; Shelby 2000), and the addition of a possible passage range structure and a “platform plug” to Group B at Chau Hiix (Andres 2004) seem to have distanced the already private domains of the communities’ leaders from more public areas. Scott (1990:14, 18, 54) discusses how elites’ “flattering self-portraits” often depend upon their abilities to define boundaries between sites where they are and are not subject to scrutiny. As he (1990:11-12) suggests, these practices benefit elites by separating contexts where they can function unselfconsciously from places where they must behave in keeping with the expectations of their office.

The spatial distinctions which are so pronounced in many Late Classic period Maya

²⁵ See Kolata (1990:140-142) and Moore (1996:181) for discussion of how *ciudadelas* probably served a similar function by mediating relationships between Chimu kings and their subjects.

site centers suggest elites went to greater lengths to sequester private spaces during the Late Classic than in earlier periods. The factors underlying this tendency are open to speculation. It is, however, possible that changes evident in elite residential complexes reflect a questioning of elite status by other community members. If Maya elites were being approached with increasing skepticism, the intense architectural activity of the Late Classic period may be a reflection of instability rather than power. This possibility has been raised by Webster (1998:38), who discusses the capacity of monumental architecture to "...convey power but mask internal organizational weakness and fragility." Drawing on Trigger's (1990:127) and Kolb's (1994:531) discussion of the tendency for investment in monumental architecture to decline following initial consolidation of political control in complex societies, Webster (ibid.) observes that the amount of energy invested in monumental architecture during the Late Classic period may be symptomatic of unstable conditions. This is a plausible scenario which is supported by the data at hand. Scott (1990:29) also touches on a relevant point in considering what it means to be socially powerful. As he suggests, "power" can in part be viewed as "...not *having* to act, or...the capacity to be more negligent and casual." From such a perspective, the accelerating rate of architectural change and efforts to control access to specific spaces is inconsistent with suggestions that Maya elites were wielding increasing amounts of power during the Late Classic period.

The data discussed in the previous chapter suggest Late Classic period elites increasingly relied on architectural means to define socially distinct spaces (Giddens 1984), motivated by a desire to expand the privacy of offstage sites. On one level, the architecture could reflect actions taken by elites to escape intense scrutiny resulting from the burgeoning size of Late Classic period Maya communities. In a situation where familiarity may have been perceived as detrimental to elite status, the architectural patterns evident at Lamanai, Chau Hiix, and Altun Ha may reflect strategies to re-instill a certain amount of elite exoticism. If approached from this perspective, buildings such as Structure 7 at Chau Hiix,

those of the Ottawa Complex at Lamanai, and Structures B-3 and B-5 at Altun Ha were probably intended to balance privacy, information control, and regulation of social encounters with power projection in Classic period Maya communities.

It is also conceivable these changes were directed towards an elite audience. As Trigger (1990:126) suggests in his discussion of the role monumental architecture plays in differentiation and exclusion in complex societies, “a good part of the message was directed to the upper classes as a means of reinforcing self-image.” This may have been particularly true in a situation where elite authority was declining but members of the uppermost social strata were loath to admit it.

Last, but certainly not least, it is also possible that Maya elite residential architecture functioned in a manner similar to other forms of material culture examined by Thomas (1990) and Girshick Ben-Amos (1999). As previously indicated, both authors have explored the ways artifacts can mediate between different social groups (see Chapter 4). Although civic-ceremonial buildings are the most obvious foci of social and political negotiations, the elaborate residences documented at Lamanai, Chau Hiix, and Altun Ha may well have mediated between different social segments. Specifically, the shifting spatial characteristics of these buildings suggest they reflect elite responses to the changing attitudes and reactions of members of other social groups. The capacity of elite residences to function as offstage social sites and to act as interfaces between public and private domains identifies them as an important element in the ongoing dialogue that almost certainly defined relationships between elites and non-elites in Late Classic period Maya society.

Changes affecting “onstage” social sites. In many ways, the changes evident in civic-ceremonial contexts mirror those in elite residential compounds at Late Classic period Lamanai, Chau Hiix, and Altun Ha. As discussed in Chapter 5, these include the addition of Lamanai Building Type features to pre-existing structures in each of the three communities

(Andres 2000a, 2002d; Pendergast 1982; 1986a; 1992); the construction of a screen wall to conceal the approach to the summit of Structure A-1 at Altun Ha (Pendergast 1979); the sealing of doorways in Structures B-4 and A-6 at Altun Ha (Pendergast 1979); and the construction of buildings apparently partly intended to limit access to larger civic-ceremonial contexts at Chau Hiix and Altun Ha (Andres 2002d, n.d.a; Pendergast 1979). As with elite residential architecture, it is Altun Ha where we see the clearest examples of architectural barriers and partitions, where traffic flow patterns appear to have been most highly structured, and where civic-ceremonial areas are most obviously segregated from other areas of the community during the Late Classic period.

Scott's (1990) observations concerning strategies of domination are also applicable here. While the size of Maya civic-ceremonial groups suggests they were at least semi-public spaces, the access restrictions increasingly evident during the Late Classic period suggest an effort to reduce "onstage" contact time between elites and non-elites in these contexts as well. The patterns of restricted access present in civic-ceremonial groups can be approached in several ways. In some cases, changes in the built environment introduce the possibility that elite residential and ceremonial functions began to merge. Architectural complexes initially established as public facilities became increasingly private and elite focused. This is likely to have taken place in Group B at Altun Ha where several "palaces" were established in gaps between temple structures on the plaza's margin after the Middle Classic period (Pendergast 1982:143). In cases where access restrictions appear in more strictly ceremonial contexts (e.g., Group A at Altun and perhaps Group A at Chau Hiix), the changes are more consistent with efforts to formalize, ritualize, and increasingly structure encounters between members of different social groups.

It can furthermore be argued that this hypothesized regulation of contact had a strong temporal aspect in civic-ceremonial contexts (e.g., Giddens 1984). Reduced numbers of entrances and increasingly constricted accessways would have formalized movements by

limiting the number of directions from which entry to plazas could be gained. This would have made traffic flow patterns more predictable. Such control may not only have allowed socially powerful individuals to restrict *who* had access to plazas but also to determine *when* certain groups of individuals were granted access. (This may have been particularly true in the cases of Groups A and B at Altun Ha and that of Group A at Chau Hiix). While civic-ceremonial spaces appear to have become less permeable, the fact that plazas at Lamanai, Chau Hiix, and Altun Ha were not subdivided suggests they were still intended to accommodate large numbers of people.²⁶ Narrowed and reduced numbers of entrances to these spaces may mean they were accessible to large groups of people at some times and functioned as more exclusive, elite associated areas at others. This pattern is consistent with Giddens' (1984) idea of regionalization or "zonation of time-space in relation to routinized social practices" (Love 1999:134). The fact that routes leading into civic-ceremonial spaces probably became easier to control may mean plaza areas were not constantly accessible to the public. While one can only speculate what effect this actually had, it may have been intended to exaggerate distinctions between "locales" and to give civic-ceremonial spaces a more sacrosanct quality.

This growing zonation may have been linked to several factors. On one level, the ability to regularly deny access to members of the general public would have expanded the number of offstage social sites available to elites. This may well have been desirable in increasingly crowded Late Classic period communities populated by an increasing number of Maya elites. The ability of leaders to better regulate the times and circumstances of encounters with community members may also have magnified the effects of such contacts when they did occur. To this extent, changes such as the screen wall added on Structure A-1's summit at Altun Ha not only introduced increasing distance between actors and

²⁶ This is supported by the imposing character of structures bordering these spaces at Lamanai, Chau Hiix, and Altun Ha which were obviously intended to make an impression on an audience.

spectators, but allowed for sudden appearances during performances that would have maximized dramatic effects (Pendergast 1979, 1992:63). These developments suggest elites were orchestrating onstage appearances with increasing care and that displays were becoming more formalized and self-conscious during the Late Classic period. This appears more indicative of mounting tension than of a situation where elite authority was becoming increasingly naturalized.

Architectural “advances” and “reversals.” Other patterns in the Late Classic period built environment may also reflect growing sociopolitical instability. While movement from more open to increasingly restricted space is present in both Late Classic period civic-ceremonial and elite residential contexts, changes in the former are not as unidirectional as those in the latter. In contrast to the changes affecting the sampled elite residential compounds at Lamanai, Chau Hiix, and Altun Ha, remodelings of Structure B-4 at Altun Ha do not suggest a unilinear progression. As Pendergast’s (1982) descriptions and architectural reconstructions suggest, the building in fact underwent a series of spatially contradictory changes. While the initial 6th-century building (Structure B-4, 3rd) seems to have been fairly open and accessible (Pendergast 1982:47), its successor (Structure B-4, 2nd A) is marked by the addition of an LBT. Although this dramatically limited access to upper parts of the structure (Pendergast 1982, Fig. 30), addition of a centrally placed doorway made this Building more permeable (Figure 5.12). This change was negated by the sealing of the LBT’s doorways in Structures B-4, 2nd B and 2nd C early in the 7th century (see Figure 5.14). While this modification reduced accessibility to Structure B-4, its effects were *also* eliminated with construction of a Building with an open façade (Structure B-4, 2nd D) in the 7th century A.D.²⁷ While this flip-flopping is frustrating if one is attempting to define a spatially consistent pattern of architectural development, these apparently contradictory

changes are fascinating if approached from the perspective of insights they may offer into sociopolitical processes.

Assuming that Maya buildings reinforced the status and legitimacy of Maya elites²⁸, the architectural changes suggest that the sociopolitical give-and-take reflected in the built environment intensified during the Late Classic period. The number of alternating access related changes evident in Structure B-4 almost seem to suggest indecision, as if those commissioning Late Classic period architectural programs were casting around for some elusive formula. If we return to the argument that conservatism in material culture is a mark of stability, whereas change can be a reflection of growing tension (Leone 1984; Johnson 1989:14; Webster 1998:38), Structure B-4 may indicate strain in the Late Classic period sociopolitical order at Altun Ha. The fact that spatial patterns (and the activities the architecture presumably reflects) move first in one direction and then in another, suggests changes in political ritual in the community. Such architectural changes may reflect recognition (by elites) that traditional modes of operation were no longer achieving desired effects. Movements toward restricted access followed by reversals could indicate a reversion to patterns known to have “worked” under earlier regimes. In short, buildings like Structure B-4 may reflect elites experimenting with different formats of architecturally-focused ceremonial activity in an effort to shore up weakening authority.²⁹

The fact these changes are most pronounced at Altun Ha is significant if one considers the site’s occupational history. As discussed by Pendergast (1979, 1982), enclosure in the built environment culminated in the community’s rapid depopulation at the end of the Late Classic period. To this extent, Altun Ha’s 9th century abandonment is consistent with

²⁷ These changes remained in place for the rest of the building’s use life (Structures B-4, 2nd D-H) (Pendergast 1982, Figs. 52, 69, 73, and 78).

²⁸ See Girshick Ben-Amos (1999) and Thomas (1990) for parallel arguments concerning other forms of material culture in other cultural settings.

²⁹ The sequence of changes in Structure B-4 is noteworthy because it stands as one of the best potential examples of the (contradictory) decisions of specific actors at the sampled sites.

traditional conceptions of the so-called Maya “collapse” (e.g., Culbert 1973; Pendergast 1979, 1982). Other factors, however, distinguish Altun Ha from communities in Petén. Primary among these is evidence that depopulation at Altun Ha was preceded by a dramatic series of events. Many of the tombs (Tombs A-6/1, B-4/1, B-4/3, B-4/4, and B-4/5) located in the most elaborate civic-ceremonial buildings at Altun Ha were ransacked late in the site’s history (Pendergast 1979:178, 1982:111-112, 118, 121, 126; 1992:72). In contrast to Late-to-Terminal Classic period fortifications in other parts of the Maya area which are interpreted as evidence of internecine conflict (e.g., Demarest et al. 1997; Inomata 1997; Inomata and Triadan 2003), the activities at Altun Ha are more consistent with intra-community turmoil. As Pendergast (1979, 1982) notes, tomb desecration at Altun Ha was dependant upon knowledge of the burials’ locations, which suggests the perpetrators were community members. The systematic targeting of tombs of presumed political elites suggests Altun Ha’s abandonment was associated with some type of violent upheaval.

Significantly, the patterns evident in both civic-ceremonial and elite residential architectural contexts at Altun Ha may signal shifting bases of elite authority in the community. Although major economic differences have yet to be demonstrated for Lamanai, Chau Hiix, and Altun Ha, important observations have been made about the communities’ resource bases. As Pendergast (1981a, 1986a, 1992:71) has observed, Lamanai’s position on the New River Lagoon would have provided the community direct access to a wide range of riverine resources that were less readily available at Altun Ha. Pyburn (1998a:277, 2003) points out that Chau Hiix almost certainly had a much better agricultural base than Altun Ha, having direct access to more arable land than its eastern neighbor.³⁰ While Altun Ha is the most resource poor of the three sites, it also appears to have been the most opulent. A much greater emphasis of elite material culture (manifested in elaborate architecture and large

³⁰ In fact the massive complex of agricultural features immediately adjacent to the site far exceeds the community’s subsistence needs (Pyburn 1998a:277-278, 2003).

numbers of richly furnished burials) is evident at Altun Ha than at either Lamanai or Chau Hiix (Pendergast 1979, 1982; Pyburn 1997:161). Archaeological evidence also suggests the community was more closely affiliated with centers in Petén than either of its neighbors (ibid.). Taken together, these data suggest elites at Altun Ha may have relied heavily on (1) ideological authority emanating from non-local political connections and (2) control of economic activities in neighboring communities (Pendergast 1992; Pyburn 1998a:279). The architectural changes evident at Altun Ha suggest that one or both of these power bases may have begun to deteriorate late in the Classic period. On an economic front, shifting inter-community relationships (e.g., Pyburn 1997b:156) may mean elites at Altun Ha lost control of production at locations such as Chau Hiix (Pyburn 1998a; 2003). If so, the architectural changes may be evidence that elites became increasingly dependent upon esoteric knowledge and/or ideological clout. Alternatively, changes in the built environment could indicate that elite power was always largely ideologically based and that recognition of the Petén-based symbols and institutions upon which community leaders depended simply began to fade. Either situation may have prompted elites at Altun Ha to rely heavily on the spatially reinforced patterns of exclusion and differentiation apparently associated with the community's sociopolitical failure.

The Terminal Classic Period

As previously indicated, the architecture at Lamanai and Chau Hiix diverges from that at Altun Ha during the Terminal Classic period. Coincident with Altun Ha's abandonment, the spatial characteristics and hypothesized functions of the buildings at Lamanai and Chau Hiix suggest movement away from the increasingly private quality of Late Classic period built environment.

Terminal Classic Period Sociopolitical Transformation at Lamanai and Chau Hiix

Administrative Architecture at Lamanai

Structure N10-28, B at Lamanai and Structure 150, 1st A at Chau Hiix date to the Late-to-Terminal Classic period (Andres n.d.a.; Graham 2004; Pendergast 1986b) and show evidence of functional patterns that arguably parallel their increasing physical transparency (see Chapter 5). As discussed below, Structure N10-28 at Lamanai has tentatively been identified as a possible *popol nah* or council house on the basis of its elaborate iconographic program (Shelby 2000). Structure 150, 1st B's spatial characteristics (including its probable colonnade, open layout, and low elevation) link it with buildings for which similar functions have been proposed at other locations (Andres n.d.a.).

Mayanists have argued that the end of the Classic period was associated with political transformations in some Maya communities. One suggestion that has been echoed by a number of scholars is the possibility that the Late-to-Terminal Classic period was marked by a shift away from semi-divine rulers and towards less egocentric forms of political organization. Schele and Freidel (1990), Grube (1994), and Kowalski (2003) have posited that new types of power sharing arrangements were central to the administration of the Terminal Classic and Postclassic period polities that rose to power in the central and northern Maya lowlands. Investigations have identified buildings that scholars interpret as correlates of such a transformation at a number of locations.

Based on the evidence at hand, buildings thought to have functioned as council houses fall into two formal categories. The first consists of vaulted range structures. Structure 10L-22A at Copán is the most widely cited example of this type of *popol nah*. Fash et al. (1992a) initially suggested that conciliar administration was experimented with at Copán in response to 8th century political turmoil following the capture and sacrifice of the Copanec ruler XVIII Jog by Cauac Sky of Quiriguá. Structure 10L-22's noteworthy features include its relatively open façade; the building's location adjacent to an expansive,

architecturally undeveloped masonry platform; and a sculptural program incorporating references to multiple social factions. The authors have interpreted the building's form as conducive to meetings and feasting activities, the platform as appropriate for the dances ostensibly associated with council houses, and the iconography as emphasizing political power-sharing (Fash et al. 1992a:434, 437; Stomper 2001). Slightly later buildings thought to have served similar functions have been identified at Yaxuna (Structure 6F-68), Dzibilchaltun (Structure 44), and Uxmal (the House of the Governor) in the Northern Maya Lowlands (Ambrosino 2003; Kowalski 2003).

Structure N10-28 at Lamanai displays features similar to the buildings identified as *popol nahs* at Copán, Uxmal, Dzibilchaltun, and Yaxuna. Based on his investigations, Pendergast (1986a) has pointed to Structure N10-28's unusual combination of architectural characteristics. Structure N10-28's elaborate decoration has led to suggestions that the vaulted range structure was a semi-public building that combined secular and ceremonial activities (Pendergast 1985a:93). The building's form and decoration suggests it did not function as a temple, but instead represented "...a restatement of religious values at a more personal level." Pendergast (1986a:231) has hypothesized that the shifting the politico-ritual traditions the building reflects may have been an element in the "successful staving off of the Classic collapse" at Lamanai. Subsequent analysis of Structure N10-28's façade sculpture suggests that the building may have functioned as a Late-to-Terminal Classic council facility (Shelby 2000).

My own spatial analysis of Structure N10-28 (see Chapter 5) complements these interpretations, with gamma diagrams showing that the building's spatial qualities changed over time. Consistent with the insular nature of many Late Classic period architectural groups, access analyses indicate that Structure N10-28, A was most readily accessible from the compound's interior courtyard. As already noted, however, changes in the building's layout imply Structure N10-28, B underwent an access reversal, becoming more accessible

from the north during the Late-to-Terminal Classic period. This change suggests the building took on an increasingly outward orientation. Although spatial reorganization in Structure N10-28, B could have been dictated by multiple factors, the shift is consistent with conversion of the building from a courtyard-oriented elite residence into a more externally oriented administrative facility. It is my contention that this reconfiguration of Structure N10-28 complements Shelby's (2000) identification of the building as a council house (Andres n.d.a.).

Administrative Architecture at Chau Hiix

The second group of pre-Hispanic Maya buildings suggested to have functioned as council houses are "colonnaded" or "open" halls constructed from a combination of masonry and perishable materials. These buildings date to the Terminal Classic and Postclassic periods and have been documented in Yucatán, Petén, and the Guatemalan Highlands. Buildings of this type are also thought to have been semi-public facilities. These structures bear a close formal resemblance to Structure 150 at Chau Hiix.

Bey et al. (1997:251) have interpreted the open construction and "long house"-like form of Structure GS-12 at Ek Balam as reflecting the response of "surviving Maya kin/administrative units to [the] collapse of traditional Classic Maya authority." They specifically propose that these Terminal Classic period buildings were associated with efforts to preserve the administrative structure of Maya polities. Formal parallels, including a lack of private spaces and the presence of benches and daises in colonnaded vestibules, suggest links between this building, Structure 150 at Chau Hiix, and gallery-patio structures at Chich'en Itzá (which have also been interpreted as administrative gathering places) (Kowalski 2003:232).

Postclassic period colonnaded halls documented at Mayapán and in communities in the Guatemalan Highlands provide further support for this functional interpretation of

Structure 150. Don Rice (1988:240) conceives of colonnaded halls as associated with corporate group administrative functions, Pugh (2001:601) describes them as the “architectural symbol of a corporate group”, and Ringle and Bey (2001:276) indicate such buildings were “almost certainly *popol nas*.” These interpretations are largely based on the structures’ formal resemblance to buildings for which patterns of use are suggested in ethnohistoric accounts. Spanish descriptions of the built environment of the Itzá capital of Nojpeten, for example, describe such halls as administrative facilities and public meeting places (Jones 1998:71). The formally similar K’iché *nimja* are also mentioned in ethnohistoric documents and seem to have possessed parallel functions, serving as judicial chambers, sites of ceremonial lecturing, bride-price giving, and as locations for inter-lineage wedding feasts (Carmack 1981:160, 192, 385). Drawing on contact period accounts, Freidel and Sabloff (1984:13, 28, 37) have proposed similar public functions for the generously proportioned semi-perishable colonnaded halls they documented on Cozumel.

Architectural Form and Function at Chau Hiix. Issues of visual accessibility are central to interpretation of all of the previously discussed structures as council houses. The authors who have discussed these buildings emphasize the extent to which lengthy benches in their single rooms would have facilitated the “ranging of people along the walls” for public ritual and/or council meetings (Freidel and Sabloff 1984). They furthermore cite the buildings’ generous proportions and open layouts as providing “visual and physical access to all those sitting in council” (Carmack 1981:288 in Kowalski 2003 and Rice 1988). Significantly, the appearance of a colonnaded hall and a building formally similar to Structure 10L-22A at Copan at Lamanai and Chau Hiix may reflect movement toward political power-sharing arrangements in both communities. If so, the transition from Classic period political institutions, which seem to have been dominated by single rulers, to increasingly diffuse

authority structures, suggests Lamanai and Chau Hiix were more flexible than many pre-Hispanic Maya communities.

The presence of a public administrative facility at Chau Hiix is not meant to imply the center was politically autonomous or functionally equivalent to larger Terminal Classic period communities (Andres n.d.a.). Rather, this possible indication of less egocentric political organization introduces the possibility that increasingly corporate institutions were basic to defining relationships between paramount centers, such as Lamanai, and lower level administrative centers, like Chau Hiix, as early as the Late-to-Terminal Classic period. If this reconstruction accurately characterizes the situation in northern Belize, it may parallel slightly later developments suggested in Yucatán (e.g., Grube 1994; Kowalski 2003:232; Schele and Freidel 1990). The timing of Structure 150's appearance is significant because it corresponds with Altun Ha's 9th century abandonment (Pendergast 1982, 1992). While architecture and ceramics suggest Chau Hiix was closely affiliated with Altun Ha during the Classic period, the community's organizational disengagement from its neighbor was apparently sufficient that it did not suffer Altun Ha's Petén-like pattern of abandonment (e.g., Fry 1990:295; Pyburn 1997b). Material culture indicates Chau Hiix may then have fallen under the sway of Lamanai (Pendergast, personal communication to Pyburn; Pyburn 1994, 1998a). The appearance of Structure 150 during a time of inter- and intra-community reorganization suggests the building was associated with an institution that was architecturally relocated, redefined, magnified, or newly introduced during the Late-to-Terminal Classic period.³¹ Ultimately, the presence of Structure N10-28 at Lamanai and Structure 150 at Chau Hiix suggests the institutions associated with these buildings were an important component of community success.

³¹ It may also be significant that ballcourts appear for the first time at Lamanai and Chau Hiix during the Late-to-Terminal Classic period (Meier 2003; Pendergast 1986a:229). The fact that a ballcourt has yet to be identified at Altun Ha underscores possible organizational differences between the three communities.

Elite Residential Architecture at Lamanai and Chau Hiix

The spatial qualities of built environments at Terminal Classic period Lamanai and Chau Hiix suggest that the effects of sociopolitical changes were not limited to civic-ceremonial contexts. The infilling and demolition of private, courtyard-focused buildings (such as Structure 7 at Chau Hiix and the structures comprising the Ottawa Group at Lamanai) suggests that architectural patterns in elite residences paralleled those evident in civic-ceremonial settings during the second half of the Late Classic period.

As already mentioned, the buildings of the Ottawa Group at Lamanai and probably Structure 7 at Chau Hiix were converted into platforms for perishable residences. These changes are significant because they seem to have preserved certain distinctions while downplaying others. On one hand, the construction of Terminal Classic period structures on these platforms would have emphasized vertical distinctions and continued to set these complexes apart from other areas of the communities (e.g., Leach 1983:249). The residential nature of these buildings suggests that their height reflected the political and socioeconomic status of their occupants. To this extent, the buildings imply persistence of marked social hierarchies at Terminal Classic period Lamanai and Chau Hiix. At the same time, many of the buildings' qualities suggest discontinuity with Late Classic period architectural traditions. Placement of the perishable structures on elevated platforms would have made the buildings more visually accessible than their Classic period counterparts. While privacy would not have been sacrificed altogether, the changes would have done away with some of the most overtly exclusive, insular, and segregating aspects of Late Classic period elite residential compounds. The likelihood that the residential activities of Terminal Classic period elites were more visible than those of their Classic period counterparts suggests less concern with restricting access to "off-stage" social sites (e.g., Scott 1990).

The construction of Terminal Classic period elite residences from perishable materials may be significant in other ways as well. As Wilk (1983) notes, residential

architecture is often highly symbolic. The fact that massive masonry “palaces” were replaced by buildings constructed from materials characteristic of much more modest residences would not have been lost on community members. If approached from a purely economic perspective, the contrast between Late and Terminal Classic period elite residences might be taken to reflect a shortage of cut stone or reduced access to the labor necessary to build vaulted constructions. However, the tremendous amounts of energy and materials required simply to ready Structure 7 at Chau Hiix and Lamanai’s Ottawa Group for subsequent construction discourage such an interpretation. Instead, these differences most likely reflect deliberate choices by elites in the two communities.

It is also worth considering that the demolition focused on Ottawa and Structure 7 before new buildings were constructed was the most symbolically significant architectural activity of all. While Lamanai’s and Chau Hiix’s paramount elite(s) probably lived in the same place during the Classic and Terminal Classic periods, the destruction of the Late Classic period buildings may have been an important statement of change, with alterations to the “palaces” symbolizing political reorganization and rejection of the most ostentatious trappings of Classic period rule. At Lamanai in particular, the Ottawa Complex’s central location, the massive scale of the remodeling, and the possibility that many of the Terminal Classic period community’s residents contributed labor to the undertaking suggests this remodeling would have been a very public gesture.

One can only speculate as to factors that have motivated such decisions, but these novel architectural patterns may reflect an effort to modify well-established patterns of status enhancing (or sustaining) behavior to ease intra-community tensions. Architectural projects can be socially cohesive to the extent that they can unify large numbers individuals from across the social spectrum (McGuire and Schiffer 1983:281). A large-scale architectural effort, such as the dismantling and burial of the Late Classic period Ottawa Complex could potentially have served such a function (e.g., Pendergast 1992:74). The modest buildings

then erected on the massive platform may reflect a conscious effort to reduce (or to at least appear to reduce) visible differences between elites and less advantaged community members (e.g., Wilk 1983:108). Such a scenario may be supported by data from other Maya sites. LeCount (1999), for example, has proposed that elites at Xunantunich increasingly “gifting luxury items down through the social hierarchy” during the Terminal Classic in an effort to consolidate support within the troubled community. While the changes evident in the built environment at Lamanai and Chau Hiix probably would not have been so obviously placating, they may reflect a subtle concession intended to ease antagonisms within the community. Approached more conservatively, these architectural changes at Lamanai and Chau Hiix could, of course, simply reflect a situation where socioeconomic differences between elites and non-elites were becoming less pronounced.

Ultimately, more restrained displays of wealth may help explain why Lamanai and Chau Hiix’s trajectories differed so dramatically from Altun Ha’s. Pendergast (1979, 1982, 1992:65-67) has made observations consistent with this suggestion, discussing how Lamanai’s buildings are less ornate and its burials less impressive than those at Altun Ha. Pyburn (1997:161) has similarly discussed how material culture at Chau Hiix is more modest than that at Altun Ha. If socioeconomic disparities were not emphasized (or flaunted) at Lamanai and Chau Hiix to the extent they were elsewhere, they may have been less divisive. And supposing social, political, and economic relationships were less strained at Lamanai and Chau Hiix, the communities’ leaders may have been better positioned to alter destabilizing patterns of behavior before they proved disastrous.

The Early Postclassic Period

As previously suggested, the amount of architectural data available from the Early Postclassic period is less than for the Late Classic and Terminal Classic periods due to an increasing reliance on perishable construction materials by the residents of Lamanai and

Chau Hiix. Because houses from this period are almost completely perishable, only the most general observations can be made about Postclassic residences at Lamanai and Chau Hiix. Discussion of changing spatial patterns in the Postclassic period built environment is therefore largely limited to a consideration of ceremonial structures which incorporated masonry into their construction.

While the architectural sample available for the Postclassic period is a reduced one, changes evident at Lamanai and Chau Hiix suggest continued movement away from the social and political distinctions institutionalized in Late Classic period built environments. Since similar materials were used in the construction of elite and non-elite residences at Early Postclassic period Lamanai and Chau Hiix, socioeconomic distinctions are less architecturally pronounced than during earlier periods. In many ways, the continued placement of residences in long-inhabited and obviously desirable locations (Cook 1997; Graham 2004; Andres and Wrobel 2000) is the best architectural indicator of socioeconomic inequity during the Early Postclassic period. The impermanence of the buildings of the Ottawa Complex at Lamanai and those in the Structure 2 sequence at Chau Hiix means that little access-related data can be extracted from their layouts. However, the fact that they were constructed on low platforms and lacked obvious barrier-like qualities (Cook 1997; Graham 2004:234; Pendergast 1981a:43) suggests less emphatic use of the built environment to reinforce social distinctions during the Early Postclassic period. Based on the sample of residences from Lamanai and Chau Hiix, there is little evidence that the communities' Postclassic residents continued to reproduce the insular and secretive qualities of Late Classic period elite residential compounds. This suggests a loss of interest in manipulating the built environment to promote social distance between elites and members of other social groups (e.g., Love 1999:129).

Early Postclassic Period Civic-ceremonial Architecture

The movement towards increasing accessibility observable in Early Postclassic period residential architecture is even more evident in civic-ceremonial contexts at Lamanai and Chau Hiix. As previously indicated, the construction of low and open ceremonial structures in plazas suggests that visual and physical access to these buildings was less tightly controlled than during the Late Classic period. These spatial patterns indicate that the tendencies exhibited by residential architecture were also present in civic-ceremonial contexts. From the perspective of Scott's (1990) work, it appears that Early Postclassic period architecture displays less concern with asserting official "transcripts" and micromanaging interactions between members of different social segments within the context of political and religious activities. The more accessible built environments at Lamanai and Chau Hiix suggest that "onstage" appearances by elites and/or religious practitioners were less carefully orchestrated than during the Classic period. If so, this may well indicate more stable relationships existed between members of various social groups at Lamanai and Chau Hiix than at Late Classic period Altun Ha. The poor preservation of Early Postclassic period residences at the former centers makes it difficult to gauge the extent of socioeconomic differences separating the communities' poorest and most well-to-do residents. However, the stability suggested by the civic-ceremonial architecture may reflect a situation where hierarchical distinctions were less exaggerated and less stress-inducing than during the Late Classic period. Overall, the spatial qualities of the Postclassic buildings at Lamanai and Chau Hiix give the impression that patterns of architecturally related activity were more fluid and less self-conscious than during earlier periods.

The architectural transformations evident at Lamanai and Chau Hiix also suggest that the activities focused on "public" Postclassic period buildings were more inclusive than those of the Late Classic period. Structure 150 at Chau Hiix is a case in point. As previously indicated, Structure 150 was the focus of additional construction activity during the Early

Postclassic. Investigations indicate the building was not only extended towards the northern edge of the main platform but was probably transformed into an open-air construction. The architecture fails to unambiguously indicate the new building's function. However, the structure's spatial characteristics and its proximity to the community's most impressive temple structure (Structure 1) introduce the possibility that Structure 150, 1st A was converted into a dance platform during the Early Postclassic period. As discussed by Ringle (1999:196-197), the pairing of extremely large low platforms without superstructures with temple structures is a common Preclassic period pattern. This Formative juxtaposition has been documented at a variety of locations including Dzibilchaltun, Seibel, and Komchén (ibid.; Tourtellot 1988:376). Ringle (1999:198) also points out that this same temple-platform association reappears (as the "temple assemblage") in Postclassic period contexts at locations such as Mayapán. Based on interpretations of Postclassic period platforms as sites of dances, displays, and other centralized performances, Ringle (ibid.) suggests that the formally similar Preclassic period buildings served a similar function.

The spatial qualities of "dance platforms" such as Structure 150, 1st B at Chau Hiix and the buildings discussed by Ringle (1999), Proskouriakoff (1962), and Fox (1989) vary markedly from those of Classic period civic-ceremonial structures. Whereas changes affecting Classic period buildings introduced distance between individuals in Maya communities, Structure 150, 1st B seems to have done the opposite. During the Late Classic period, viewers of activities focused on ceremonial structures were positioned far below the levels at which performances and displays probably took place. It appears these vertical distinctions were intended to magnify and institutionalize the social differences separating viewers and actors. In contrast, the placement of buildings like Structure 150, 1st B at plaza level would have eliminated this sense of distance. The building's low elevation would have potentially allowed large numbers of viewers to gather around the platform and observe and/or participate in whatever activities were focused upon it. The up-close and unimpeded

view provided by the building's open layout suggests the dynamic defining relations between members of different social groups was far less secretive, less hierarchical, more inclusive than that of the Late Classic period. As indicated in Chapter 5, the changing social and political relationships suggested by Structure 150, 1st B are echoed in the spatial qualities of other Postclassic period civic-ceremonial structures at Lamanai and Chau Hiix (e.g., Andres 2002a, n.d.a.; Andres and Pyburn 2004; Andres et. al 2004; Pendergast 1981a:44; 1986a:236, 241). In general, the communities' architecture suggests continued movement away from the "regionalization" (in Giddens' sense) that seems to have been so central to elite--non-elite interaction during the Late Classic period.

While Fry (1985:132, 134) and others (e.g., D. Rice 1986:342) have commented on the changing spatial characteristics of Postclassic period architecture, the function(s) the buildings may have played within the context of reorganized sociopolitical systems have not received a great deal of attention. Ringle's (1999:210-211) observations concerning comparable qualities of Formative architecture suggest one interpretation of these Early Postclassic period patterns.

Reinventing Negotiation

The Middle-to-Late Preclassic transition is generally regarded as the period during which complex stratified societies and urbanization emerged in the Maya lowlands (Hanson 1998:63; Ringle 1999:186). Concentration of populations at specific points on the landscape was an obvious component of these developments. While explanations of the factors contributing to nucleation differ, large-scale architecturally related activities are suggested to have been an important element in the centralization of political power in the lowlands (Ringle 1999:189-190, 198, 211; McAnany 1995:132; Scarborough and Robertson 1986:155; Freidel and Schele 1989:242). Different scholars view the role architecture may have played in this process differently. Some emphasize the extent to which Preclassic construction

campaigns contributed to social solidarity through the “tying [of] disparate groups together into a coherent whole” (McGuire and Schiffer 1983:281; Schele and Miller 1986:105 in Abrams 1994:92). Others view centralized performances and displays focused on buildings after their construction as basic to the “recruitment and retention of migrants” (Ringle 1999:189-190, 198, 211). While the first scenario could have been a factor in the urbanization process, the spatial characteristics of Late Preclassic civic-ceremonial precincts are consistent with interpretations of completed architectural assemblages as sites of large-scale, socially inclusive activities (Fry 1985:134). The architecture thus intimates that Maya built environments were centrally involved in the negotiations and contestations associated with the construction of new sociopolitical relationships during this transitional period (e.g., Love 1999; Thomas 1996).

It is my contention that leaders of communities that persisted through the 10th century were confronted by circumstances in some ways comparable to those faced by emergent elites during the Middle-to-Late Preclassic period. Settlement pattern studies suggest that with the failure of many southern lowland communities populations were dispersed across the landscape (e.g., Culbert et al. 1990:112; Rice and Culbert 1990:3, 24; Fry 1990, Figures 14.1 and 14.2). As Pendergast (1992:74) has surmised, the Early Postclassic period was most likely associated with significant population movement as members of floundering communities migrated to surviving centers. The organizational challenges faced by these still-viable communities were surely great as their leaders sought to incorporate people from different social groups, of diverse statuses, and even different ethnic affiliations.

From this perspective, it is not surprising that the spatial qualities of the Early Postclassic period built environment are consistent with a situation within which there is likely to have been a significant amount of negotiation (à la Thomas 1996). As Fry (1985:132, 134) has observed, similarities between Preclassic and Postclassic period architecture strongly suggest that Postclassic buildings were the focus of fairly inclusive,

group-oriented practices. This in turn suggests that the Early Postclassic was associated with a reversion to integrative sociopolitical strategies reminiscent of those probably implemented during the Middle-to-Late Preclassic period. Ultimately, a convincing case can be made that the Terminal Classic-to-Postclassic period built environments at Lamanai and Chau Hiix reflect a movement away from the strategies of domination (such as those outlined by Giddens [1984, 1985] and discussed in the quotation at the beginning of this chapter) upon which Late Classic elites at centers such as Altun Ha may have become overly dependent.³²

While willingness to experiment with novel political institutions (such as the councils suggested to have convened in the *popol nahs* at Lamanai and Chau Hiix) was clearly important, it alone does not appear to have assured community success after the Late Classic period (e.g., Fash et al. 1992a). Instead, evidence suggests that residents of Maya centers not only had to be open to alternative forms of administration, but flexible enough to accommodate them. While the apparently uneven ability of centers to make the transition from the Classic to the Postclassic was unquestionably influenced by different factors at different locations (e.g., Demarest, Rice, and Rice 2004; Pendergast 1992:71), differential survivorship also implies pre-existing differences in the organization of Maya communities (Pyburn 1997b:167). Architectural evidence at Lamanai and Chau Hiix suggests it was communities with the ability to adopt less hierarchical forms of administration that were best positioned to adapt to the social, political, and economic challenges associated with the Postclassic period.

³² This hypothesized resurrection of Preclassic traditions may also be evident in areas other than architecture. Similarities between Terminal Classic-to-Early Postclassic and Late Preclassic period ceramics are, for instance, often cited as an example of later Maya groups turning to the past for inspiration (e.g., Graham 1987:79; Pring 1977; Wille and Fry 2002). It appears that residents of Terminal Classic and Early Postclassic Maya communities were not only reviving specific styles of material culture, but may have been relying on integrative sociopolitical frameworks reminiscent of those of the Preclassic period.

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