

LATE TO TERMINAL CLASSIC TRANSITION AT LAMANAI

WITH IMPLICATIONS FOR THE POSTCLASSIC

by

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ABSTRACT

The Maya site of Lamanai, located in northern Belize, exemplifies one of the longest occupation spans in the Maya Lowlands. First occupied in the Preclassic (ca. 1500 B.C.) and continuously inhabited through the Classic period “collapse,” Lamanai was thriving when the Spanish arrived in A.D. 1540. Lamanai’s lagoon-side location at the head of the New River, with direct access to the Caribbean Sea, allowed for cultural and economic exchange well beyond the immediate region. The N10[3] architectural group (aka Ottawa Group), located in the Central Precinct of Lamanai, has been interpreted as an administrative and elite-residential complex, or palace, of some significance due to its lengthy occupation span and its location adjacent to two important ceremonial plaza groups in the Central Precinct. During the Late to Terminal Classic period (A.D. 624–962 at Lamanai), the Ottawa Group underwent a major architectural transformation, which may be an indication of changing functions and strategies on the part of Lamanai elites. These modifications may have played a role in Lamanai’s persistence during the transition from the Classic to Postclassic periods in Mesoamerica—a time when other cities were abandoned in the Maya Lowlands.

During the massive remodeling of this Ottawa Group, some masonry structures were razed, while others, such as Structure N10-15, continued to be remodeled. This thesis gives a fresh assessment of the function of the Ottawa Group, describes the architectural sequence of Structure N10-15, and examines the caching patterns present throughout the different architectural stages. When considered together, the architectural changes at Structure N10-15

and associated changes in cache composition and placement signal a change in emphasis shifting away from exclusive elite-led activities associated with divine kingship toward those of a more inclusive and public nature.

The form and content of this abstract are approved. I recommend its publication.

Approved: Christopher Beekman

DEDICATION

For Ken

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PROLOGUE

I first visited Indian Church Village and Lamanai as a tourist in January 1998. There I met archaeologist Laura Howard, who was working at Lamanai Outpost Lodge. Having an art and architectural design background and an interest in Maya culture, I mentioned to Laura my desire to attend an archaeology field school. A few months later I was back in Belize as a field school student at Lamanai studying Maya architecture with David Pendergast, and then immediately following this, I attended another session with Elizabeth Graham. On the first day of the field school David led a site tour and one of the building groups we visited was the Ottawa Group. He gave a brief account of the excavations in the 1980s, when archaeologists first realized there was a group of buildings buried under this big pile of boulders. The courtyard of this important palace group was still largely filled with boulders, but bits of different building were now visible. David and Liz stated that they had high hopes for further work on this complex. I was so drawn to this complex that right then and there I voiced that I wanted to be involved with that research. I have been hooked on Ottawa ever since, although it took some time until this dream was realized, for I wasn't even an archaeologist—yet.

I met many other archaeologists that summer and I fell in love with archaeology, Belize, and the people. I was so inspired that I went back to graduate school as a student of anthropology/archaeology, although I took a substantial break from this to supervise a craft-training and education project in the village of Indian Church, adjacent to Lamanai. At long last I have now completed those studies, yet I realize there is still so much more to know.

CHAPTER I

INTRODUCTION

Research Question

Do changing architectural and caching features of Structure N10-15 at the centrally located N10[3] architectural group speak to ideological changes at Lamanai during the Late to Terminal Classic Period that relate to Lamanai's subsequent survival of the collapse?

Background

The Classic to Postclassic Transition, aka The Maya Collapse

A Classic to Postclassic transition, also referred to as the Classic Period collapse, took place throughout Mesoamerica during the period of about A.D. 600–1000, when dramatic sociopolitical changes were characterized by the fragmentation or collapse of many Classic Period centralized polities, accompanied by a reduction in size or complete abandonment of many urban centers (Joyce et al. 2001). Although this transition was perhaps the most dramatic, it should be noted that there were previous transition periods in Maya history and that the “processes of disintegration and regeneration happened repeatedly throughout Maya and Mesoamerican history” (Aimers 2007:346).

Contrary to popular myths held by the general public about the Maya collapse, the Maya did not disappear, but made a series of cultural transitions through the centuries following the Classic period continuing up to the arrival of the Spanish in 1521, and throughout the Colonial period until this present day, where an estimated population of seven million Maya still live in Mexico and Central America, and have also migrated to other countries.

Some see this collapse as the termination of a culture, but people carried on in new and different ways during the transition from the Terminal Classic into the Postclassic period, and after the Spanish arrived. Pendergast (1986:223) reminds us of misconceptions about this era when he states,

The conventional wisdom regarding the Postclassic has always been that the six centuries before the arrival of the Spanish were a time of decadence, a sort of descent into the pit from the heights achieved in Classic times. This is, of course, a view rooted in archaeocentrism, which is to say that it rests on the belief that the Classic embodied all that was good and true and noble and beautiful in Maya society, from which it obviously follows that anything in the way of a change must have been a spiral down from the pinnacle.

The Maya site of Lamanai is one example of cultural continuation, if not cultural continuity, after the collapse. At Lamanai things changed, of course, as is evidenced by the dramatic architectural modifications to the N10[3] Ottawa Group—an elite residential-administrative or palace complex—and modifications to other monumental structures in the Central Precinct of the city. These changes to the built environment may represent strategies for survival.

Lamanai is distinctive with its long and continuous occupation span and features of its geographical location—a riverine setting with coastal access, and situated at the intersection of the northern and southern Maya Lowlands. The willingness of Lamanai elites to participate in a new socio-political order and to form new alliances during a period of turmoil in the Maya Lowlands would help explain why Lamanai was one of a small number of lowland Maya cities able to carry on through the transition, a fact that must certainly have been appreciated by both elites and commoners living there. Gaining an understanding of how cultural adaptation allowed Lamanai to thrive has important implications for studies of

social collapse—and survival—and for insight into transitional periods and revision of the notion of “collapse”.

Terminal Classic Period Changes in Mesoamerica

In the Maya Lowlands research pertaining to the Terminal Classic period has revealed political collapse in the south, the end of divine kingship, combined with dynamic and complex intra- and intersite events and processes, and broad inter-regional interaction (Demarest et al. 2004:8). A shift in politico-economic strategies has been proposed for this time (Rice 2009:72). In Belize, the northern Lowlands, and the Mopan Valley, cultural transformation was more gradual with some areas experiencing a florescence. Many scholars apply their reconstructions of this time period to political systems, and based on their theoretical perspectives attribute the cause of change to a variety of events and processes including ecological processes, climatological events, political factors, trade, war, migration, stimulus diffusion, or a failure of “moral authority” (Demarest et al. 2004:546–548 and references therein).

Lamanai’s Survival of the Transition

The Maya site of Lamanai (Figure 1.1), located in northern Belize, saw one of the longest occupation spans in the Maya Lowlands. First occupied in the Preclassic (ca. 1500 B.C.) it survived the Classic period “collapse” and was thriving when the Spanish arrived at Lamanai in A.D. 1540.

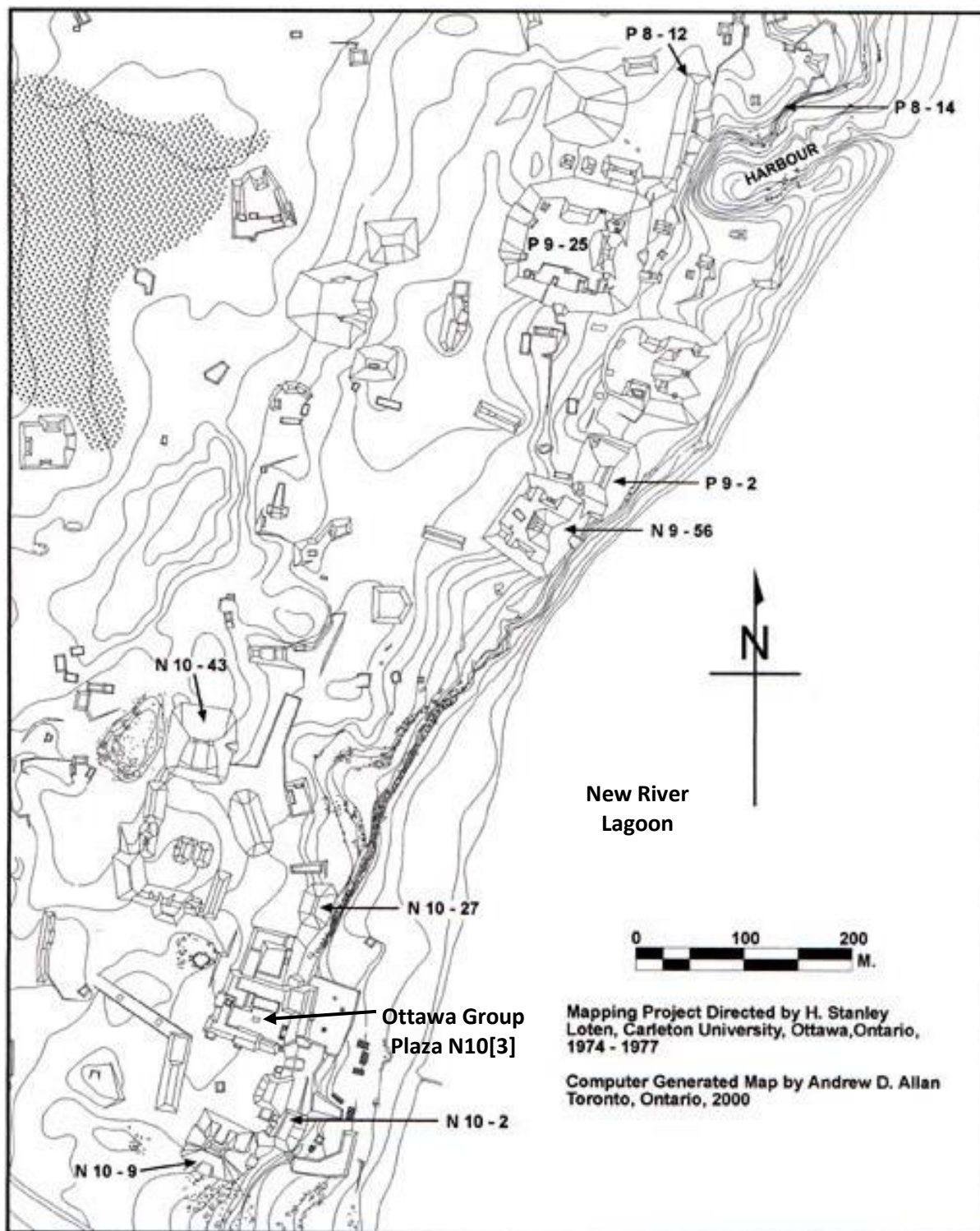


Figure 1.1. Map of Lamanai showing the Central Precinct with the concentration of structures running along the lagoon edge (Powis 2001:3 Figure 1, after Pendergast 1981: Figure 3).

Beginning as early as the Late Classic period (A.D. 624 – A.D. 774 at Lamanai) there is evidence of change taking place at Lamanai with modifications in the material culture that displays both continuity and innovation. Here, as at many other lowland Maya sites, monumental construction slowed in the Late Classic period. Rather than the erection of new pyramidal structures, modifications were made to several of the existing temple-pyramid structures, suggesting some religious continuity. A new ballcourt was built in the plaza of the largest pyramidal structure in the Central Precinct, Structure N10-43, and new residential groups were built in different areas of the site (Pendergast 1981a:40). Although the construction sequence and timing are not completely sorted out, one of the biggest construction efforts that occurred during this period was the transformation of the Ottawa Palace Group, which was likely to have begun in the Late Classic and continued into the Terminal Classic Period—a construction project lasting decades and utilizing 20,000 metric tons of stone (approximately 6250 cubic meters by my calculations) (Graham 2004; Pendergast 1986a). Many of the new structures that resulted were built of perishable materials erected on low masonry platforms, a marked change in construction methods for buildings located in the city center, which had typically utilized stone construction. Much of the ceramic inventory remained the same, but it also changed with an increase of exotic elements, suggesting a greater link with the Mesoamerican world system (Aimers 2007:349). Ceramics at the end of the Classic and early Terminal Classic feature glossy slips, small basal-break bowls, and low pedestal bases (Graham 2004:234). Daylight Orange Darknight Variety is common, as are what Graham refers to as the Lamanai Polychromes (Graham 2004:235). Lithic technology also changed with the introduction of side-notched points (Graham 1987a:75).

During the Terminal Classic Period the extensive Central Precinct of earlier periods was reduced in size as structures in the northern part of the city center ceased to be modified and were likely in disrepair by the eleventh century, with the focus shifting to the southern area of the Central Precinct. The condensed Central Precinct also became more directed toward the lagoon shore with structures added east of Plaza N10[2], where Structure N10-9 stood—the plaza that abutted the south side of the Ottawa Group. Many low stone platforms were constructed, probably supporting wooden buildings. Links with the Peten diminished as evidence of waterborne trade and ties to the northern Yucatan increased. Influence from Chichen Itza was seen along the coast and at Lamanai (Pendergast 1990).

In the geographic region of northern Belize, some of the larger sites near Lamanai, such as Altun Ha, KaKabish, Blue Creek, La Milpa and Colha began to fade before a complete collapse of their sociopolitical structures by the tenth century. Many of these sites were abandoned by the end of the Terminal Classic, although some were later reoccupied.

In the Postclassic period, the focus of life at Lamanai began to shift toward the southern part of the site. Modifications continued at the Ottawa Group and at the N10-9 temple across the plaza on the south side of Ottawa, but by then the other large temple structures at Lamanai were abandoned. Metal technology was introduced as early as the late tenth century, with copper-tin objects—especially bells—coming from West Mexico, the Oaxaca Valley, and lower Central America (Simmons et al. 2009). A distinctive new style of ceramic emerged, embodied in the Buk Phase at Lamanai (Zakpah orange-red and Zalal Gouged-incised), with complex censers, pedestal-based “chalice” incense-burner forms, and a variety of tripod forms. Ties to Lamanai’s trade port, the site of Marco Gonzalez on Ambergris Caye, continued to be strong.

Later in the Postclassic the deteriorating pyramidal Structures N9-56 and N10-27 saw ritual activity that included the deposit of figurine censers and other ceramics as offerings, with midden building up against Structure N10-27. The inhabitants of Lamanai began metalworking, probably melting down old metal objects for casting. Ceramics from the Red Payil Group, made along the coast of Quintana Roo, were imported at Lamanai, and trade with centers to the north is reflected in other Mexican artifacts (Pendergast 1986a:232; 1990a:173). Shortly before the arrival of the Spanish, Lamanai potters began making Yglesias ceramics (Pendergast 1991a:340). At this same time the rich interment of a community leader, in the Hunchback Tomb, reflected a strong community (Pendergast 1984).

Changes at Lamanai's Ottawa Group during the Late to Terminal Classic Period

The N10[3] architectural group (Figure 1.2), nicknamed “Ottawa”, located in the Central Precinct of Lamanai, has been interpreted as a palace group—an administrative and elite-residential complex of importance due to its lengthy occupation span and its location adjacent to two large ceremonial structures, N10-9 and N10-43, which each feature a great plaza surrounded by structures on all sides. In the Late Classic the Ottawa Group was composed of six masonry-walled range buildings. N10-17 and N10-77 opened directly onto the plaza floor, while the third structure at the east end, Structure N10-28, rests upon a single terrace. The three buildings at the western end of the Ottawa Group sat upon a triple-joined (u-shaped) two-terrace platform that was higher than the platform of Structure N10-28. Structure N10-15 is the building that sits on the northern side of this western u-shaped platform, which saw numerous remodeling episodes during its lifespan, and is the focus of this thesis.

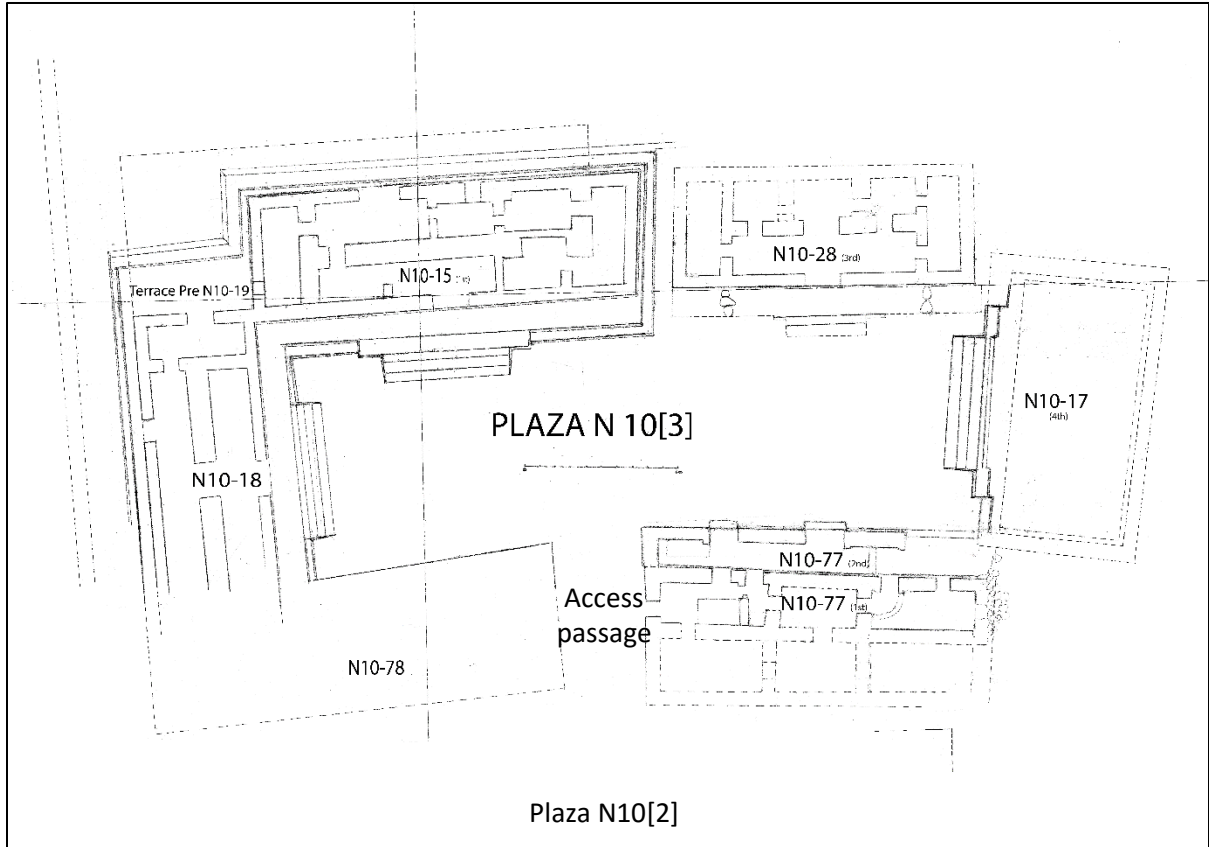


Figure 1.2. Map of the Ottawa Group, Plaza N10[3], in the Late Classic. The location of Plaza N10[2] is also indicated.

During the Late to Terminal Classic Period (ca. 624 – 962 at Lamanai) this entire Ottawa Group underwent a major architectural remodeling. This involved the expansion of Structure N10-15 to the north and east, the intentional destruction of the structures on the eastern side of the courtyard—Structures N10-28, N10-77, and N10-17—down to a level that equaled the height of the upper terrace of Structure N10-15, and the subsequent filling of the entire courtyard. We know that Structure N10-15/19 remained standing for some time, and believe that Structure N10-18 did too, but it has only been partially excavated. Structure N10-78 has not been excavated at all. The areas on the north and west side of the Ottawa Group were also extended with a boulder-filling process similar to that of the interior courtyard, although this northward platform expansion of approximately 20 meters was a

much larger undertaking than the 3 meter extension on the west side of the Ottawa Group. On the south side of the Ottawa Group, the access passage to the inner courtyard from Plaza N10[2], was filled. New terraces and stairs were added facing the Plaza N10[2]. Perishable structures were built at different locations on this new raised grand platform and there is evidence of several stages of construction atop the low masonry platform of Structure N10-12 (atop the demolished and filled Structures N10-77 and N10-78) in the Terminal Classic (Graham 2004:235). This complete remodel of the Ottawa Group may be a reflection of changing functions and strategies that played a role in Lamanai's ability to survive during the transition from the Classic to Postclassic period in Mesoamerica as other cities were being abandoned in the Maya Lowlands.

Following these changes in the Late to Terminal Classic, the Ottawa Group continued to be modified during Postclassic times, with perishable structures built on top of the earlier (demolished) Terminal Classic perishable structures in the group, and possibly on top of a then razed Structure N10-15.

Organization of the Thesis and Chapter Summaries

I have already introduced my research question and provided an overview of the Maya Collapse—or more appropriately stated, the transition from the Classic to Postclassic. I have noted some of the Terminal Classic period changes at the city of Lamanai, which weathered this transition into the Postclassic and was still an active center when the Spanish arrived there in the first half of the 16th century. At Lamanai the elite-residential-administrative group called Ottawa, which appears to have been continually remodeled from at least the Late Classic period and into the Postclassic period, serves as an architectural bellwether of continuity and changes during this transition period.

In Chapter II, Theory, I present theoretical approaches which are relevant to the interpretation of Structure N10-15. These include concepts such as ideology, Maya political organization, and the institution of divine kingship. Each of these concepts is influenced in ways by Maya cosmology and worldview, which is briefly introduced in Chapter V.

Chapter III, Context and Chronology, introduces the reader to the culture and the chronological and contextual setting of the ancient Maya in the Maya Lowlands. The geographic location, physical environment, and climatic setting of northern Belize is described, with the area immediately surrounding Lamanai presented in more detail, including the results of recent paleoenvironmental studies there. I discuss contemporary issues that have an effect on research at Lamanai and the surrounding settlement, which include archaeological looting, local land development, and tourism promotion and the reconstruction of ancient structures at Lamanai. In the second half of the chapter I present an overview of the history of investigations at Lamanai followed by a summary of the cultural development of Lamanai. I then turn to focus on the Ottawa Group, the research that has been conducted there, and what is presently known about the group. I discuss Maya ritual practices of placing caches and review different types of caches, as cache contents and placement can be used to understand issues pertaining to ideology, political organization, and divine kingship. The chapter concludes with a summary of the diachronic caching patterns at Lamanai to provide context for the subsequent analysis of Structure N10-15 caches in Chapter VI (Analysis).

Chapter IV, Methods, lays out the research design and discusses how the research question is examined by focusing on the changing floor plan, cache contents, cache locations,

and changes to architectural stylistic features employed in the construction of Structure N10-15.

Chapter V, Architecture, serves as a literature review to provide an overview of Maya palace, court, and elite-residential-administrative architecture and functional attributes in order to provide a broad framework for understanding the Ottawa complex and as a basis for examining the function of Structure N10-15. I discuss spatial patterning in the Maya built environment and how it is considered to be influenced symbolically or by emulation, and present a brief overview of Maya cosmology. I also discuss different patterns of construction that are seen in the built environment of city centers in the Terminal Classic period, when the emphasis shifted away from the construction of monumental pyramid structures to remodeling projects and creating smaller buildings. New stylistic traits and building types appear at some sites in Belize during this period and many of the traits are thought to be influenced from sites in Northern Yucatan. I consider several complications that arise in the study of architecture: terms used to describe Maya architecture are inconsistent, and continuous remodeling projects can cloud our understanding of architecture. Examples of “palace” architecture are then presented to provide both an understanding of the variety in the morphology of palace compounds, and as comparative examples of stylistic and construction characteristics.

Chapter VI, Analysis, is devoted to detailed descriptions of the architectural stages as determined from field notes and excavation plans from 1981 and 1982, coupled with the results of excavations in 2014. Our understanding of the architectural sequence, cache placements within this sequence, cache contents, and architectural features of Structure N10-

15 are presented. The cache contents are described and caches are then considered in relation to their placement within the architectural sequence and to each other.

In the final Chapter, VII, Conclusions, I consider the results detailed in the analysis chapter in relation to my research question. I also discuss the results and conclusions in view of the theoretical approaches outlined in Chapter II. Contemporary issues that intersect with this architectural investigation are examined. As future analysis and excavations proceed to integrate this research with data from the other structures of the Ottawa Group, it will no doubt shed new light on my conclusions and require revisions to the information presented herein.

The thrust of this research is to identify the architectural sequences in Structure N10-15 and correlate the cache placement within these sequences. This will then serve as a component of future studies on the Ottawa Group, when the architectural sequences along with the associated burials and caches of all the structures forming the group can be considered together within the context of Lamanai and the broader context of regional changes during the Late to Terminal Classic period.

CHAPTER II

THEORY

In the discussion that follows, I situate the reader by discussing the concept of ‘ideology’ and, to some extent, what scholars use ‘ideology’ to describe. I proceed to discuss how Classic period elites are thought to have legitimized their positions of power through ideology, much of which is associated with the institution of divine kingship. Although most scholars tend to agree that religion and ritual comprise the ideology of rulers, there is disagreement about the extent to which this ideology is used for domination by the ruling class. Mayanists are now beginning to recognize the diversity of political systems that were present in the Classic period and an overview of these models is presented. It is important to understand the pre-collapse organizational structure of society to develop models of subsequent sociopolitical collapse—or survival. I discuss differing views on Maya collapse and the processes by which the delegitimization of dynastic authority may have occurred. Lamanai is one of a small number of sites in northern Belize that weathered the eighth to tenth-century Maya collapse, perhaps in part due to a changing ideology, which is central to this thesis.

Ideology

There are varying definitions for the concept of ideology within different academic and theoretical circles and it is often the case that no definition is offered by scholars writing about ideology. The term ideology dates back to the late eighteenth century when it was used in philosophical and political debates about the French Revolution. Since then the term has been critiqued and expanded. It is not always consistent, as it has acquired several meanings.

Ideology can be secular or religious and (according to Karl Marx and Frederick Engels) it includes such things as "politics, laws, morality, religion, metaphysics, etc." Ideology can play a role in the development or maintenance of power. To Marxists, ideology justifies and obscures power relations in which the ruling class presents its own ideas as universal, thereby creating a "false consciousness" in those without power, and thus it is linked to inequality (Stoica and Salgür 2013:4). The term is often associated with social divisions in hierarchical power structures, generally between the ruling class and those who are ruled, although it is also associated with inequalities of gender, race, and ethnicity.

Antonio Gramsci built upon Marx's concept and thought of ideology as a set of beliefs widely held by a populace, "such that they have forgotten that there are alternatives". In this view ideology has been internalized as common sense. Viewed as hegemony, Gramsci situates the power derived from ideology as power by consent rather than force. Ideology legitimizes dominance through hegemony. However, there is usually a disjunction between the dominant or ruling ideology of the elites and other groups in society. Louis Althusser proposed two means of maintaining dominance—one through repression, and the second through ideology, which was not an explicit attempt to exert control. There may be multiple interpretations of the dominant ideology by competing interests and the dominant ideology may not be accepted by all, which can lead to resistance. The notion that each social class or group may have their own ideology is considered a modified dominant ideology. Sanchez (2005:262) noted that "while not all aspects of this model fit the Classic Maya, the ruling ideology of the Maya was not directed in the same way at each group in society".

There are scholars of Mesoamerica who have clearly defined ideology in their writing and it is worth giving several examples here:

‘Ideology’ is the most general term, referring to any aspect of symbolic systems, ritual, religion, or belief, and to associated features of politics or economy [e.g., Flannery and Marcus 1993] (Demarest 2013:372).

It is useful to remind oneself that Marxism, fascism, and American democracy are all ideologies. Thus ideology falls within society and politics, not religion (although, to be sure, the lines between the three may be blurred by political movements such as Islamic Fundamentalism). Ideology may be defined as the body of doctrine, myth, and symbolism of a social movement, institution, class, or group of individuals, often with reference to some political or cultural plan, along with the strategies for putting the doctrine into operation (Flannery and Marcus 1993:263).

I view ideology as an aspect of the human condition under which people live their lives as conscious actors in a society that makes sense to them [Therborn 1980:2; Gardiner 1992:65; McGuire 1992:140–41]. Ideology is not a neutral set of beliefs and values [cf. Demarest 1992:4] but what shapes humans to accept their roles and positions in a society and makes them social beings [Althusser 1971; McGuire 1992:43]. Following Abercrombie, Hill, and Turner [1980, 1990], I do not see ideology as a simple imposition of particular values and beliefs by a dominant group. It is not necessarily “false consciousness” that masks reality and operates in the interests of the elite. A society may have multiple ideologies, and their relations to particular classes may not always be clear-cut. The elite may sometimes try to manipulate specific ideologies in its political interest, but elites are often bound by the ideologies they believe in [Classen 1996]. Ideologies are neither simple causes nor results of particular social relations, but the two are inseparable [Althusser 1971] (Inomata 2001a:323–324).

The term ideology is most commonly found in political discourse, although it can apply to a number of other categories. Although the institution of divine kingship could be considered a political ideology, the ideological, political, and economic dimensions of Maya elite cultural behavior appear to be largely inseparable. Ideology, as a discourse, is used to justify and reproduce social hegemony through a variety of discursive strategies. An ideological framework that is naturalizing presents institutions and their specific features as natural—like the cosmos, the physical world, and the nature of society. Another framework links institutions to projects that appear to be for the good of the community, while yet another strategy is to link past events to the present in an appeal to timelessness and tradition. Maya elites used these differing ideological strategies by invoking religious beliefs,

commissioning community projects, and engaging in calendrical rituals. In the Classic period one way that the ruling elite legitimated their authority was through the institution of divine kingship.

To situate the reader a general Maya chronology is provided in Table 2.1 before turning to a discussion on Maya ideology and power. A system of assigning chronological periods for Maya development was devised by archaeologists to provide both blocks of time for description and to define stages of development, although the assignment of time periods is somewhat arbitrary. Each of these periods are often further subdivided as they become more specific to individual sites. In reality these time periods represent a continuum of development and changes in the Maya world.

Table 2.1. General Maya chronology.

A.D. 1492 to 1544	Terminal Postclassic – Early colonial period
A.D. 900/1000 to 1542	Postclassic
A.D. 750–1050	Terminal Classic
A.D. 550/600–800/900	Late Classic
A.D. 250/300–A.D. 550/600	Early Classic
2000 B.C. to A.D. 250/300	Preclassic

How Elites Legitimize Their Positions of Power through Ideology

The rich and now accessible Maya evidence is beyond the once common but limiting assumption that ideologies serve merely to justify or legitimate a political, social, or economic order. Ideology "legitimizes" to the extent that authority is defined through religious terms and images, but it can also be seen among the Classic Maya as a significant operator in the dynamic of culture, sometimes shaping society and history in discernible and interesting ways (Stuart 2005:258).

Although belief systems such as ideology are not tangible, clues are found in the archaeological record that help us to get at Maya ideology. Burial contexts, evidence of ritual behavior, cached deposits, architecture, sculpture, painted pottery and other status-related craft items, all reflect Maya ideology. Ethnohistoric documents, modern Maya ethnographic

analogy, epigraphy, and the decipherment of ancient writing also inform us about ideology. For the Maya, the supernatural realm and its deities governed the world and cosmological order was maintained by all levels of individuals (Sharer 2006:91–93). Classic period Maya state ideology and religion is thought to result from increased inequality in the Maya lowlands (Freidel 2012:192). As Maya society grew more complex the ruling elite became the intermediaries between society and the supernatural world, ultimately with the emergence of the divine king, or *k'uhul ajaw*, where religious and political power merged together. (Sharer 2006:93).

Whether political organization and power results from economic or ideational forces is debated among scholars. The most complete explanations are to be found in the middle ground between materialist and ideational perspectives (Hirth 1996:209). Control of the economy supports political bureaucracies through material means which operate via ideational systems that provide structure and justification, but the two are difficult to separate (Hirth 1996:209). Political actors use different mechanisms to gain and maintain power and authority, to increase power, and to pursue their agendas. Power is bound to economic matters and “power and authority are actualized through differential access to wealth and resources” (Graham 2012:419). The legitimization of positions of power is tied to wealth. Ideology and religion are seen by traditional Marxists as a means to legitimize economic relations, and some argue that the relations of production are structured by these systems (Demarest 2013:371–372). However, there are negative connotations associated with the term legitimization—which implies deception. Elite agency operating through habitus may serve as a better explanation (Demarest 2013:377). “The concept of ‘legitimation’ is most useful in cases where religious belief or institutions are created or manipulated to

economically privilege elites” (Demarest 2013:372), but a better understanding of the dynamics of power is needed.

Wealth and power can come from “material exchanges and fungible material-wealth-based (i.e., currency, commodity) economies” (Rice 2009:71), but wealth and power sources can also be intangible and take the form of intellectual capital, in which a more esoteric form of knowledge is controlled. This type of knowledge is formulated by Giddens as authoritative resources and by Bourdieu as symbolic capital and both are a constituent part of high culture (Rice 2009:71). Forms of knowledge can be generally subdivided into operational knowledge, which is information, and interpretive knowledge, which has to do with understanding “complex explanatory or ideological systems” (Rice 2009:71): the cosmos, gods, natural phenomena. Either type of knowledge can operate in ritual enactment or in systems of production.

An Ideology of Kingship

In 1993, Freidel, Schele, and Parker outlined their theory on the proposed nature of kingship in the book *Maya Cosmos*. Recent advances in epigraphy and iconography have contributed to a more detailed understanding of divine kingship. Within the institution of divine kingship the ruler and their families were considered deities and they were the principal intermediaries with the gods (Freidel 2012:192). Freidel (2012:192) notes that their divine performances include the ability to be reborn after death, conjure gods, manifest as particular deities, consort with supernatural companions, communicate with the dead, and manifest the central axis of the cosmos. Because of these noted ruler assets, Freidel et al. (1993) point to the shamanistic nature of the cult of divine kingship and Maya state ideology, although others, including Marc Zender (2004), argue that Maya religion was a hereditary

priestly hierarchy of which kings were a part. In either case divine ancestors were important actors and validation of lineage was central to legitimacy.

The Maya ruling elites justified their power through different pathways that upheld and in ways supported an elaborate ideology based on Mesoamerican cosmology and religious beliefs, which both elites and commoners shared. Arthur Demarest (1992:147) stated that “religion itself was a principal source, perhaps the source, of the power of Maya rulers”. By the Classic period in Mesoamerica numerous artistic depictions represent rulers at sites such as Tikal, Seibal, and Monte Alban, as holding the supreme priestly office for state cults in which the ideological functions of priests or religious practitioners were combined with political functions and who were “at times merging their own priestly offices with the functions of gods themselves” (Reilly 2012:772).

A number of scholars have written on the “ideology of kingship” including Demarest (1992, 2013), Freidel (2012), Schele (1998), Houston and Stuart (1996), and Stuart (2005). Advances in epigraphy are rapidly expanding our knowledge on kingship, however in many ways the text reflects the message they wanted to broadcast. We can never get at the more mundane aspects of day to day management. This ideology of kingship enabled Maya rulers to establish and maintain polities, legitimized the ruler’s role and that of other elite class members, and dictated the ritual and shamanistic functions of the ruling elite (Demarest 1992:147). A shared ideology was critical to both inter-polity and intra-polity power, and was broadcast through religion, ritual, public display, and monumental propaganda, but it took on other forms as well, including economic aspects and warfare (Demarest 1992:147), all of which are discussed in more detail below. In fact, some scholars attribute the source of ancient Maya material power to the role played by religion and ritual (Demarest 2013:373).

There is considerable overlap among these categories, such that it is often difficult to distinguish one from another when considering how rulers legitimized their positions of power through ideology. In addition to this categorical overlap, scholars disagree about what ideology is and about which institutions manifest the ideology that upheld the system of divine kingship, and how it was done.

Religion as a Source of Legitimization of Elite Power

The term religion as applied to the ancient Maya is not without its problems (Graham et al. 2013); however in keeping with descriptions above, as it is used here it incorporates aspects of Maya cosmology, mythologies, worldview, the supernatural, and the divine. In this sense, Maya rulers drew from and incorporated religious ideas into numerous practices and into different forms of media to visually tie themselves to various aspects of the supernatural and divine world to indicate their power to both commoners and other nobles, including rulers and nobles of other polities. It is difficult to separate the concept of religion and ritual as they are intertwined. One might think of religion as the cognitive mental belief system and ritual as the physical expression of that system.

The maize god was a central focus of Maya religion and this focus is seen as the ideological and political foundation of royal power (Freidel 2012:192, 194). The story of the sacrificial death and rebirth of the maize god is told in the *Popol Vuh*—a Maya creation story written in the sixteenth century (see Tedlock 1985). This represents an enduring emphasis on maize, because as with the Preclassic Lowland Maya rulers, “the life and death cycle of maize and rain-making divination were two of the most central concepts in the ideology” of the Classic period rulers (Estrada-Belli 2006:74). Agrarian symbols associated with the rain, sun, and maize deities were used to represent central authority. The *k'inich* designation in

titles of many kings connected them to the sun god, *k'inich ajaw* or to the maize deity (Demarest 2013:374). The vision of the *k'uhul ajaw* as the physical embodiment of the sun and/or maize deities also served as a source of authority (Demarest in Rice 2013:704). Some scholars link this connection between the Maya rulers and the maize deity to a staple economy in which the agricultural production of maize, and its distribution in a regional marketing system is controlled by the ruling elites (Freidel 2012:194–195).

Ancestor worship was “central to all aspects of Maya ideology in all periods and at all levels of society” and the practice of making offerings is sometimes associated with ancestor veneration (Demarest 2013:375). With elites claiming ancestry from various supernaturals to legitimize their status (Demarest 1992:143) the need to incorporate ancestry—both real and supernatural—into the ideology of kingship was critical. Rulers and other nobles gained significant power from “their role as the most direct interface with the ancestors” (Demarest 2013:375). It was particularly important for the ruling elite to proclaim their ancestral connections and incorporate them into their life histories (Demarest in Rice 2013:704). Ancestors and lineage were used to perpetuate the past and anchor the ruling elite to it. One way of doing this was through textual inscriptions—on stelae, lintels, polychrome pottery, and other portable artifacts—which frequently emphasized the ruler’s relationship to gods and ancestors. These inscriptions, especially those on stelae, were often associated with monumental pyramidal temples that were part of an elaborate architectural program devoted to deceased royalty. Before turning to a discussion on the role of ritual and performance in ideology let us first consider the settings in which these rituals took place.

The Built Environment as Ideological Foundation and Political Statement

The built environment conveys symbolic messages that express the worldview of a culture, so site center architecture can be a source of insight on ideology and the institution of divine kingship. Rulers and other elites sponsored and directed construction projects. Some scholars argue that the built environment of Classic Maya cities—filled with symbolism—was an important aspect of the ideological foundation for the ruling elite. Wendy Ashmore (1989:272) has argued that Classic Maya rulers were “using principles of site planning based in cosmology (discussed in more detail in Chapter V) as a means to profess and reinforce their membership in the political elite, affiliating symbolically with leaders of the Classic Maya establishment by replicating their surroundings”. Monumental structures and architectural groups were seen as political statements of ruler’s accessions and conquests, a view that is supported by the iconography and text found on many of these structures (Andres 2005:34; Demarest 1992; Freidel and Schele 1988). This venue of temples, plazas, and palaces served as a settings for elite political ritual, bolstering political power and confirming elite status (Andres 2005:35). It was the stage for grand and costly public ceremonies starring the *k’uhul ajaw*—the ruler of the polity. As Stephen Houston (1998a:333) observes, “‘the built environment is activated through ritual’ [Lawrence and Low 1990:446], especially through performances regulated by the conventions of courtly practice.”

Inomata (2006:805) suggests that the performances of royalty involved large audiences gathered in plazas, and that planning theatrical space for these spectacles was an important concern of city planning. These public events served to integrate the community and aid in identity formation, which “set the stage for the imposition and negotiation of

asymmetrical power relations” (2006:806). It has been suggested that entire city layouts, such as Copan, Seibal, Tikal, and Teotihuacan, were built based on a cosmological plan as a stage for rituals (Ashmore 1991; Sugiyama 1993). The theater state-like ideology noted by Demarest (2013:374) is reflected in Golden and Sharer’s (2013:403) observation that “[r]itual performance, elite architecture, and the display of monuments reveal conscious (and perhaps unconscious) efforts by the Maya rulers to establish themselves as moral centers for the polity and as a pivot to integrate people with the body politic [Houston 2006; Inomata 2006a, 2006b, 2006c;Looper 2009: 226–230; Reese-Taylor 2002].”

One aspect of the built environment is as a setting for the display of monuments—carved stone stelae, altars, and other inscriptions. A hallmark of divine kingship, these stelae featured portraits of individual rulers, hieroglyphic inscriptions that glorified their reign, and associated Maya long count dates. The texts record their legitimacy and achievements and include biographical, historical, and ritual events associated with specific calendrical cycles. Other Classic texts are inscribed on wooden lintels located over doorways and yet others are painted on ceramic pottery. Much of the evidence of Maya ritual comes from stelae depicting elites in ritual regalia and holding implements that link them with ancestors, gods, fertility and warfare (Miller and Taube 1993:20). This stelae program was once considered to mark the chronological boundaries of the Classic period, but it is now apparent that many aspects of Classic Maya culture were developed earlier (Freidel and Schele 1988), and in the northern lowlands, continued later.

For Maya rulers the control of knowledge, which includes the ability to communicate with the gods as told in iconography, serves as a base of political-economic power (Rice 2009:71–72). This stelae program is an example of the Mesoamerican elite’s control of the

knowledge of writing. Through the analysis of four different systems of prehispanic writing, including Maya, Zapotec, Mixtec and Aztec, Joyce Marcus (1992) contends that Mesoamerican writing was used by elites as a tool of competition for prestige, territory, tribute, positions of leadership, and advantageous marriages. Based on real people and events, ultimately this writing was created for political purposes and was a form of propaganda. Marcus (1992) argues that it is not a reliable history as many contemporary scholars would have us believe. However, as much as it may be propaganda, in the past fifteen years epigraphers have made numerous advances in glyphic interpretations, and some of these new decipherments have overturned translations that were only about a decade old, which allows archaeologists to reinterpret some of the data (Freidel 2012:192). Martin and Grube's (2000, 2008) book, *Chronicle of the Maya Kings and Queens*, has provided a historical foundation that includes names, dates, and events at many Maya centers. Coupled with these advances in interpretation and many recent studies of inscriptions from a number of scholars working at different sites, this has yielded new insight into Maya political and economic organization.

One region of the Maya area that remains to benefit from these new interpretations of hieroglyphic inscriptions is that of northern Belize. Scholars have observed the dearth of carved monuments in this region during the Classic period (Chase and Chase 2004a:26). We know that in the Classic period Lamanai elite participated in the institution of divine kingship because of stelae and other stone monuments with carved inscriptions, but due to the eroded condition and the low number of carved monuments found (some of them were also moved from their original locations by the Maya), very little is understood about the political history of Lamanai through inscriptions (Graham 2006:122; Pendergast 1988).

Ritual and Performance as a Source of Legitimization of Elite Power

Ritual, or religious ceremony, can be public or private and can be used to strengthen or legitimize social institutions. Public ritual can involve a high degree of theatricality, or performance, and it is argued that this makes the ritual more effective (Inomata 2006). There were a wide range of rituals and symbols that linked the rulers with ancestors, deities, sacred places, and natural phenomena (Demarest 2013:374). The divine king was viewed as a living *axis mundi*—the center of time and space—and great importance was placed on the role of Maya royalty in performing public and private rituals. Royal rituals can include a variety of ceremonies and performances—many performed by the ruler on behalf of the polity. Rituals involving the inauguration of a new king would present the king with the symbols of office and bestow a new deity-associated royal name (Sharer 2006:747–748). Other rituals marked major calendrical cycles, such as period-endings, and were often associated with the erection of new stelae at *k'atun* endings (or fractions thereof), supplemented with hand-scattering rituals, and blood sacrifices (Sharer 2006:747–748). An heir designation ceremony proclaimed the next king. These public spectacles were accompanied by feasting, dancing, and other entertainment (Sharer 2006:747–748).

Upon the death of a royal family member, ritual ceremony accompanied burial. Temple pyramids, seen as mountains, became mortuary shrines for royalty, with tombs and burials placed within, and their associated plazas became theaters. These “funerary rites can serve as an integrative mechanism to unite king and commoner through shared ritual practice” (Scherer et al. 2014:193).

Divine rulers shared a practice of merging supernatural and human identity and frequently participated in public performance—or theater—involving deity impersonation

rituals (Demarest 2013:373; Freidel 2012:192; McAnany and Plank 2001:90). Iconography, texts, and archaeological contexts document ritual performances where divine rulers could conjure gods, be reborn, and manifest deities (Freidel 2012:192; Houston and Stuart 1998:81; Martin and Grube 2008:15; McAnany and Plank 2001:90). These royal performances were conducted by rulers and other non-regal characters wearing deity-costumes and masks, permitting the reenactment of mythic pasts by associating themselves with a particular deity (Houston and Stuart 1998:81; Martin and Grube 2008:15). The ballgame, dance, and even warfare were part of this ritualistic system.

A wide range of media record ballgame events alluding to its important function. Rulers are often depicted as ballplayers, suggesting that participation in the ballgame was one of their primary ritual responsibilities. Common themes associated with the ballgame include those of the maize god, the mythic reenactment of the Underworld ball game, hunting, warfare, and post-battle sacrifice. These themes are symbolically associated with life, death, and regeneration (Miller and Martin 2004:91; Miller and Taube 1993:43).

Other public performances included royal dances, some of which are illustrated in the Bonampak murals depicting dancers and musicians (Inomata 2006:810). The mural scenes in Room 1 depict the presentation of tribute by various lords to the royal family, which is followed by a dance performance where the dancers stand upon different levels of a multi-tiered platform, flanked by musicians and regional governors (Looper 2016; Miller 1999:170–174). Dance performances likely occurred in both large scale public events as well as smaller gatherings. A wide stairway associated with an expansive plaza was often used as the setting for these public performances (Inomata 2006:811; Looper 2016). These dances are seen as integrative mechanisms to unite king and commoner. More exclusive

performances, for elites only, would have taken place in a palace setting, in part to foster cooperation with their counterparts as it was necessary to maintain political alliances and trade connections. At Copan and Aguateca, low structures in palace groups probably served as open stages for ritual dance (Inomata 2006:814).

Maya rulers conducted bloodletting ceremonies as offerings to appease the gods (Schele and Miller 1986). Ritual sacrifice, both bloodletting and human sacrifice, was a primary instrument for political legitimacy and social integration. While conferring political power to the ruling class, bloodletting rituals were not exclusive to elites, as ethnohistoric documents have shown that bloodletting rituals were common in most social classes. Whether simple peasant ritual or elaborate elite ritual, these rituals were all based in a shared ideology. Anthropologists have argued that social cohesion and group cooperation is enhanced through intense ritual and performance, increasing the level of commitment to the dominant ideology. Beyond bloodletting, other rituals were practiced by both elites and commoners as part of daily life: these involved burning of incense, feasting, the offering of objects, and ancestor veneration (Sharer 2006:745–746). Offerings were an important aspect of Maya ritual and religion and offerings of food, incense, flowers, blood, and other objects were prepared and sometimes burned to produce smoke to carry them to the gods (Sharer 2006:745–746). More private elite rituals often involved the conjuring of deities and bloodletting and may have been directed more towards other elites.

Calendrical cycles are important markers for ritual. The New Year's ceremony was important and a time for bloodletting rituals (Chase 1991:93), and period ending celebrations are noted on many stelae. Prudence Rice's (Rice 2013:684) *may* model of political organization, discussed below, gives testimony to the importance of calendrical cycles.

Some of these rituals leave material remains and traces in the built environment. Obvious material remains include caches and burials. Dance platforms have also been noted. Burning on floors may be the result of ritual that some scholars believe to be associated with the final destruction of a building, or conversely, the activation of a building (Chase and Chase 1998:324; also Stuart 1998:394–395 for a discussion on activating living space).

Pertinent to this discussion are the caches associated with architecture, which are discussed in more detail in Chapter III. Buildings and platforms are “containers” for caches, burials and other artifacts (Webster 1998:13). In Maya architecture the primary axis, or midline of the building, is frequently the location for cache placement, although caches are found in other locations. Many caches have ceramic vessels as a component and these can be used for dating the associated architecture, although as demonstrated in Chapter VI, Analysis, this is not always straightforward. Burials may also be looked upon as caches in buildings (Andres and Fry 1997; Becker 1992).

Military Sources of Elite Power

In addition to ritual, warfare is a major arena for the expression of Maya political power and it is often used to study the nature of Classic ideology and ideological changes over time (Stuart 2005:279). In addition to their other roles, rulers, elite scribes, and artists were also warriors (Aoyama 2005). Although many texts refer to warfare, the nature of warfare, or the motives behind it, are not completely understood. Warfare was however, a means of expressing political power. The importance of warfare is profoundly different between the Early Classic and Late Classic, reflecting significant ideological changes (Stuart 2005:279). While captives were portrayed in early scenes, explicit records of warfare did not occur until later, but like all other Maya systems, this varies by region. By the Late Classic in

some areas warfare was the central topic on public monuments. In the early sixth century warfare becomes more prominent in royal history, but it is expressed in “explicitly religious terms” (Stuart 2005:279). A reinterpretation of the scene on Yaxchilan Lintel 25 suggests that it depicts the newly crowned king with a war spirit, an ancestor, the patron deity of Yaxchilan, emerging from the conjuring snake. Stuart (2005:281) notes that this is “the most explicit statement of the ideological underpinnings of Maya warfare, where the duty of battle captive-taking came to be ‘personified’ within the local Yaxchilan dynasty”. Iconography and texts featuring emblems of warfare demonstrate the military duty of Maya kings. Ritual warfare is also seen as a battle of the gods. Some Maya art depicts war prisoners as deities, such as the Jaguar God of the Underworld, captured by a hero god, as part of a mythic re-enactment involving sacrifice (Miller and Martin 2004:166–168). This suggests “that warfare and sacrifice, like other practices of the court, follow a program ordained by the gods” (Miller and Martin 2004:166–168). Mayanists disagree about the purpose of warfare and whether it functioned more symbolically in its ritualistic aspects, or more materially (Miller and Martin 2004:166–168), in which the end result was captive-taking as a means to secure ransom-tribute. The economic aspect of warfare is discussed in more detail below.

The Role of Ideology in Economic Power

Much of the above discussion has been focused on the role of the control of knowledge as it pertains to aspects of religion and ideology—interpretive knowledge—and serves as the basis of legitimation of political, and to some degree, economic power. Ideologies can play a role in the material aspects of power in which specialization in the production of some objects allows elites to have control of the ideology that upholds power. By imbuing materials with ideology, it becomes possible to “communicate the power of a

central authority to a broader population” (DeMarrais et al. 1996 cited in Inomata 2001a:324). In this scheme, the material objects and associated practices produced and consumed by the elites constitute a system of high culture and control of knowledge enabling elites to control symbolic resources. Inomata (2001a:324) suggests that while crafted material objects communicate aspects of ideologies, the production process is also “heavily loaded with ideological meaning”. Beyond mere technical knowledge, production can involve aspects of supernatural power, ritual, religion, worldview, and history.

It is in this way that Demarest (2013:373–376) argues that ideology of religion and ritual are directly connected to an economic ideology, which results in non-elite individuals buying into a system of economic control imposed by the elites. Scholars have labeled this “ritual economy” (Wells 2006 in Rice 2009:72), which emphasizes symbolic and sacred goods, and ritual action “that serves to negotiate and materialize a group’s ‘values, morals, and ideals’” (Wells 2006 in Rice 2009:72). Although as Demarest (2013:372) points out, there are some problems with this designation in that it is applied too broadly—to both sacred and secular contexts. Here again this appears to be an example of defining a model as exact, when in actuality it has variations along a broad continuum. In such a system rulers and other elites have natural rights to control, possess, and accumulate things, and systems (like agriculture or hydraulics), because of how ideological beliefs (their worldview) associate these things with religion, ritual and myth—“maize, water, ancestors, war, sacrifice, and specific deities” (Demarest 2013:373–376). The ruling elites require these symbols of power to do their job and so the systems to obtain these things are naturally part of the ideology and accepted by non-elites.

McAnany (cited in Demarest 2013:374) called this the “naturalized authority of the royal court.” Demarest (2013) gives examples of these ritual – economy connections, which include the *k'inich*-associated title of many kings connecting them to agricultural systems; the ballgame/ballcourt connects them to rights of tribute and the labor of captives; symbolic bodily fluid associations connect them with water systems; as directors of ritual ceremonies they are connected to craft production and goods; and ritual calendrical ceremonies may have provided some form of tax or tribute. As with all systems in Maya polities there is a great degree of regional and temporal variety in the economy and economic ideology.

Another economic strategy is one that presents institutions, like divine kingship, as being linked to wider social projects, or community projects, that are deemed universally good. Many of these have to do with a staple economy that controls the production and distribution of food. This economic ideology is accepted by the population who recognize these things as for their own wellbeing (Demarest 2013:376; Hirth 1996:225). For example projects involving specialized agricultural features (terraces, ditched systems, hydraulics), water and reservoir systems, markets, and warfare (Demarest 2013:374).

An important economic right of royals was their rights to tithing and tribute—both products and labor (Demarest 2013:373). While some scholars describe Classic period warfare as petty skirmishes among decentralized states for the purpose of captive taking (Demarest 2004). Others see the goal of warfare as an economic strategy necessary for the establishment of new tributary obligations as a source of resources, increasing wealth, power, and prestige (Graham et al. 2013; Graham 2012:245; Martin and Grube 2008:21).

Ideology was used in a number of different ways to create wealth for elites, but increasingly there is evidence that both products and production crosscut different social

strata (Graham 2012:420) questioning the nature and depth of control of economic systems by elites. With a lively system of trade and commerce commoner households had a considerable variety of material goods (Graham 2012:422). As noted by Demarest (2013:377) in the case of Cancuen, ideological systems could be quickly created or adapted to accommodate a diverse population if conditions were such that multiple groups with different identities and ideologies were interacting, especially where trade was concerned.

“We now understand better the multifaceted basis of Classic Maya royal power and the great variability in degrees of exercise of these varied sources of power. While relying heavily on ideology, ceremony, calendrics, and resulting tribute, the Maya state was also based (to differing degrees at different sites) on warfare, ransom tribute, long-distance exchange, patronage redistribution of exotics, and in some cases control of hydraulics and/or markets” (Demarest in Rice 2013:704).

Maya Political Systems and More Recent Views

on the Diversity of Political Structures that were Present

Archaeological and epigraphic methods have contributed to an understanding of Classic Maya political organization, and over time these methods have become more advanced. Mounting evidence shows great diversity in Maya political structures, which varied along both temporal and spatial dimensions (Chase and Chase 2004b:145; Chatelain and Canuto 2015; Houston and Inomata 2009:136; Lucero 1999). This important point has been made by a number of scholars recently.

Not only did these political structures vary from polity to polity, but there was also variation within a given polity—it was not a static situation. As Diane and Arlen Chase (Chase and Chase 2004b:145) note, “This is evident in Roys’s (1957) interpretation of multiple political systems for the Late Postclassic era and in Marcus’s (1983, 1993) restatement of this idea for the Classic period emphasizing the constant cyclical change of social and political structures.” More recently scholars are incorporating multiple sources of

data to gain a better understanding of Classic period political systems. These include knowledge of Postclassic political systems, ethnohistoric data, indigenous texts from the Colonial period combined with deciphered Classic Maya inscriptions and archaeological evidence (for example Rice 2013).

There are several overarching models of Maya political organization that build on earlier formulations and are briefly summarized below. Essentially there are two dichotomous perspectives on Classic Maya political organization—centralized vs. decentralized. Graham (2012:423) has stated that the use of “a single term (centralized versus decentralized) to characterize state organization and activity” seems misleading. Ultimately it is probably best to view these not as dichotomies, but with different degrees of centralization or decentralization upon the same continuum. There is great diversity among different models for each perspective. The centralized political model applies to Maya polities with multi-tiered hierarchies that are considered to represent a centralized regional state bureaucracy, whereas a decentralized view of Classic Maya political organization is that of autonomous polities with ruler’s have local political power, but the ruler’s power transitions to prestige over other sites. The debate largely centers on issues regarding the nature of royal authority and the degree of political and economic integration in Maya polities.

Before continuing this discussion it is worth noting the sometimes problematic term “state” as applied to Maya Classic period political institutions. Following Golden and Scherer (2013:399) who “take a practice-oriented approach to the state” in which they adopt Webster’s more neutral term, “polity” for purposes of discussion, I will do the same, using polity and state interchangeably.

Corporate and Network Sociopolitical Strategies

Competition for political preeminence among various social actors can give rise to inclusive corporate or exclusionary network socio-political strategies with either one dominating at a given time, or at times some combination of the two can exist (Blanton et al. 1996:5). Co-existing strategies can include both a ruler and a governmental council. Focusing on leadership strategies, Blanton and colleagues (1996:5–6) dual-processual model for political economy suggests that while either corporate and network strategies may dominate, there can be elements of both strategies operating simultaneously, and that the strategies cyclically alternate through time.

As Blanton et al. (1996:2) describe, a corporate strategy is group oriented—a system in which “power is shared across different groups and sectors of society in such a way as to inhibit exclusionary strategies.” The exclusionary strategy emphasizes consolidation of power in fewer hands, such as a single royal family, and places an emphasis on wealth accumulation for the purpose of distinguishing elite from non-elite.

Sources of power, as reflected in the strategies outlined above, are often tied to political economies. According to Blanton et al. (1996:3, 6), these sources of power can be objective or symbolic, and they operate differently within the corporate or exclusionary socio-political strategies. The exclusionary political economy tends to focus on wealth and exotic or prestige goods, whereas the corporate political economy emphasizes staple finance—the production of agricultural products. Objective economies focus on production and wealth, whereas symbolic economies emphasize ideology and ritual, especially related to fertility and cosmology. These formulations of objective and symbolic economies draw upon

Bourdieu's (2002) formulation of capital and the way people gain access to power and the way elites maintain their power and status.

In the Classic period (A.D. 300–750) Teotihuacan “is the foremost manifestation of the corporate strategy in ancient Mesoamerica” (Blanton et al. 1996:9). The main features of this strategy included a de-emphasis on individual and ruler achievement—although inequality was present there was a lack of aggrandizement of rulers, as the goal was to emphasize their similarity to commoners. The emphasis on cosmological links to fertility and earthly renewal, with communal rituals that were important to people of all status, helped with this. Another inclusionary strategy was the symbolic incorporation of different ethnic groups through standardized artistic conventions, and direct control of peripheral zones through trade enclaves and extractive outposts (Blanton et al. 1996:9–10). During this same period in the Maya Lowlands, the Classic Maya network political economy—in which rulers were named and had exclusionary control of supernatural forces—is the antithesis of Teotihuacan (Blanton et al. 1996:12). Here the ruler's network strategies emphasized their difference from commoners, their wealth and prestige goods, and their connections to mythological ancestors.

As Teotihuacan's power declined there was a return to the prominence of the network strategy in western Mesoamerica. During this period the riverine Gulf Coast was one of the most dynamic areas in Mesoamerica with connections to cores in the highlands and wide transportation links via the sea (Blanton et al. 1996:9–10). Lowland Maya strategies shifted by what is now seen as the Terminal Classic, with “a trend toward the rebirth of the corporate orientation at Chichen Itza” (Blanton et al. 1996:9–12).

Decentralized Models

A segmentary state can encompass different centers, each with their own proclaimed ruler, and each of those centers is autonomous. Segmentary states includes a very wide range of polities from small to large. The segmentary state is redundant, in that each site duplicates the same functions and offices and can function independently – there is not much holding the components together.

These decentralized states were based on kinship hierarchies, with ritual-regal cities organized around the royal palace and temples where ideological functions fusing politics and religion were carried out. Power was dispersed through kinship. Polities were not stable nor were they particularly powerful beyond their capitals. Administration was informal and based on kinship and lineage, therefore these polities were not particularly bureaucratic. The king's rulership was based on charisma and close kinship ties, with an ideology relying on the control of ritual and knowledge. Respected rulers could strengthen their alliances with provincial lords, often through kinship links and marriage alliances, and thereby increase political power and territorial extent. The tenuous kingship-kinship relation led to episodes of Maya state centralization and fragmentation throughout the Classic period.

When the decipherment of Maya hieroglyphs was still in the early stages, epigraphic evidence regarding the distribution of emblem glyphs was used to formulate some decentralized models. Coupled with evidence for the prevalence of warfare, and by applying Thiessen polygons, proponents of this version of a decentralized model argued that polities focused on ideologically regulated ritualized warfare with captive-taking as its focus (Demarest 1992). Advances in epigraphy have changed this interpretation somewhat, yet

some scholars still see warfare and captive-taking as serving ideological rather than economic purposes.

The formulation of decentralized models often employs ethnographic analogies from a variety of cultures—Maya, African, and Southeast Asian. Drawing from these—and often lumping them with a “segmented (or segmentary) state” model—other versions of decentralized models have termed the state as a “galactic polity,” “theater state,” and “feudal state.” These models have been criticized because each have their own characteristics, some of which are contradictory (Chase and Chase 1996:803). In these models neither the economy nor warfare were seen as a major source of political power. Demarest (1992) and others supported the idea that political power was based on ideology and ritual, and because ideologically based ritual enactment was a responsibility shared among a wide range of elite actors within a polity it resulted in redundancy. As with many models, the theater state model has been at least partially rejected as it “is now best understood as a central element of ideology, politics, and economics of almost all Classic Maya states, but not a “type” of state or political organization” (Demarest 2013:374).

Centralized Models

In centralized models polities had large socially stratified populations concentrated in cities which were the focus of social, economic, political, and religious activities for the polity. The centralized or unitary state is defined by greater functional differentiation of positions (i.e. a bureaucracy) that results in it being more integrated and resilient as a complete entity. Powerful ruling dynasties based in these cities manipulated ideology and ritual to control political and socioeconomic institutions through coercion. Power was concentrated in kingship and the role of kinship is downplayed. Territorial extent of polities

could be enormous and the rulers controlled the surrounding settlements. But as noted by Southall (1988:81), “differences of scale do affect degrees of centralization” and all things being equal, “it is easier for a small than for a very large state to centralize.” Rulers undertook monumental public works projects (architecture, agricultural systems, roads), exhibited evidence of economic specialization and control of trade via regional distribution systems. Because of the centralized administrative and organizational demands of these large scale projects for the community, it is believed that a well-developed state-level bureaucracy was required for management—to plan, design, construct and maintain such projects, which resulted in the wider distribution of power within a state. This administration was hierarchical. Arlen and Diane Chase (1996:810) use Caracol as an example to argue that other factors beyond the role of “kinship and the ideological role of kings” were operating to maintain large centralized polities during the Classic period. This model was advocated by Chase et al. (1990), Culbert (1988), and Marcus (1973, 1976).

One aspect of the centralized state models is that they focus on inter-site and inter-polity hierarchical relationships, multi-site political networks, large-scale territorial control, and interregional interaction. This results in models advocating political units such as regional states, macro-polities, and super states.

City-State Model

The term city-state is often poorly defined and is controversial, but in general the term city-state culture applies to a group of interconnected city-states sharing a common language, culture, and religion, united by trade, marriage, and ritual alliances (Smith 2003). City-states occur in systems of interacting units (Smith 2000). City-states may fall under the hegemony of larger and more powerful city-states through conquest, resulting in the political

formation of a hegemonic state—sometimes called an empire. Although the city-states remain politically autonomous, controlling their own internal affairs, they pledge loyalty and have tribute obligations to the hegemonic state. This model varies slightly from other centralized models because of the more limited control exerted by the dominate city-state in which the dominated city-states retained independent administrative control.

The Hegemonic Model

Different scholars have noted the presence of large scale dominant polities and applied such terms as super state, multi-polity networks, megastates, and hegemonic macropolities. The super state or hegemonic model, although introduced in earlier literature, was further developed by Martin and Grube (2000, 2008) because of the advancement in reading texts associated with emblem glyphs. Observing that in the Classic period there were multiple polities with differing sized capitals, they argued that there were supra-site political units, for example Tikal and Calakmul, who dominated and structured the relationship of otherwise relatively equal polities, resulting in vast alliances and power blocks. Importantly, these alliances were not in contiguous territory, but dispersed across the southern lowlands. This system is seen to operate, at least in part, through political patronage, with a system of patron-client lords interacting through public ceremonies, marriage alliances, gift exchange, visits, and tribute payments made to the overlords by the client lords. Additional clients could be acquired through military campaigns. Most scholars agree that these interpolity hegemonies existed, but there is disagreement about how they developed and their duration.

This model can also be seen as a segmentary state, which as defined by Southall (1988:52) is “one in which the spheres of ritual suzerainty and political sovereignty do not coincide. The former extends widely towards a flexible, changing periphery. The latter is

confined to the central, core domain.” The political control is limited to the core or capital, with no direct administration of lesser centers. However ritual hegemony extends far beyond the boundary of the capital to other polities, often in a discontinuous manner. The segmentary state model can apply to polities of different scales, both large and small, who dominate but do not directly control other polities.

The May Model of Geopolitical Organization

Prudence Rice (2013:684) argues “that the basis of Maya rulers’ power was “control” of time, with cities rotating in and out of power according to calendrical intervals of varying length.” Rice’s (2013:687) proposed test for this model uses multiple lines of evidence, including from the Maya Postclassic and Colonial periods where systems of politico-ritual leadership rotation have been documented. The calendric model suggests that a rotational system of rule based on Maya calendrical cycles was present in individual polities (realms) during the Classic period. The fundamental unit of time is the *may*, a period of approximately 256 Gregorian years, with 13 divisions of approximately 20 years, each a *k’atun*. A large primary center would serve as the regal-ritual capital for a period of 256 years. Secondary centers located within the polity of the primary center would rotate office at each of 13 *k’atun* periods—or about every 20 years. In this system there was no single Maya capital, as it was not considered to be an empire, so there were multiple *may* seats co-existing simultaneously within the broad Maya region. The economic implications of this model suggest that during the time period in which the rotational authority was given to a ruler he may have had general rights over tribute and labor (Rice 2009 in Demarest 2013:374).

In the Classic period Maya lowlands this *may* system is a politico-religious hegemony involving the rotation of religious, social, and political power within a circumscribed region

which is rotationally controlled by a dominate city called the *may ku* (Rice 2004: 55, 78). This simple description excludes all the complexities of the argument for a calendrically based system of rotating geopolitical organization in the Classic period, but once again critics of this model rightly point out the great variability in Maya political organization across time and space. Like the other models presented above, this model may be applicable to some Maya polities and not others. There are numerous criticisms of this model that were voiced in comments to Rice, especially in regards to its application for the Classic period, for example, “not all dynasties subscribed to the same calendric ideology” (Aldana cited in Rice 2013:701); the problematic idea “that dominance was foreordained and voluntarily accomplished by the provisions of the *may cycle*;” and the idea that not all centers would willfully relinquish primacy (Masson cited in Rice 2013:707). Masson also noted however, that Contact period corroborating records indicate that “the fundamental premise that the k’atun cycle served to bind lords into regional and rotating hierarchical and obligatory relationships is sound.” Postclassic scholars have observed instances of longer term continuities with the earlier Classic period and it is worth considering that some type of cyclical rotation at some level of leadership in earlier periods may have been present.

Variability

As noted earlier, archaeological and epigraphic evidence of the last three or four decades has highlighted the tremendous variability among Maya polities. Rice contends that there is “...widespread agreement that Classic Maya political organization and site arrangements were centralized and hierarchical in nature [see, e.g., Marcus, 1993; Lucero, 1999; Rice, 2004]” (Rice 2009:71). Although there are exceptions, most Maya states appear to have had decentralized agricultural and regional trade systems; that is, the ruling elite did

not control the local market (subsistence) economy (Demarest 2004:206). Rather it was the palace economy, or the goods that were exotic and status-enforcing, that fell under the control of rulers (Demarest 2004:206). These items were likely circulated among high status people through reciprocal exchange, gift-giving, and tribute. However, there is evidence of social mobility by the Late Classic, or earlier, resulting in the wider distribution of elite status goods. Several criticisms should be noted here. The two-tiered economy model of elite/prestige goods vs. local/subsistence goods is overly simplistic in view of the complexity of economic and social systems and the observed temporal and spatial diversity among polities. Social mobility could be achieved through various routes including “achievements in war, crafts and mercantile activities” and there was considerable blurring of social boundaries, resulting in a “complex range of intermediate classes in function, power and wealth” (Demarest 2004:162). Another criticism leveled at Mayanists is that the role of rulers in economic systems is still not well understood (Demarest 2004:173). The role of rulers, as reflected in the iconography, inscriptions, artifacts, and architecture, was in the realm of religious ceremony and ritual; a major source of power and authority was drawn from ideology (Demarest 2004:206).

The Maya Collapse—

The Delegitimization of Dynastic Authority

The delegitimization of divine rulership does not imply the complete cessation of Maya worldview and cosmology on which divine kingship heavily relied, for much of this was also a pan-Mesoamerican worldview and economy. It appears that the emphasis and ideology shifted and a new worldview emerged, although scholars are still debating the various causes for this new order.

Beginning in the Late Classic, if not before, problems and changes that led into the Terminal Classic period were already in evidence. Within Maya society there was increased competition, the expanding power of non-royal elites led to power struggles and rivalry within polities, and between polities there was an increase in warfare (Sharer 2006:499). The hallmarks of divine kingship and a centralized political system began to fade and power-sharing arrangements start to be in evidence. At many sites during the Late to Terminal Classic period monumental construction efforts slowed. The finely carved stone monuments of previous times decrease in quality, and the iconographic scenes changed from that of divine kings and their royal paraphernalia to more scenes featuring subordinate lords with prestigious titles participating in captive-taking and ritual performance that had once been portrayed as the sole domain of the divine king (Sharer 2006:500–501), indicating a weakening of a centralized political system. This is considered to be evidence of a move towards decentralization of power, which may have had as its precursor a power-sharing arrangement, as is illustrated by the royal palace complex at Copan where Andrews et al. (2003:69–97) postulate that Copan's royal king and members of a descent group of the founding dynasty co-existed here in the mid-eighth century. Again, it is important to stress that this decline did not occur simultaneously throughout the Maya lowlands and it occurred over a period of 100 to 300 years.

As the Classic period progressed there was an increase in social distance between elites and the far larger non-elite population (Sharer 2006:526). Increased demands for prestige goods and more elaborate palaces from a growing number of nobles put pressure on non-elites. Drought and environmental issues may have been present in some areas and there was increased warfare. All of these issues contributed to a mounting fear and insecurity in

Maya society. When the divine kings and their families were no longer able to respond to the compounding crises that were taking place—such as issues of food production or war—failure became inevitable. Rulers shared a responsibility to uphold the cult of divine kingship and when they failed in their responsibilities, the institution failed (Sharer 2006:526). A number of factors contributed to this failure, and these varied across time and space. Spanning a least a century and a half, the dissolution of divine kingship was a complex and often violent process. As the institution of divine kingship was losing its grip, a new institution was taking hold in northern Yucatan at Chichen Itza. Here the emphasis switched from divine people to Quetzalcoatl, also known as K'ukulcan, the most prominent god among other gods. The absence of portrayals of a single individual ruler suggests that power was shared (Sharer 2006:581). The cult of Quetzalcoatl is discussed in more detail below.

The following section presents some of the models that have been proposed for the Maya collapse—the disappearance of divine kingship. Some of the models offer a direct explanation for how divine kingship was delegitimized, while others point to a more general societal reorganization. As is often the case with these models, they are proposed by scholars working in a particular region or at a particular site and reflect specific observations from that particular region or site, which may not be generalizable to other regions. There are also temporal differences reflected in the models. Spatial and temporal variation in practice among Maya polities has been noted by many scholars and “was greater than is often acknowledged” (Golden and Scherer 2013:428). Models developed by scholars who take a centralized view of Classic period political organization are different from those with a decentralized orientation. Although certainly models of drought and environmental degradation are currently in vogue, I have not included these in this discussion as I am

looking at the collapse as something avoidable primarily through political rather than technological or economic solutions.

Warfare

I have already discussed above the role of warfare in the ideology of divine kingship, so it is not necessary to reiterate those points here, but ultimately the ideology of warfare once used to legitimate divine kingship also may have led to its demise. The idea that the factors that once helped create and support this institution were the same factors that destabilized it are discussed below. In some areas, such as the Petexbatun kingdom, warfare is seen as a significant factor in its collapse (Aoyama 2005). In the Late Classic period there was an emphasis on militarism and inter-elite competition which led to an increase in warfare throughout the Maya lowlands, seen by a number of scholars as factors in the collapse in some regions (Demarest et al. 2004:5). In the Late Classic some rulers may have used their political positions to legitimize warfare as a means of increasing wealth specifically for their families and vassals, which would not have been looked upon favorably by commoners unless they got a piece of it through redistribution mechanisms (Graham 2012:429). In 1996 Demarest (cited in Foias and Bishop 1997) suggested that after the mid-seventh century, conflicts involved sieges and the destruction of cities, residences, and fields, indicating a shift in warfare ideology, with decentralization occurring in some regions. This intensified and endemic warfare would affect political, social, and economic organization (Foias and Bishop 1997). It would also disrupt exchange networks, with production becoming more localized (Foias and Bishop 1997).

Warfare has been posited as a catalyst for collapse by a number of scholars. Drawing parallels with the Spanish Conquest, Graham et al. (2013:178) suggest foreign intrusion(s),

religion, and significantly, warfare, were “a reflection of cultural changes that played a significant role in structuring the political and socio-cultural landscape that characterized the centuries that followed” (Graham et al. 2013:178). As articulated by Graham et al. (2013:178), in the Terminal Classic, warfare and foreign influence changed Maya worldview and new cultural features were adapted:

If the Terminal Classic is indeed a ‘cultural stew’ (Tourtellot and Gonzalez 2004: 80), the ingredients all have sources, and, even if ‘invasion’ seems an excessive term, it may nevertheless turn out that warfare and the worldview that rationalized it were major vehicles by which non-lowland Maya Classic cultural features spread throughout the lowlands.

Migrations and Refugees

Referencing modern examples of global conflict and resultant refugee situations, Rice and Rice (2004:137–139) make a case that the occurrence of migrations in the Peten lakes region (Figure 2.1) beginning in the Terminal Classic were in part due to intensified warfare in the Late Classic period. Other factors also likely contributed, including agricultural stress, religious and ideological conflict, social or ethnic strife, political factionalism, and other causes (Rice and Rice 2004:137–139). Central Peten was a crossroads as well as a center in the transition between the Classic and Postclassic, with populations flowing in and out (Rice and Rice 2004:125–126). In the Late Classic period there was population movement out of the Peten, especially Tikal, probably to the northern lowlands, taking with them Peten-style architectural and iconographic traits (Rice and Rice 2004:130). The Peten lakes region saw a decline in population during this time, but not abandonment, and in the Terminal Classic there was migration back into the central Peten from the northern lowlands, the Pasion region, and possibly the Gulf Coast (Rice and Rice 2004:130).



Figure 2.1 Map of the Maya region highlighting the areas and sites mentioned in the text (adapted from Sharer 2006:24).

In the Terminal Classic (tenth and eleventh centuries) some new settlements were founded in marginal areas of the Peten lakes region, which had been previously unoccupied in the Classic period (Rice and Rice 2004:132). These included low square-to-rectangular masonry platforms supporting a perishable or masonry superstructure (Rice and Rice 2004:131): structures have a masonry back wall and an open front, and feature either one or two side walls—with or without benches—resulting in a characteristic L or C-shaped structure (known earlier in the Petexbatun in the eight century). The source of this non-Maya architectural style in these new settlements is unknown, but aside from possible relations with Petexbatun located to the southwest, evidence for movements from north to south include links to the Puuc region in the Yucatan, as evidenced by a large Chichen-Itza-like ballcourt at the site of Nixtun Ch'ich', reflecting influence or in-migration (Rice and Rice 2004:132–133). Later in the Postclassic, variations of the C-shaped architectural structure are seen in different areas the Maya region, including several sites around Lake Peten Itza. The C-shaped structures share features with Terminal Classic non-Maya construction in the Petexbatun region, at Seibal, in the Chontalpa (Chontal Maya) region of modern-day Tabasco, Mexico, and in the Guatemalan highlands. To the northeast, in Yucatan, similar structures and architectural complexes are seen at Chichen Itza, and at the later Postclassic sites of Cozumel and Mayapan (Rice and Rice 2004:132). Associated ceramics suggest migrants or refugees from the Petexbatun or Rio Pasion regions. Evidence in the Peten lakes area suggests a calendar-based form of political organization, which was also seen in the Postclassic and Colonial northern Lowlands, which I have discussed above as the *may* model of political organization. The evidence for the movement of migrants presented here suggests there may be both movements from north to south, and from south to north, but the absence

of specific chronological information as to when these architectural features made their appearance at each site leaves some question as to the sequence of events. What is clear is there is considerable population movement in the Maya region by the Terminal Classic period.

The Terminal Classic in the Peten lakes area has been referred to by Rice and Rice (2004:136) as the “Transformational Classic,” due to the continuity and change exhibited between the Classic and Postclassic. This is where it is possible to see the beginnings of Postclassic development from the vantage of the Terminal Classic. They make the important point that although the system of divine kingship and Long Count dating ceased, parts of the Classic period political-religious organization did not. Elements of the Classic period system that continued include “calendrics, cosmovision, shared architectural programs, period ending rituals, as well as calendrically based political organization based on celebration of *k’atun* and *may* cycles.” (Rice and Rice 2004:136), and these are in evidence at Postclassic Mayapan.

Rice and Rice (2004) note distinct east-west traditions in ceramics and other material culture between the eastern (vicinity of Lake Peten Itza) and western (vicinity of Lake Yaxha) extent of the Peten lakes region during the Terminal and Postclassic periods, with overlap such that it is difficult to assign chronology. They refer to this differentiation which shows up in other material forms as well, as discussed above, as an east-west ethno-political or ethno-social differentiation, which they postulate may be due to the influence of two distinct groups of people living in the region. This east-west divisioning was also seen in the northern Yucatan and in the southern lowlands, and may have similarly persisted for seven centuries—originating in the Terminal Classic and persisting through the Postclassic. In the

northern lowlands Postclassic and Colonial periods “sociopolitical relations in the region were polarized into two broad regional divisions, largely based on elite lineages and lineage groups: the Xiw in the west and the Kokom-Itza in the east”, each with their own histories, systems and networks (Rice and Rice 2004:127).

Foreign Invasion Model

The unusual iconographic features noted for sites in the Peten during the Terminal Classic have generated a model of foreign invasion. These are seen in the Peten lakes area discussed above, but the site of Seibal is frequently used as an example. At Seibal and other sites, Terminal Classic stelae take on new shapes, depict individuals with non-Classic Maya features and costumes, glyphs take an unusual squared form, and simply-dressed figures are depicted as conversing (Rice and Rice 2004:133). The foreign style of the Seibal stelae—with late dates—coupled with the presence of fine-paste pottery (i.e. Fine Orange and Fine Grey), led a number of archaeologists to postulate the invasion and conquest of Seibal (and Altar de Sacrificios) by a group of Mexicans or Mexicanized Maya (Foias and Bishop 1997:277; Tourtellot and Gonzalez 2004:60–82).

More recently Tourtellot and Gonzalez (2004:60–82) have reevaluated these claims of foreign invasion at Seibal in light of much new evidence accumulated in the decades since the Seibal Archaeological Project (1964–1968). They argue against foreign invasion and conclude that the unusual sculpture does not support foreign conquest. They suggest rather, that many of the foreign traits at Seibal are gross diagnostics of the Terminal Classic (Tourtellot and Gonzalez 2004:69). Material culture there may be experimental, reflecting diverse inspiration—new is not necessarily foreign, although foreign influences are possible in some architectural constructions, such as the ballcourt. Other elite architecture may

suggest that one of the late rulers, *Wat'ul*, was turning away from divine kingship to councilor rule with a more diverse governing body (Tourtellot and Gonzalez 2004:72–73). Internal processes in the Late Classic may have led people to seek an alternative form of government and religion (Tourtellot and Gonzalez 2004:79). Changes in the nature of religious practice have been noted for Late to Terminal Classic Maya, with commoners increasingly engaging in their own forms of personal worship. These new perspectives regarding the relationship between the Maya and gods or supernatural beings, and death (as reflected in a change in burial practices) may have originated from different cultural or ethnic groups for whom the rules of warfare were different (Graham et al. 2013:177). Although the early foreign invasion model has been largely discredited, it is receiving something of a comeback with some new evidence, such as a change in the lithic technology and weapon types that appear at Seibal and Aguateca in the Terminal Classic (Aoyama and Graham 2016). There was an increase in the use of atlatl darts, as well as bows and arrows, and this is seen as a change in the rules of warfare that went from hand-to-hand combat, often for the purpose of captive-taking, to killing. Rather than a foreign invasion there appears to be “an ‘infiltration’ of some important Maya cities—probably carefully chosen—by people whose culture had roots outside the lowlands” and this may represent warriors coming into the Maya area (Aoyama and Graham 2016; Elizabeth Graham, personal communication 2016).

The difference between the two models above—Migrations and Foreign Invasion—although they appear to exhibit similar characteristics in the archaeological record typically presented, is that the first model is suggesting migrations of foreign people seeking refuge, whereas the second model implies foreign military conquest and takeover, or a type of infiltration through the route of warfare. Both could result in the emulation of a broader

shared architectural style, but brought in through different types of groups. Admittedly, both are forms of migration, but with different motives.

The Spread of the Cult of Quetzalcoatl (Kukulcan or the Feathered Serpent) Model

Seen as a departure from the ideology of divine kingship, the cult of Quetzalcoatl, or feathered serpent, is argued by Ringle (2004:167) to be “a set of imagery, beliefs, and practices associated with an ideology of leadership” in which the investiture of client elites was key, and which had a specific military aspect. This Quetzalcoatl cult may have been present in Mesoamerica from the time of Teotihuacan onward and is demonstrated to be a long-lived and widespread tradition of leadership. Recent excavations at Chichen Itza have changed the previously understood dating of Chichen Itza, suggesting its prominence between A.D. 800–1000 (Bey and Ringle 2007; Braswell and May 2012). It is during this time that Chichen Itza was the Yucatec capital, centered on the cult of Quetzalcoatl, which through the investiture of client elites was able to gain “a loose but extensive network of political alliances expressed through religious hegemony” (Ringle 2004:213). Participation in the cult of Quetzalcoatl linked Chichen Itza with the larger Mesoamerican world.

At Chichen Itza there is an absence of imagery pertaining to a paramount ruler, the inscriptions are not that of a conventional dynastic history, and instead there is great emphasis placed on processions and assemblies (Ringle 2004:167–68). Rulership was subdivided, probably with some form of dual-rulership in place. Ringle sees it as overall having elements of monarchical, councilor, and dual rule, but none operating in their fullest extent. As Ringle (2004:213) puts it,

Councils were certainly a central feature of the rulership of Chichen but were probably under the direction of a central leader or a pair of leaders. Dualism was also present, but it was expressed asymmetrically, with the political leader having primacy

as a war captain. And the paramount does not seem to have enjoyed the autocratic powers characteristic of the southern lowlands dynasts.

The worship of Quetzalcoatl was associated with Mesoamerican leadership and cult centers were the arenas for investiture of leaders wanting to be associated with the cult. Through investiture an extensive network of political alliances was forged—expressed through religious hegemony—which was an extensive and long lived (Ringle 2004:213).

Although signs of militarism abound in the iconography at Chichen Itza, control by force does not explain why non-Maya ties appear to be so strong, nor does it explain its distinct urban plan. The vast size of its empire was noted in historical sources, but yet an empire of this size would be difficult to control and to administer directly. A political organization based on religious hegemony might explain this, as “cult sanctions may have formed the basis for a powerful network of potential military alliances” (Ringle 2004:213). Such a wide network of ties would have enhanced Chichen Itza’s role in Mesoamerican trade, spreading new trade goods, stylistic traits, and ritual ideas across the region. This may account for the foreign influence seen in sites at a great distance from the capital city of Chichen Itza, in which actual foreign presence was either limited or non-existent, i.e., no enclaves, yet ideas and material goods—although often imitations—were present. After the fall of Chichen Itza, Mayapán continued to engage in the cult of Quetzalcoatl and this flow of goods and information through political and economic ties. Ringle (2004:213) suggests this model of political organization in which major cities served as “centers of legitimation for large hinterlands” may have been present for a long duration in Mesoamerican prehistory and is an alternative to models of military conquest, elite emulation, or trade.

The Mercantile Model

Increased commercialization and economic reorganization was once offered as an explanation of collapse, and although it may be more of an argument that trade increased rather than an explanation of collapse, it suggests that priorities changed, or that trade was a response or solution to collapse. If priorities changed, this must surely reflect some degree of ideological change in all levels of society. If things went from being finely crafted to mass produced there is a change in attitude. Aside from portable material culture, this could also be reflected in architecture and many scholars have noted expedient construction methods in the Late to Terminal Classic (Andres and Pierce 2015:77).

At the end of the Late Classic and in the Terminal Classic the scale of production and exchange increased as commercialization took hold (Foias and Bishop 1997:277). The economy was becoming increasingly complex with the production and distribution of both raw materials and finished goods rapidly expanding (Sabloff and Rathje 1975:77). The non-elite population had an increased standard of living and had wider access to a variety of goods due to changes in the system of long-distance trade. In this age of mass production, Sabloff and Rathje (1975:77) proposed that “as religious authority became decentralized the developing market economy provided something to take its place: a mercantile authority.” If goods cut across social strata it argues against elite economic control and suggests that elites were adapting their ideological system to accommodate a diverse, changing, and interacting population (Demarest 2013:377).

Loss of Trust: Too Big and Failed

Charles Golden and Andrew Scherer (2013) have proposed a model of collapse based on the historical particulars of the kingdom of Piedras Negras and Yaxchilan. Their thesis is that the same political processes that created and upheld the system of dynastic power also led to its collapse. The dynastic capital of a kingdom was initially the place where the population was concentrated and people engaged in daily spheres of interaction “that facilitated trust building among its residents” (Golden and Scherer 2013:397). The king was the focus of the polity, with the residents engaged in community activities such as feasting, construction, and warfare which “nurtured trust in society as a whole, strengthening the polity” (Golden and Scherer 2013:397). During the Classic period the population and polity territory expanded, diffusing the spheres of interaction that had once been a regular occurrence between the residents and the king’s court. Elites outside of the king and his court, living in territory outside of the dynastic capital, now held positions of authority and were charged with this trust-building. This degree of separation from the king and his court resulted in the breakdown of uniform trust in the polity and ultimately in the failure of dynastic polities.

This model is similar to a failure of moral authority. Trust “has already been explored to some degree, using different terminology, in the concept of moral authority within Maya polities” (Golden and Scherer 2013:403). The system was creaking and the result was an “irrevocable failure of the system of governance” (Golden and Scherer 2013:417). In this model, the king was the central authority and the institution of kingship was the principal integrative mechanism for the polity, but “[o]nce this system abruptly unraveled, most inhabitants saw little incentive to try to pick up the pieces” (Manahan in Golden and Scherer

2013:425). Golden and Scherer (2013:429) conclude that “[t]he kingdoms of the Classic period emerged from the daily practice of kings and commoners, queens and peasants, and the practice and principles of dynastic kingship were eventually abandoned by elites and non-elites alike.”

Lamanai Survives the Collapse

Events of the Maya collapse took place during an extended period of time from about A.D. 750 to 1050 (Rice et al. 2004:2). Dynasties ended, but societies continued. This is seen at Lamanai too, but the evidence is more gradual (Elizabeth Graham personal communication, 2016). During the Late to Terminal Classic period Lamanai exhibited continuity with earlier periods, but changes were also afoot, with new forms of material culture—different types of construction programs, new ceramic styles, and new lithic technology. This was happening at other sites as well, but by the end of the Terminal Classic period many of those sites were abandoned while Lamanai continued to be occupied. At Lamanai different burial practices co-existed in the Terminal Classic, but by the Postclassic a face-down burial practice distinct from that of the Classic period is significant in that it suggests changes in worldview through an intrusion of ideas and/or people and a new way of orienting oneself in the cosmos (Graham et al. 2013:174–176). These types of changes were likely to have affected changes in Lamanai’s political system. Systems of power-sharing strategies arise at a number of sites in the Terminal Classic period, including Puuc centers in northern Yucatan, where they were also experimenting with “new Mexican religious ideologies,” both of which may have played a role in the survival of some Maya communities (Demarest et al. 2004:560, 572). With this type of power-sharing comes greater public accessibility to administrative structures as seen in examples from Copan, Ek Balam, and

Chau Hiix with the Terminal Classic appearance of open council houses that presumably served various members (Andres 2009). Sources for these new ideas and associated building forms, such as council houses, are debated, but influence from northern Yucatan or areas of what is now modern-day Mexico has been postulated. The examination of the N10[3] architectural modifications may suggest a non-local influence and an evolving change towards more open and public-oriented spaces for group administrative activities.

The people of Lamanai carried on through this time of transition and although likely to have long been active in trade due to its riverine location, in the Postclassic Lamanai was part of a more robust system of commerce and trade. It is postulated that a stable resource base had long been present and operated outside of elite control or operated in conjunction with elites (Graham 2006:122). During the time of the Maya collapse, apparently unaffected by environmental issues, Lamanai is thought to have undergone political change and hierarchical shifts, accompanied by a change in cultural values (Graham 2006). Were the seeds of these changes, highlighted above, sown earlier than previously thought?

Given this framework, the primary research question of this thesis is: Do changing architectural and caching features of Structure N10-15 at the centrally located N10[3] architectural group reflect ideological changes at Lamanai during the Late to Terminal Classic Period that relate to Lamanai's subsequent survival of the collapse?

CHAPTER III

CONTEXT AND CHRONOLOGY

The Maya area is a major cultural and environmental division situated within the broader region of Mesoamerica. In this chapter, I provide background information for readers unfamiliar with Mesoamerica and the Maya region, and the cultural setting and chronology. This is followed by a description of the geographical and environmental context of the study area. I then briefly introduce the Prehispanic cultural setting of northern Belize in order to situate the site of Lamanai in relation to its neighbors. Modern concerns intersect with archaeological research and I discuss some of these issues relevant to Lamanai.

After providing the regional context, I turn to the Lamanai site, providing an introduction to its varied cultural occupations and an overview of the research that has been carried out at Lamanai by a number of specialists. Advances in archaeological methods, additional excavations, and more refined ceramic sequences are impacting the previously understood culture histories of many sites, so a brief discussion of dating and chronology grounds the remaining discussion. This is followed by a more detailed description of the site and a summary of archaeological investigations conducted over the past 42 years by David Pendergast and Elizabeth Graham and their respective teams of researchers. The Ottawa Group is introduced and I then discuss Ottawa Structure N10-15 more specifically. Following this is a summary of the architectural context at Lamanai. A discussion of Maya caches and ritual practices associated with caching ensues, and finally patterns of caching at Lamanai are presented in order to provide a background for the analysis that follows in Chapter VI.

Regional Context: Introduction to the Region and Culture

The summary of the culture, region, and chronology presented below provides a very general framework for situating my thesis research in the broad spatial and temporal context of Mesoamerica and Maya civilization. There are many books that synthesize decades of research in the Maya area and provide this foundational information in greater detail. The summaries that follow are drawn from the 6th edition of *The Ancient Maya* authored by Robert Sharer with Loa Traxler (2006), *Ancient Maya* by Arthur Demarest (2004), Michael Coe and Stephen Houston *The Maya*, 9th edition (2015), and *The Ancient Maya: New Perspectives* by Heather McKillop (2004). The second edition of *Chronicle of Maya Kings and Queens* by Simon Martin and Nikolai Grube (2008) looks at Classic Period divine kingship through hieroglyphic inscriptions and presents a historic record of kings, queens and Maya cities. One can see through the number of editions of several of these books that Maya research is constantly evolving.

Mesoamerica

Mesoamerica is a geographical area consisting of parts of the modern-day countries of Belize, Mexico, Guatemala, western Honduras and El Salvador that in ancient times (ca. 1500B.C. [and earlier] to A.D.1519 [and beyond]) was occupied by a variety of cultural groups who shared similar culture traits and features, such as a pan-Mesoamerican cosmological worldview, as well as common architectural, artistic, technological, and other traits, and who were interacting in different ways for several millennia. The physical boundaries shifted over time and anthropologists debate its extent. It is considered one of the areas in the world where complex society is understood to have emerged independently with

the development of writing, a numeric system, calendrics, agriculture, cities, and monumental architectural.

The Maya Region

Within Mesoamerica, the Maya region is one of the major cultural areas. The Maya region has traditionally been divided into two broad zones, the lowlands in the northeastern part of the region and the highlands in the southwest area (Figure 3.1). The “Maya lowlands” roughly extends from the Peten region of northeastern Guatemala and the area of Mexico to the north, and east to the Yucatan Peninsula, Belize, and western Honduras (Demarest 2004:1–3). This is further divided into the *northern* Maya lowlands, generally considered to be the Yucatan peninsula, and the *southern* Maya lowlands, which is Belize, the Peten area of Guatemala, the Chiapas area of Mexico, and part of Honduras. Some scholars further subdivide this to add the *central* Lowlands in between the northern and southern Lowlands.

Maya Chronology

A system of assigning chronological periods for Maya development was devised by archaeologists to provide both blocks of time for description and to define stages of development. As with defining regional land boundaries, there is some debate about the assignment of time periods, and as they are somewhat arbitrary they are presented differently by different scholars, but in general and for purposes of putting the time period of this study—the Late to Terminal Classic—into context, the following time periods are described based on syntheses that are found in several of the books mentioned above. Note that each of these periods are often further subdivided and that in reality these time periods represent a continuum of development and changes in the Maya world. There was no abrupt date of commencement or cessation of the cultural features described for each time period. As a

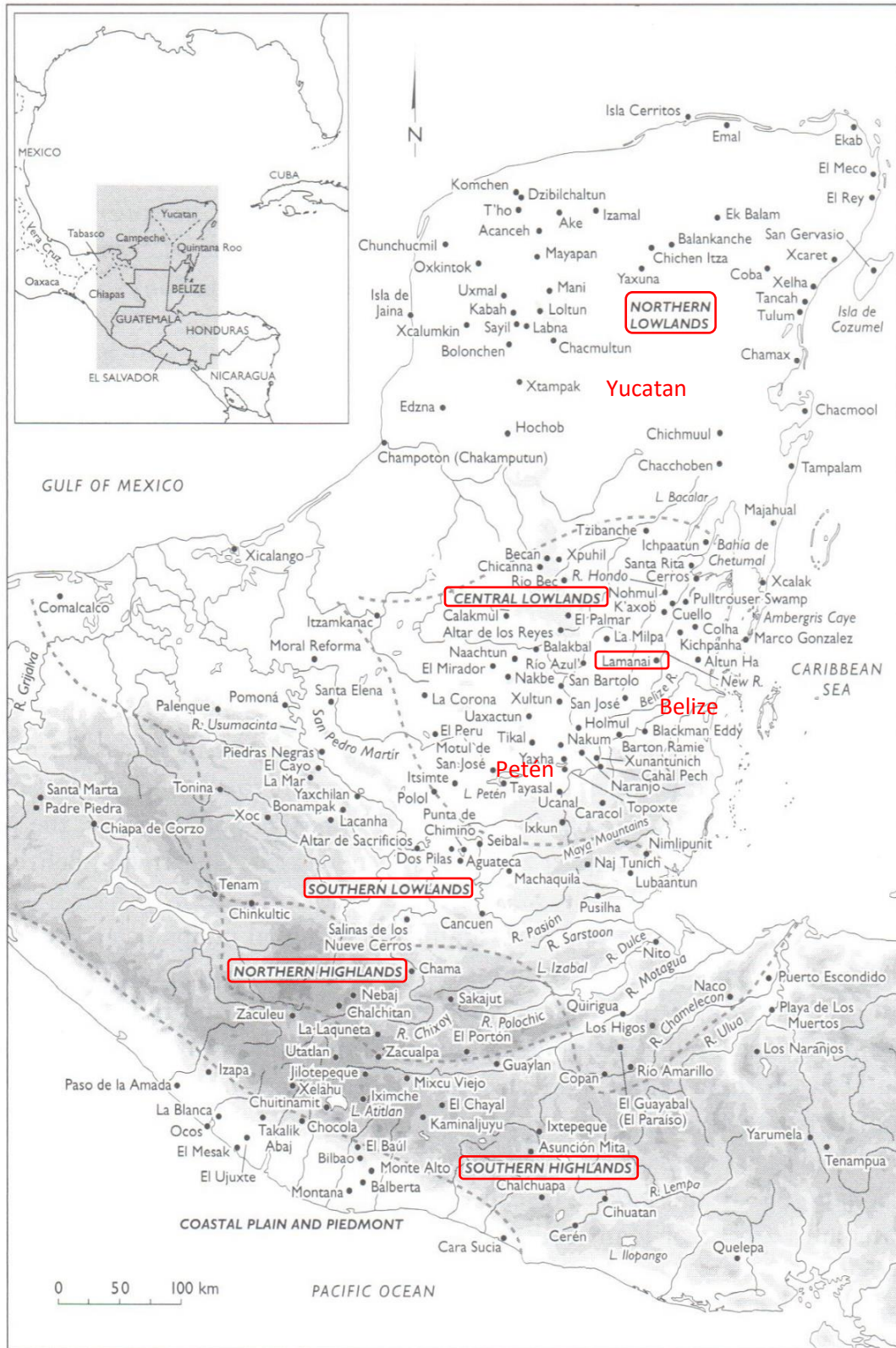


Figure 3.1. Map of the Maya area, showing principal archaeological sites, major river, and generalized environmental-cultural subdivisions (adapted from Sharer 2006:24).

general guide these are the four broad periods and dates: Preclassic/Formative (ca. 2000 B.C.–A.D. 250), Classic (A.D. 250–900), and Postclassic (A.D. 900–1500) (Sharer 1994:45–48). Recent research has revealed greater chronological variation in all stages, with the Terminal Classic dates now extending from A.D. 750–1050 (Demarest et al. 2004:8). Specific information on the Lamanai chronology follows in the section on Lamanai site context.

Geographic Location of Lamanai

The Maya site of Lamanai is located in the Orange Walk District of northern Belize, approximately 45 km inland from Belize's east coast on the Caribbean Sea (Figure 3.2). The site is strung out along the northwestern margin of a spring-fed freshwater lake called the New River Lagoon, known to the ancient Maya as the Dzuluinicob, "or river of the "Foreign Men" (Loten 1985:85). Just north of Lamanai's Central Precinct the lagoon flows into the mouth of the New River which continues northward to meet the Chetumal Bay of the Caribbean Sea near the modern day town of Corozal. Travelling via the New River it is roughly 80 kilometers from Lamanai to the sea, making the site easily positioned for water borne trade. The lagoon extends from the headwaters of the New River south approximately 23 km where it ends. Ethnohistoric accounts suggest there was an overland trail running north-south from the southern end of the lagoon connecting it to the Belize River (Harrison-Buck et al. 2013:77). The site is naturally bounded by the lagoon on its eastern edge and Barber Creek on the northern edge, near where the mouth of the New River is located. North of Barber Creek is an area of prehispanic raised fields for agriculture. The western and southern limits of the site are not well defined. Occupation has been noted further south along the lagoon, with Lamanai South located approximately 3 km south of the Lamanai

Spanish churches (Howard and Graham 1998). In between lies the present day village of Indian Church with obvious ancient mounds—some with modern houses perched atop them.

In 1976 the 950 acre Lamanai Archaeological Reserve was created as a cultural and natural reserve devoted to conservation and research, and intended to protect both the site and the flora and fauna within its environs (Powis 2002:52–53).

The Modern Physical Environment

In the Maya lowlands there is a great diversity of environmental settings. Geologically the landscape has a similar composition, but biotic and physiographic characteristics vary greatly, which contributed to both climatic variation and provided for a wide range of resources for the ancient Maya. Thus resources vary throughout the lowlands and not all lowland resources commonly relied upon by the Maya are locally available (Graham 1987b; Graham 2002:403).

Most of the terrain in northern Belize is flat-lying low relief coastal plain, so has no mountains and few caves. In north-western Belize the rising Rio Bravo Escarpment is the start of the Peten karst plateau that extends west into Guatemala. Water is a predominant natural feature consisting of lagoons, rivers, upland *bajos* (intermittently wet environments), perennially wet coastal plains (Beach et al. 2009), and the Caribbean Sea. The coastal area is dominated by mangrove and swamp. Moving further inland, the New River Lagoon (Figure 3.3), where Lamanai is located, is a freshwater body approximately 35 km long with an average width of 1 km, by 10 m deep (Metcalf et al. 2009:628). It is approximately 1.5 meters above sea level (Powis 2002:48). The lagoon is an open system and is approximately 60 km from the estuary. In prehistoric times these waterways were major channels of transportation and communication in the rainforest environment and they provided a wide

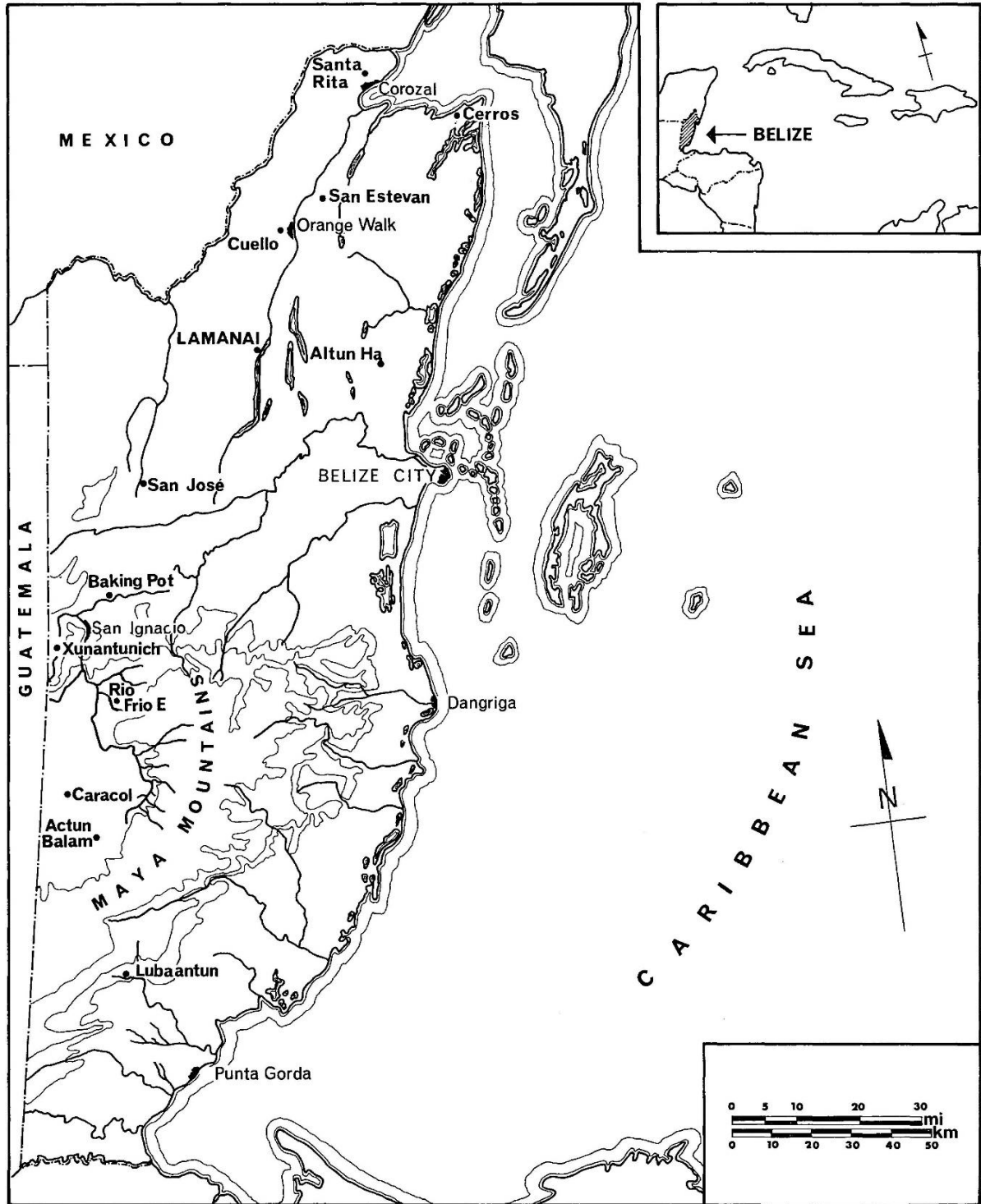


Figure 3.2. Map of Belize, showing Lamanai, selected other archaeological sites, and modern settlements (Pendergast 1981:30).



Figure 3.3. Aerial view of Lamanai, located at the western shore of the New River Lagoon, with the modern village of Indian Church at south (image from Google Earth).

variety of aquatic resources, including fish, turtle, crocodile and shellfish (Graham and Pendergast 1989; Pendergast 1992).

The area around Lamanai is categorized as a Dry Tropical Lowland zone (Wright et al. 1959) where the vegetation comprises lowland savannah to the east side of the reed-fringed lagoon, and broadleaf deciduous or semi-evergreen tropical forest on the west side, on significantly higher ground (Lambert and Arnason 1978:34; Metcalfe et al. 2009:629).

The short-grass savanna has scattered needle-leaved trees, including *Pinus caribaea* (Rushton et al. 2013:487). Just west of Lamanai are Cohune Ridge zones, which soil studies

have shown to be highly productive agricultural land (Lambert and Arnason 1978:38). Soils and associated vegetational assemblages of the northern Belize region have been discussed by Hammond et al. (1985a), Lambert and Arnason (1978), Pendergast (1979), and Rushton et al. (2013).

The modern climate of northern Belize is defined as seasonally dry tropical, which has a distinct wet and dry season, receiving an annual average rainfall of 1520–2030 mm, with January through May typically the dry months. Belize is subject to hurricanes and tropical storms that can inundate much of the land in a day, halting all terrestrial travel. Believe me, I know from experience (Figure 3.4).



Figure 3.4. Driving (?) my submarine on the road from Lamanai to Orange Walk after a night of heavy rain (photo by Karen Pierce, May 31, 2012).

The Ancient Environment

Recent palaeoenvironmental research conducted at two locations in the New River Lagoon (NRL)—Lamanai and Hillbank (on the southern end)—focused on environmental changes that affected those sites during the Maya occupation of the region during the Holocene (Metcalf et al. 2009). Core samples taken from the New River Lagoon represent the longest and most detailed palaeolimnological record from Belize yet produced (Metcalf et al. 2009:640). These core samples, extracted in 1999 and 2000 have been analyzed using a range of palaeolimnological proxies to reconstruct change since the late Pleistocene. The results indicate that there was a stable and moist climate in the mid-Holocene, as elsewhere in the region, with greater variability in the late-Holocene, “but there is no clear evidence of any drying in the late Classic coincident with the Maya ‘collapse’ ca. A.D. 900” (Metcalf et al. 2009:627). This reinforces the increasingly recognized spatial and temporal variability of the late Classic dry period. In addition to other factors suggested by Pendergast (1992), continuity of occupation at Lamanai may have been bolstered because those who lived along the shores of the New River Lagoon were able to benefit from a reliable water source, as the lagoon was such a large body of water that it was little impacted by climatic variations over the Holocene (Metcalf et al. 2009:640). Pertinent to this thesis, Metcalf et al. (2009:639) posit a change in certain proxies, which include fossil diatom assemblages, in their study may reflect the end of Classic Period construction at Lamanai at A.D. 700.

Rushton et al. (2013) undertook palaeoecological studies using new pollen and charcoal records from the above-mentioned core sample to document the nature of vegetation change near Lamanai during the 3000 year period of Maya occupation and to explore the

impact the population had on “the floristic composition of the landscape, in particular the arboreal resources” (Rushton et al. 2013:485).

Zea maize and *Cucurbita sp.* were present beginning at 1630 B.C. (Rushton et al. 2013:490), along with a maize offertory deposit in the northern “harbor” area which was dated to 1500 B.C. (Pendergast 1998:56). This is indicative of an early Preclassic occupation at Lamanai, where the *Zea maize* signal remained clear and present throughout the record.

Pinus (pine) was used by the Maya for construction, and for fuel, which was especially needed to produce lime plaster and stucco. *Pinus* is also found carbonized in offerings at Lamanai. Rushton et al. (2013:490) identified periods where *Pinus* was greatly reduced (170 B.C.–A.D. 150) or completely absent (A.D. 600–980), which they correlate with both the archaeological record of periods of construction at Lamanai, and with the palaeolimnological evidence for increased erosion from the NRL catchment at this time to suggest that *Pinus* can be used as a proxy for construction. Consequently, they identify three periods of construction at Lamanai—in the Preclassic, Late Classic, and early Spanish Colonial Period. There is also some evidence of palm cultivation with an increase in the palm signal in the Early Preclassic and again from 100 B.C.–A.D. 1100, when the palm pollen signal is much higher (5–20% for the latter period), which could be due to cultivation or land clearance for settlement (Rushton et al. 2013:491). Palms are present in the modern pollen assemblage at Lamanai at low levels (1%): the present day forest cover includes *Acrocomia aculeata* and *Attalea cohune* (Rushton et al. 2013:492). *Acrocomia* fruit is used to extract oil and produce palm wine (Steven Bozarth, personal communication 2015). I have observed modern day use of the nuts of the *Attalea cohune* palm used as fuel, so perhaps the ancient Maya did the same. Both carbonized pine and palm are present in several caches at Structure

N10-15 at Lamanai. The authors conclude that the palaeolimnological, palaeoecological, and archaeological records from Lamanai do not indicate any period of climatic drying such as those associated with the Collapse in other areas (Rushton et al. 2013:492).

The Prehispanic Cultural Setting of Northern Belize

In Precolumbian times Northern Belize had a number of significantly sized Maya settlements, although many are referred to as second order sites (Figure 3.5). Lamanai and Nohmul stand out as the largest. Many Northern Belize sites transitioned from the Classic to the Postclassic (e.g., Andres and Pyburn 2004; Chase 1990; Pendergast 1990a:172). Sites in northern Belize that have been intensively investigated include Altun Ha (Pendergast 1982c, 1983, 1990), Blue Creek (Guderjan 2003), Chau Hiix (Andres and Pyburn 2004), Cerros (Freidel 1986), Colha, Cuello, Ka'Kabish (Haines 2011), Lamanai (Pendergast 1981a; Graham 2004), Nohmul (Hammond et al. 1985a, 1985b), and Santa Rita (Chase 1990). Modern day political boundaries sometimes obscure sites located across the Belize border, in either Mexico or Guatemala, that are actually in close proximity to many of the aforementioned sites in northern Belize.

Based on the distribution of different types of site plans, Houk (2000:155) has suggested that during the Late Classic there is a cultural boundary in northern Belize sites. Located in the Three River Region, this boundary falls along the Rio Bravo Escarpment where there is a change in the natural terrain. Guderjan et al. (2003:14–15) note that both archaeological and ethnohistoric data reflect a cultural as well as physiographic transition along the Rio Bravo escarpment, dividing the eastern Peten zone and the coastal Belize zone into distinct cultural zones. The medium-sized center of Blue Creek lies at this junction.



Figure 3.5. Map of key Maya sites in Northern Belize, Mexico, and Guatemala showing approximate locations (map created by Brittany Johnson using archaeological site data from the University of Florida, the Paseo Pantera Consortium, and the US Agency for International Development).

Further east, there is a clear link between the site of Chau Hiix with Altun Ha in the Classic Period and with Lamanai in the Terminal Classic (Andres 2009:2) and additional investigations focused on detailed comparison of these site plans with other sites in the

northeastern Belize region may reveal other clusters with site planning similarities that could potentially indicate cultural boundaries, possibly associated with features of the natural terrain. Sites oriented toward waterways could be different than other inland sites (Elizabeth Graham, personal communication 2011).

Northern Belize has several interlinked rivers and lagoons that connect to the sea with four major rivers: the Rio Hondo, the New River, Freshwater Creek, and the Northern River. Similarities in artifact assemblages may imply that inland sites are aligned with a coastal site, suggesting that the coastal sites—mainland or offshore—were seaports and trade centers for the larger sites located inland. One example of site partnerships documented in northern Belize is Lamanai and Marco Gonzalez (Graham and Pendergast 1989:15).

Modern Concerns

There are several modern-day issues that do not tie directly to this research, but have a bearing on research investigations pertaining to the site of Lamanai, as well as many other archaeological sites. They are worth a brief discussion here because these important issues often do not get attention in academic publications, and therefore are not always taken into consideration by scholars or the general public. As archaeologists, we are concerned with the past yet we conduct our research in the present and therefore must engage with the modern social contexts in which we work. There are relevant contemporary issues—both at home and in the host countries where we conduct our research—that affect archaeological research, as well as associated archaeological sites and resources.

We have only the fragmented physical remains of past people's lives to use in our study of the past. In some areas of the world, what remains is further reduced because climatic conditions that do not allow for the preservation of perishable materials, and this is

certainly the case at Lamanai and in much of the Maya area. Another factor that shapes our interpretations is that our data results from excavations that will always be partial, such that our understandings are based on where one excavates and what is preserved there.

Additionally, the lived experiences of people and their thoughts are elusive. We interpret material culture, hieroglyphic texts, and other scientific data to construct a story about the past. In doing so we each bring in our own experiences, methods, and theoretical concerns, so that our story is just one of many possible stories, as the past can be interpreted in multiple ways by different archaeologists.

Many questions arise about our endeavors to understand the past. My considerations are situated in the context of Lamanai and architectural excavations there. When we excavate we destroy the evidence, so it is critical that we undertake research in the best manner possible. What should be left exposed? How will the buildings be preserved? How does our presence affect the local community and what responsibility do we have to the community? What is our responsibility to tourists who visit our site? How can we make our research more available—and understandable—to a wide variety of people? How will our interpretations be received by descendants of the culture we study? Will interpretations be contested? Who should have access to our research and the material culture that is excavated? I believe we have a responsibility to meticulously record and share our data, and to make available the material culture that is retrieved from our excavations. In many cases this is easier said than done. There are many other issues that intersect with archaeological research, which I discuss below.

Central America has long been affected by political conflict and unrest, and although modern Belize as a country has not been impacted directly by civil war, the effects of it are

felt in Belize, especially through the migration of impoverished and displaced Maya and other indigenous people coming into Belize from neighboring Central American countries.

Near the Maya site of Lamanai are two small villages—Indian Church and San Carlos—the populations of both largely comprise Guatemalan refugees of Maya and Mestizo descent, who started arriving in the late 1970s and 1980s, mainly driven from their homeland by the civil war and drawn to Belize to escape this and with the promise of unregulated empty land in which they could engage in subsistence farming and marijuana cultivation. No modern-era villages were located here prior to their arrival, and upon first reaching this destination they built wattle and daub houses on the present day site of Lamanai—a locale that was generally known in Belize as Indian Church. This name, apparently coined in the early 19th century owing to the presence of two churches on site, is what the ruins of Lamanai were called before the recorded ancient name was discovered in Spain and it still appears today on some Belize maps (Pendergast 1981a:31). The presence of a squatter village at Lamanai had an impact on the archaeological investigations in the early 1980s and Pendergast (1985b:1) humorously remarks:

It is hard, when one is mucking through Mexican beer tins, plastic bags, old shoes, and hundreds of rum bottles, to see the material as potential grist for some future archaeologist's mill. Still, we have pondered the tale that such garbage has to tell at Lamanai, and have even wondered about developing a sequence of Early Plastic I / Cerveza Modelo / Early Plastic II / Neoplastic Running-shoe and so forth. Extensive olfactorial sensory modal regression analysis permitted us to suggest that a huge sample of pig and chicken droppings was part of the latest occupation phase, and observation of numerous domestic creatures roaming about the houses clustered south of Lamanai's centre appeared to confirm our hypothesis. The garbage and the houses actually threatened to prevent the putting in place of one of the last major pieces of the Lamanai puzzle and indeed made us fear that we might not be able to remain at the site at all.

The Belize government relocated these refugees just past the southern boundary of the Lamanai Reserve and today the village of Indian Church has approximately 60 families, with

a total population of about 300 people. Life has improved for these families in part due to tourism and archaeology at the Lamanai site. Although the village is still without electricity, in the past 10–15 years most of the houses have been rebuilt, switching from wattle and daub to masonry block construction. The village has a primary school, a library, and a number of churches. Many villagers are employed locally at the tourist lodge, the women’s cooperative restaurant, or provide day labor for Mennonite farmers, and a few work at the Lamanai Archaeological Reserve. San Carlos village, about 5 km further south, is of similar size and condition.

There are many villages throughout Belize that have been formed by migrants immigrating from Guatemala and El Salvador to Belize and each has their own particular history and identity. Although it would be easy to identify the residents of Indian Church Village as indigenous people, this is a difficult category to apply both because of their immigrant status, and that they are not all of ‘pure’ Maya heritage. Because of racial prejudice and oppression, some may elect to reject these identities altogether.

Archaeological Looting

The issue of conserving the world’s archaeological heritage is a topic of great concern to archaeologists and other students of the human past (Brodie 2006; Brodie and Renfrew 2005:344). Aside from natural factors that destroy material remains, such as erosion and inundation, human caused destruction also occurs through agricultural activities, mining, urban development, road construction, and through the purposeful targeted looting of archaeology sites and historic buildings.

Artifacts and cultural heritage are protected by a host of national and international laws and regulations, but despite this, the illegal antiquities market persists and every year

results in the destruction and theft of valuable cultural history across the world (Proulx 2013). The illicit market for antiquities has a detrimental effect on academic research (Levine and Luna 2013), the cultural heritage of native populations, the destruction of tourist economies, and the shared world history of humankind. Studies have pointed to the theft of cultural property being driven both by the economic needs of local marginalized populations and by the desire for cultural capital by collectors. Laws and regulations have been enacted in many countries, including Belize, and anti-looting campaigns have been mounted to try to reduce the destruction of archaeological sites, yet many of these measures appear to do little to reduce the collection of and trade in antiquities. In remote rural areas that are rich with archaeological sites the collecting of artifacts can be a particular problem, and in this (getting less) remote region of northern Belize, unprotected sites have been heavily looted (see Pendergast 1991b).

Archaeologists have long argued against artifact collecting and looting because it destroys the context needed for the object to have stratigraphic meaning related to the archaeological record, but perhaps as a result of the postmodern concern that recognized the political nature of archaeology and the call for the incorporation of multiple voices, some archaeologists and cultural anthropologists began to consider the reasons for looting and the conditions surrounding the “subsistence digger” (Matsuda 1998, Pendergast 1991b). Still there is a range of attitudes among archaeologists towards this type of looting that spans from empathy to vilification (Bauer 2007; Hollowell 2006:70; Tubb 2006). Other ethical issues debated by archaeologists, anthropologists and others include the ownership of cultural objects and their commodification. Who do these objects belong to—individuals, cultural groups, nations, museums (Scarre and Scarre 2006)?

Scholars have pointed to various conditions that lead people to subsistence digging, including marginalized economic conditions, government oppression of indigenous people, lack of historical connection to the ancient people, and lack of education about both archaeological cultural heritage and laws against site destruction. These issues, combined with inadequate law enforcement in areas where looting occurs all can contribute to the problem of the removal and collecting of material culture (Hicks 2006). In his ethnography on subsistence diggers in Belize, David Matsuda (1998:94) pointed to “the unequal power relationships that make subsistence digging a viable socioeconomic alternative for Latin America's indigenous populations.” He goes on to state that “any agenda without regard for these basic human rights will not end the unsystematic excavation of material remains and the unregulated collection of artifacts” (Matsuda 1998:94). More recently Parks et al. (2006) has looked at this situation throughout Central American countries and has proposed some solutions, suggesting that a variety of educational programs aimed at both adults and children and focused on combining archaeological scientific and indigenous knowledge may help mitigate looting and the destruction of archaeological heritage.

In 1969 Clemency Coggins (1969:94) lamented that “in the last ten years there has been an incalculable increase in the number of monuments systematically stolen, mutilated and illicitly exported from Guatemala and Mexico in order to feed the international art market. Not since the sixteenth century has Latin America been so ruthlessly plundered.” A half-century later the plunder of Mesoamerica continues at a fervent pace. Looting in Belize remains a major problem. Over the years this has been addressed specific to Belize by Gilgan (2001), Gutchen (1983), Matsuda (1998), Parks et al. (2006), Pendergast (1991), and Pendergast and Graham (1989).

How can looting be reduced in Belize? Will education help, as proposed by Parks et al. (2006), aimed at the entire population, but especially the rural less-educated population—teaching people about the significance of archaeological research to cultural heritage and tourism, and about laws against antiquity theft, or putting indigenous people in touch with their past? Or, is the answer to provide alternate economic opportunities? Or perhaps better law enforcement? Archaeologists and anthropologists who work seasonally in Belize can make contributions that may enhance the preservation and protection of cultural heritage (Tubb 2006:284).

Local Land Development

In addition to the tourism industry, agriculture provides a large percentage of the total foreign exchange earnings for Belize and employs almost a third of the total labor force. Land is used both for pasture and crop cultivation, and in northern Belize, sugarcane, soybean, and rice crops dominate. The Mennonite population is continuously increasing its land holdings, and sugar cane cultivation is on the rise with the presence of a nearby sugar industry and new foreign enterprises. This all results in land clearing, which both exposes and destroys ancient Maya sites. So where this might be advantageous in the short term for archaeological survey and access to previously hard-to-get to sites, as the area had previously been covered by dense bush and forest, ultimately many of the exposed sites end up being completely destroyed before they are investigated scientifically. At the time of this writing, a large part of land has been cleared up to the western boundary of the Lamanai site, in contrast to the thick forest that surrounded the area just 15 years ago. This has exposed house mounds to the west of Lamanai, which are slated to be surveyed in the near future as part of a

student's graduate dissertation research, and will add to our body of knowledge about the prehistoric use of the area immediately surrounding Lamanai.

Oil exploration and drilling are also having an impact in Belize and in the Orange Walk District. On a smaller scale, land is also developed for tourist lodges and hotels. Both can have a similarly devastating impact for the preservation of ancient Maya sites and features across the landscape.

Tourism Development and Architectural Reconstruction

Lamanai is an officially designated archaeological and ecological reserve with several caretakers in permanent residence on the site, and it is a major tourist attraction for Belize with some 60,000 visitors per year, most of whom arrive via river boat excursions to visit for a couple of hours and then depart without ever having seen the southern part of the Lamanai site (especially the church and the sugarmill), located just 1.6 km to the south of the dock. Many of these tourists are from cruise-ships.

Several tourism development projects have been undertaken at Lamanai in the last two decades, often employing locals from the two nearby villages. These projects are aimed both at making the site more interesting to tourists, by exposing more architectural features on the ancient structures and reconstructing them, and more accessible by creating wide pathways through the site, as well as a new dock for the tour boats. To make the site more comfortable, public restrooms were constructed and thatch-roofed concrete-floored picnic areas were created near the lagoon shore. Education was enhanced with a new site museum and informational signage.

Tourism development projects can have negative repercussions for archaeological research, but also positive financial benefits for the country in which these projects take

place, as well as employment opportunities for people involved in the tourist sector. The topic of tourism development and reconstruction of ancient sites is a politically charged issue, with many unanswered questions (Fowler et al. 1991:63; Houston 1998b:531). Aside from problematic issues of future maintenance for reconstructed structures and the availability of funding for this required maintenance, there is often the issue of how archaeological research is conducted and recorded during these projects and how it is later made available through publication. Both maintenance and adequate recording of excavations undertaken in the name of tourism must be addressed as an integral part of the project. Archaeologists, local archaeological institutions, and development institutions must partner together in these efforts.

Site Context: Introduction to the Lamanai Site

Dating and Chronology

Before presenting an overview of the archaeological investigations at Lamanai, it is important to introduce some issues regarding site chronology. Archaeological interpretive differences effect chronological sequences and culture histories, which can complicate our understanding of the Classic to Postclassic transition. As more data become available and chronological sequences are tightened, changing chronologies can also muddy the original conclusions. Increasingly fine-grained chronologies are being established for some regions, whereas in other regions, “such as northern Belize, temporal periods are sometimes long and ill defined (e.g., "Tepeu 2–3," "Terminal Classic–Early Postclassic"), making comparisons and correlation difficult” (Demarest et al. 2004:545). Academic publications regarding Maya archaeology employ different methods of including dates as archaeology is discussed. Some archaeologists use phase names that are specific to the particular site’s chronology, or

ceramic typology, while others use period names such as Late Classic or Postclassic, or a Gregorian calendar date. A Maya long count date is sometimes included, especially when a hieroglyphic date from a stela or other inscribed object is available. At times a combination of the above is used. Many of the Lamanai articles use only a Gregorian calendar date or Maya period name and do not mention an associated ceramic phase. There is no set standard and different approaches can at times make chronological comparisons challenging.

Lamanai Chronology

The current chronology that has been established at Lamanai is presented in Table 3.1. It is a work in progress and is updated as ceramic sequences are refined. Updates can have a bearing on earlier published dates for Lamanai. The ceramic chronology for the Terminal Classic to Historic periods used by Pendergast at Lamanai in the 1980s is incorporated in Elizabeth Graham's (1987a) paper for the 1985 Maya ceramic conference. Elizabeth Graham (personal communication 2016) has commented that in Pendergast's Lamanai publications the calendar dates at least up to and including the Terminal Classic still stand; however, the difference comes with the Early and Middle Postclassic because Pendergast relied, as everyone did, on the old Chichen Itza dates.

Originally the Buk ceramic phase was not thought to start as early as the late A.D. 900s, although Pendergast said it was in full swing by A.D. 1100, which is correct. He thought Buk continued through the A.D. 1200s (lining it up with an 'Early Postclassic' Chichen Itza). The Zakpah (Buk phase) ceramics may turn out to continue, although there were some stylistic changes. At Lamanai the transition from the Early to Middle Postclassic is not well understood, but Cib ceramics may be Middle Postclassic (rather than just Late) and run from A.D. 1200 to 1400 (Elizabeth Graham, personal communication 2016).

Table 3.1. Lamanai Chronology (LAP 2016, modified from Graham 2007 and Powis 2002).

PRELIMINARY LAMANAI CHRONOLOGY				
Present	Independence		Economic and cultural orientation changes to greater involvement with North and Spanish America; greater participation in global economy.	
	1981	Self-governing	Long-distance trade continues to be characterized by relationships with Britain.	
	1964	British colonial	Sugar mill constructed at Lamanai in mid-19 th century, widespread use of ceramics imported from Britain	
A.D. B.C.	1700	Yglesias Spanish colonial	Terminal Postclassic to Early historic period – distinctive ceramics, lithic change marked by widespread use of the bow and arrow, appearance of European pottery and metals after 1540	
	1450	Cib	Late Postclassic – marked by concentration of activity along the lagoon, continuity in forms and ceramic motifs from the Early Postclassic – there is very likely a period of ceramic stylistic change that occurs between Cib and Yglesias, but it has yet to be securely defined.	
	1250	Buk	Early Postclassic – marked by distinctive elite sub-complex of pottery that seems to replace Classic emphasis on polychromes, no hiatus from Terminal Classic apparent in the stratigraphy, continuity in organization of ceramic production (Howie 2003), residential buildings largely of wood, apparent increase in lagoon orientation	
	1000	Terclerp	Terminal Classic – marked by extensive masonry platform construction, superstructures largely perishable, distinctive pottery, with some forms that herald Postclassic styles	
	800	Tzunun	Late Classic – very little known about this period at Lamanai – ceramic change to Terminal Classic is gradual	
	600	Shel	Provisional Middle Classic represented ceramically by Tzakol 3 polychromes, slab-footed cylinder vessels, stela iconographic elements	
	450	Sac	Early Classic	
	250	Zotz	Late	Late facet of the Terminal Preclassic or Protoclassic (Powis 2002)
	150		Early	Early facet of the Terminal Preclassic (Powis 2002)
	0	Lag		Late Preclassic (Powis 2002)
	100	Mesh	Late	Late facet of the Middle Preclassic (Powis 2002)
	400		Early	Early facet of the Middle Preclassic (See Powis 2002)
	600	?		Provisional – based on radiocarbon dates from the ‘Harbour’ zone (Pendergast 2002)
	900			
	1500			

It should be noted that the date ranges for Maya periods that Pendergast (1981a) used in his first major publication of Lamanai excavation results, shown in Table 3.2, are not totally aligned with the current chronology. Pertinent to this thesis are the Late to Terminal Classic dates: see Table 3.3 for a comparison of the 1981 Lamanai Chronology, Late Classic through Postclassic dates, with the 2016 Lamanai Chronology. The chronological comparison in Table 3.3 indicates some discrepancy between Pendergast’s (1981a) date-range for both the Late Classic and the Terminal Classic in comparison to the present Lamanai chronology date-ranges. Currently the Terminal Classic at Lamanai is defined as the period from A.D. 773–962, so what Pendergast is calling Terminal Classic at that point in his writing is currently understood as the later part of the Terminal Classic *and* the Early Postclassic. Pendergast does not state ceramic phase names so it is difficult to determine if the period names correspond directly between the two chronological columns in Table 3.3.

Table 3.2. Maya period and date ranges used by Pendergast in 1981 (Pendergast 1981a).

Lamanai Dates from Pendergast (1981a)		
Post-Classic	10th to 17th centuries A.C.	Page 43
Terminal Classic	late 9th-early 10th centuries A.C.	Page 40
Late Classic Period	9th–10th centuries A.C.	Page 29
early to middle Late Classic	7th and 8th centuries A.C.	Page 35, 36, 42
early Late Classic	7th–8th centuries A.C.	Page 35, 36
Classic	3rd to early 10th centuries A.C.	Page 29, 34
Early Classic or Early Classic	300–550 A.C. or late 5th–early 6th centuries A.C.	Page 34 Page 37
Late Pre-Classic	ca. 300 B.C. or earlier–100 A.C.	Page 29, 34

In 1986 Pendergast (1986:229) declared “the impossibility of distinguishing between terminal Late Classic and early Postclassic, in combination with the events of this period in northern Yucatan, argues forcefully for adoption of the term Terminal Classic to refer to events from the late ninth or early tenth century until A.D. 1200”. There has been debate among Maya scholars for decades regarding terminology for the “Terminal Classic” period, a

concept introduced in 1965 to separate and mark the Classic to Postclassic transition in the lowlands, and indicate both the continuity and cessation of previous patterns (Rice et al. 2004:3). As previously noted, the dates of the Terminal Classic vary among sites, and at Lamanai the refined chronology has altered the dates previously assigned.

Table 3.3. Lamanai chronology comparison of different points in the literature. Comparison of 1981 (Pendergast 1981a) published chronology dates for Lamanai with the present 2016 Lamanai chronology dates (originally published by Graham 2007). *the term *late Late Classic* is not used, it is referred to only as Late Classic, **OxCal dates in parenthesis: these have been averaged to determine the dates that are listed for the ends of date ranges.

Lamanai Chronology Comparison		
Pendergast 1981	Phase	Graham 2016
	<i>Yglesias</i> Spanish colonial period	1641 to 1700 1544 to 1641
Postclassic 10th to 17th Centuries A.C.	<i>Gatah-Yglesias?</i> Terminal Postclassic – Early colonial period	1492 to 1544
	<i>Gatah?</i> Late Postclassic	1350 to 1492
	<i>Cib</i> Middle Postclassic	1200/1250 to 1350
	<i>Buk</i> Early Postclassic	962 to 1200/1250
Terminal Classic late 9th– early 10th centuries A.C.	<i>Terclerp</i> Terminal Classic	773 to 962 (898–1025)**
*Late Classic Period 9th– 10th centuries A.C.	<i>Late Tzunun</i> Late Late Classic	735 to 773 (656–891)
Early Late Classic 7th–8th centuries A.C.	<i>Early Tzunun</i> Early Late Classic	624 (588–659) to 735 (601– 870)

Ceramics at the end of the Classic and early Terminal Classic feature glossy slips, small basal-break bowls, and low pedestal bases (Graham 2004:234). Daylight Orange Darknight Variety is common, as are what Graham refers to as the Lamanai Polychromes (Graham 2004:235). Lithic technology also changed with the introduction of side-notched points (Graham 1987a:75).

The early Postclassic period at many northern Belize sites is marked by “a distinctive fine ware sub-complex of serving vessels and censers (the Zakpah Orange-Red group)...with a distinctive set of vessel forms and decorative traits...that appears to represent a regional development particular to northern Belize” (Howie 2005:72). The Zakpah Orange-Red-related vessels at Lamanai are referred to as Buk phase ceramics by Graham (1987a) and some have suggested that they were produced at Lamanai (Howie 2005:72).

For the Lamanai dating in this thesis I primarily draw upon the dating from publications, which are not always explicit regarding how dating was determined. Recently, due to advances in radiocarbon dating techniques, epigraphy, and as relative cross-dating with other northern Belize sites is more widely incorporated, the Lamanai ceramic chronology has become more refined and the dates for some time periods have shifted. Refer to the Lamanai chronology in Table 3.1 and to Hanna et al. (2016) for explanations to any changes in dates from earlier publications. In the descriptions that follow, which are drawn from numerous articles written about Lamanai, I refer to the dates and chronological periods as they appear in the articles. However, some of the Late Classic, Terminal Classic, and Postclassic dating has revised slightly, as discussed earlier in this chapter, and those dates that have changed substantially are noted in my discussion.

Lamanai’s Different Cultural Occupation Periods

The ancient Maya center of Lamanai in northern Belize was occupied continuously for more than three millennia, beginning in the Preclassic, from at least 1500 B.C. through the Spanish conquest, and into the seventeenth century, giving this site one of the longest known occupation spans in the Central Maya Lowlands (Graham 2000; Pendergast 1981a:29, 34, 1986:226, 1998:56). Although the site was first occupied by the Maya, not everyone who

made Lamanai their home over this broad span of time were Maya. Spanish, British, and even Chinese people all lived alongside the Maya during the second millennium A.D. Today, a much reduced population of primarily Maya and Mestizo people, who immigrated to Lamanai in the 1970s and 1980s, live just outside the Lamanai Reserve boundary among mounds and house platforms built long ago by their ancient ancestors.

The Prehispanic Maya Period. The Prehispanic period at Lamanai extended from the above-mentioned date of 1500 B.C. until the Spanish first arrived on the shores of the Lamanai lagoon in A.D. 1540. We know through the ethnohistoric research of Grant Jones and the analysis of Maya linguists that the Maya probably called this settlement Lama'anayin—glossed as “submerged crocodile,” although it was recorded in the 16th century Spanish documents of two Franciscan Fathers, Bartolomé Fuensalida and Juan de Orbita, as both “Lamanay” and “Lamayna” (Pendergast 1981a:31–32)—hence the name Lamanai—and as it turns out, crocodile imagery is present at the site.

Spanish Contact and the Spanish Colonial Mission Period. Occupation continued at Lamanai for approximately a century after the construction of the Spanish mission churches (the Indian churches) and perhaps longer. The mission at Lamanai was established by Spanish religious proselytizers based in Merida. “The first and earlier church at Lamanai, was constructed sometime between 1544 and 1550; it was built over a razed Precolumbian structure similar to many of the temples at Tulum” (Graham 2008:7). After the first church was destroyed, a second church was built in the 1560's or possibly several decades later. Associated with these churches are colonial residential structures located to the north of the churches.

The British Colonial Period. With the arrival of the first British in Belize in 1638 conflict between the Spanish and British ensued, primarily over the rights to timber extraction, eventually resulting in the territory now known as Belize becoming the colony of British Honduras in 1840, and a British crown colony in 1862. What effect this had on any Maya still living at Lamanai is unknown, but an ill-fated British attempt at sugar production at Lamanai, estimated to have taken place between 1860–1875 and operated by the British Honduras Company, Ltd. is testament to the existence a considerable settlement at Indian Church (Pendergast 1982d:57–62). This settlement however, comprised a mix of British, Maya, Jamaicans, Barbadians, and the first lot of Chinese immigrants, and “by 1866 Indian Church was characterized in government reports as one of the important industrial settlements in the northern part of the colony” (Pendergast 1982d:62–64). Other structures, including residences and a cistern, were built to support the British sugar production period at Lamanai (Pendergast 1982:66).

Embarking on excavations at San Jose in the 1930s, J. Eric Thompson (1939:4) reported about a Maya village located at Hill Bank, on the southern end of the New River Lagoon on land then controlled by the Belize Estate and Produce Company, and he also alluded to the Maya who had been living at Indian Church in 1867. These later phases of historic occupation at Lamanai are important to note because the presence of these populations likely had an impact on the archaeological remains of the earlier Pre-contact period. Both the Spanish and the British were known to have used or built upon Maya buildings of earlier times. Although we do not know who robbed cut-stones off of earlier Maya structures to be incorporated into later period buildings, it probably occurred

throughout Lamanai's occupation. Similarly, it will never be known what may have been completely obliterated during Colonial times, or the days of the early archaeology explorers.

Research at Lamanai

The Lamanai site was first explored in the early twentieth century by Thomas Gann (1926), but the work was fortunately limited in scale, as modern archaeological methods were not employed. Thompson (1939) passed through in the 1930's, Bullard (1965) made surface collections in the early 1960s, and in 1967 Thomas Lee of the New World Archaeological Foundation made another surface collection. Despite these activities, the site was relatively untouched when Pendergast and team arrived in 1974.

The Royal Ontario Museum Lamanai Expedition was directed by archaeologist Dr. David Pendergast from 1974–1986, who spent approximately 78 months in the field during these 13 years. Architect/archaeologist Stan Loten served as the senior project architect and Claude Belanger was assistant field director/architect throughout the project. Archaeologist and then Belize Commissioner of Archaeology, Elizabeth Graham, joined the Lamanai team in 1979. Involved with other archaeology projects in Belize at the time, (Stann Creek, Tipu, Ambergris Caye) her investigations at Lamanai were limited initially; however she explored the relationships between Lamanai and Tipu (Graham et al. 1985), and several coastal/littoral sites (Graham 1985, 1994; Graham and Pendergast 1989) and incorporated much of the information on Lamanai ceramics into her study of Belize ceramics (Graham 1987a).

Specialists

The inclusion of different specialists in the planning and early stages of a project can result in a better structured research design (Berggren and Hodder 2003:427). Pendergast enlisted a number of specialists to visit the site to undertake specific archaeological studies.

These included botanical studies, both modern and archaeobotanical, conducted by Dr. J.D.H. Lambert of Carlton University, Dr. J.T. Arnason of the University of Ottawa and Dr. Richard Hebda of the British Columbia Provincial Museum. James Lovisek of the ROM prepared a collection of ichthyological, amphibian and reptilian fauna in 1978 and 1979 “with the aim of providing local reference material for identification of the large quantity of excavated faunal remains” (Pendergast 1981a:34). Grant Jones researched historic Spanish colonial documents as regards to the Spanish contact period church at Lamanai. In 1980 architect Brian Marriott explored and recorded the British mid-19th century sugar mill on the site. Bioarchaeologist Christine White, was engaged to analyze human skeletal remains from burials. Epigraphers and art historians Simon Martin and Dorie Reents-Budet studied the glyphs and iconography. And there are others—the bibliography of Lamanai related research is extensive. Of course the project could not have been undertaken without competent excavators—between 35 and 45 men worked on the project each season. This team of permanent Maya laborers from Succotz, Belize were said to be among the most experienced excavators in the entire field (Adams and Hammond 1982:494). Although they were not archaeologists, they were skilled and informed, so they could “make good judgments about what it is they [were] investigating” (Berggren and Hodder 2003:427).

Since 1997 investigations have continued under the auspices of the Lamanai Archaeological Project (LAP) directed by Dr. Elizabeth Graham, Institute of Archaeology at University College London, who was joined by co-director Scott Simmons (University of North Carolina Wilmington) from 2001–2008. These investigations have focused on a variety of research questions pertaining to different periods of Lamanai’s occupation and many resulted in PhD dissertations and other publications (Aimers 2007, 2010; Andres 2005;

Graham 2000, 2004; Howie 2005; John 2008; Mayfield 2015; Meadows 2001; Pierce et al. 2014; Powis 2002; Shelby 2000; Simmons et al. 2009; Weiwall 2009; and also see www.lamanai.org.uk). Clearly the entire cast amassed for the ROM Expedition and LAP, coupled with the long duration of the excavations and the number of individual research projects, demonstrates that Lamanai is one of the most intensively excavated examples of a Maya site known to have one of the longest occupation spans, and furthermore, a center that survived the Maya collapse.

Survey, Mapping, Site Layout, and the Designation System for Structures and Plazas

Surface survey and site mapping at Lamanai was directed by H. Stanley Loten of Carleton University from 1974–1976. The full site grid covers a total of six square kilometers, although some of the mapping squares extend into the lagoon since the shoreline moves diagonally from east to west as it goes south (Figure 3.6). Although a Maya presence is clearly seen over a broad physical area around Lamanai, the area of the site defined for investigation was limited to a four kilometer stretch of land along the west shore of the lagoon. A total of 718 structures were mapped within the 4.5 square kilometer area defined as the Lamanai site (Pendergast 1981a:32).

The mapped area of the Lamanai site was divided into a grid of 500 meter squares units, which each have a letter/number designation that is used as the basis for naming the structures and plazas as they are recorded on the map. For example, the fifteenth structure discovered in the grid square that intersects at column N and row 10 was named Structure N10-15. Of note, Structure N10-15 is sometimes referred to colloquially in the literature as Fifteen. Plazas are also named in a similar fashion, but the plaza number is designated on the originally labeled map as PA, followed by a number. The plaza (courtyard) of the Ottawa

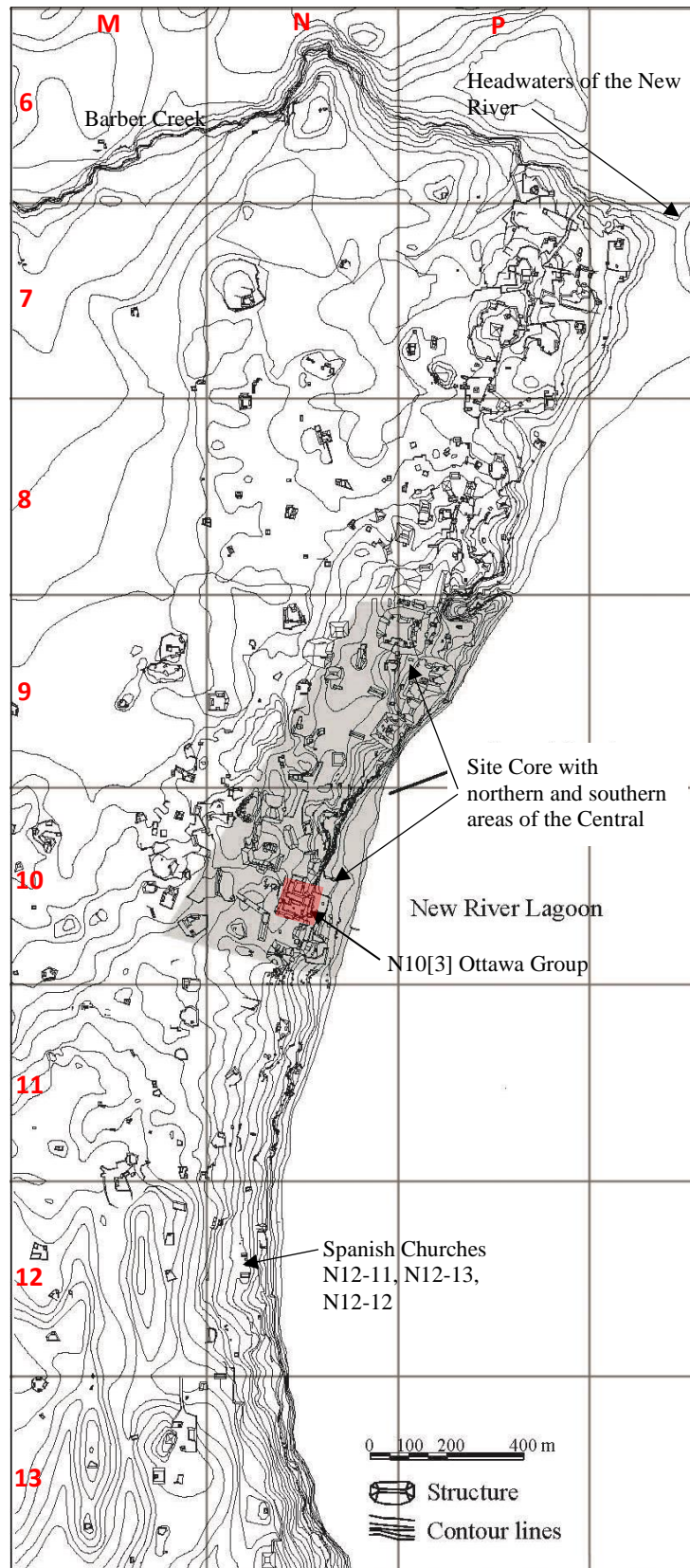


Figure 3.6. Full site map of Lamanai with Barber Creek at the north, indicating grid square designations assigned by H. S. Loten and team (adapted from Howie 2005:40).

Group is PA3 in the N10 grid square. Today the standard for referring to a plaza in the literature is to drop the PA label, designate the grid square, and follow it by the plaza number in brackets: for example the Ottawa Group plaza is Plaza N10[3], but in older literature it designated in a variety of ways. In this thesis I refer to this plaza as a courtyard to avoid confusion with other open areas around the Ottawa Group, some of which are not officially named as plaza areas. Knowing the map grid numbers allows one to have a general idea of a structure's location based on its number alone.

Mapping of the site took place before and at beginning of excavation, so as structures were excavated their features became more clearly defined. Therefore the structure forms designated on the map can be somewhat different than the later-known form following excavation. Of note, this is the case with the form of the Ottawa Group that is depicted on the official site map, which is no longer correct. This difference can be seen between the site maps used in this thesis and the more current architectural plans of the Ottawa Group.

Lamanai is a large site, but this is difficult to quantify. Various scholars have proposed methods which use published site maps to establish site sizes for comparative purposes, but they all have problems. Coupled with the fact that archaeologists produce site maps in different ways, and that site maps don't reflect the volume of architecture, no perfect method has been established. Brett Houk (2015:235–236) has recently built upon the basic premises of these methods to compare the size of an arbitrary sample of Classic period sites in Belize. Although arbitrary, the sample nonetheless includes the largest sites from each of his five defined regions in Belize. In Houk's study Lamanai is ranked number two in Belize, with a monumental area of 109,385 square meters, which is just less than half the size of

Caracol, with Nohmul ranked third. Despite the potential errors of these calculations, this affirms that Lamanai is one of the largest sites in northern Belize, if not all of Belize.

Lamanai has eight major plazas with ceremonial structures, generally termed temples or pyramids. By 1980, 37 of these structures were excavated (Pendergast 1981a). Since then additional structures have been identified within the site, bringing the number up to about 800 mapped structures, and over 40 additional structures have been investigated. (Elizabeth Graham and Claude Belanger, personal communication 2014). Loten (1985:87) notes that “the largest structures form a fairly compact central zone outside of which both the scale and density drop off dramatically.”

The site layout is unusual in that the buildings were laid out in strip form along the western shore of the New River Lagoon (Figure 3.7). This would have allowed for easy access to the lagoon both as a source of water and for canoe transportation. It appears that the site center shifted from the northern part of the site in Preclassic times towards the south as time progressed, although there were northern residential groups that were occupied in later periods (Pendergast 1981b:3).

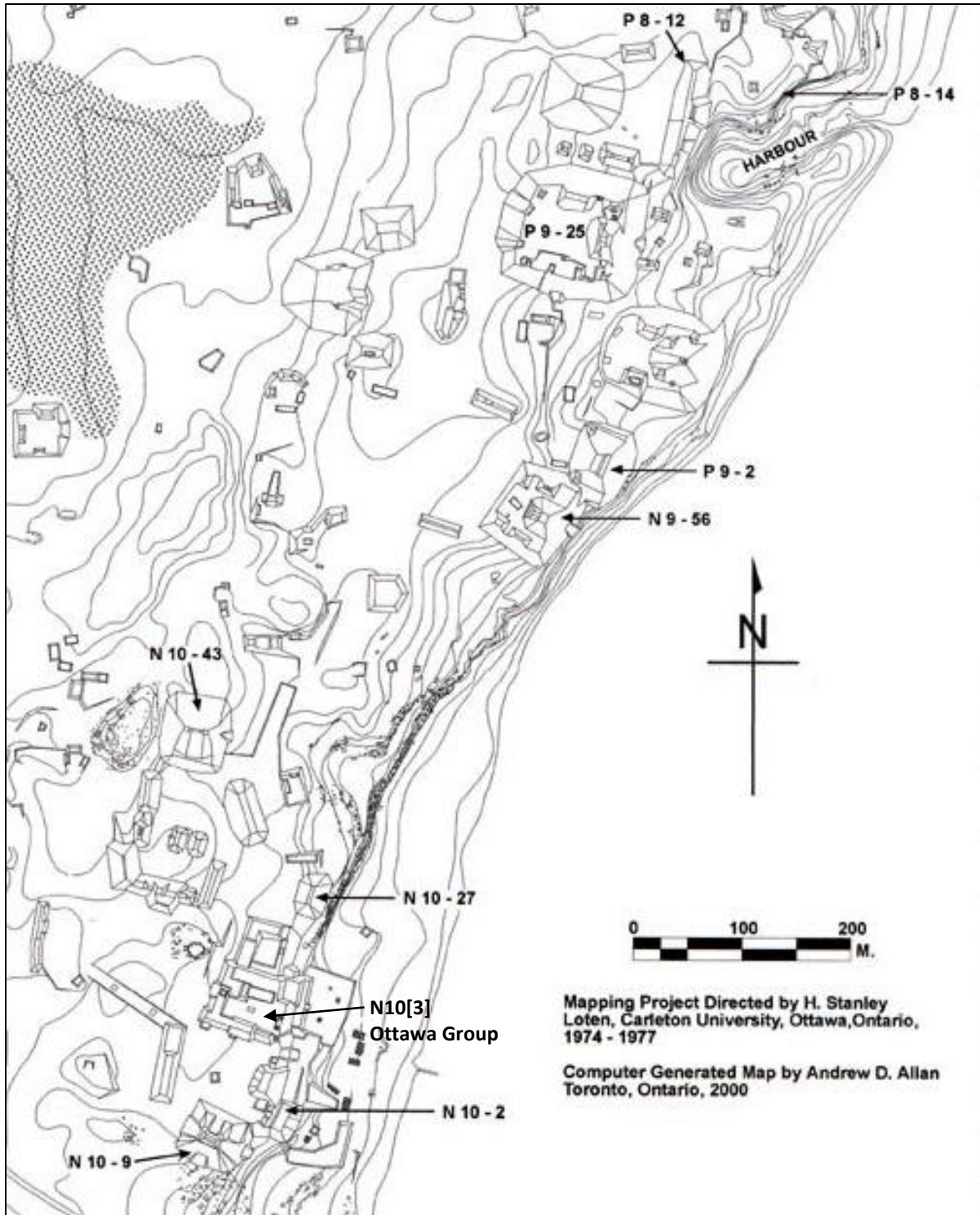


Figure 3.7. Map of Lamanai showing the Central Precinct with the concentration of structures running along the lagoon edge (Powis 2001:3).

Archaeological Investigations: What We Know About Lamanai

An overview of some of the excavated structures and other archaeological findings that resulted from the research conducted during both the ROM and LAP projects at Lamanai is presented below in order to provide a general idea about the occupation at Lamanai from Preclassic to Historic times and to situate the Ottawa Group, which is the focus of this thesis, in both time and space. The chronology of Lamanai is presented in the above Table 3.1.

Although the focus of my research is on architectural changes at Structure N10-15 in the Ottawa Group in the Late to Terminal Classic period, a general introduction regarding the development (and decline) of other architectural groups at Lamanai, and especially those in the Central Precinct, provides a contextual foundation for the reader. I first provide a brief overview of the northern part of the Central Precinct, which saw its greater occupation in the Preclassic but with some activity continuing through the Classic period. I then turn to the structures that are located close to the Ottawa Group in the Classic period Central Precinct (map grid square N10), and which are relevant for context in interpreting the Ottawa Group changes. Developments at the three temple-pyramid structures near Ottawa, Structures N10-43, N10-9, and N10-27 are representative of changes from the same Late to Terminal Classic period when dramatic changes occur at the Ottawa Group. It is also at this time that there is evidence for some reoccupation in the northern area of the Central Precinct with new residential construction and signs of ritual activity at some of the structures that had earlier been abandoned.

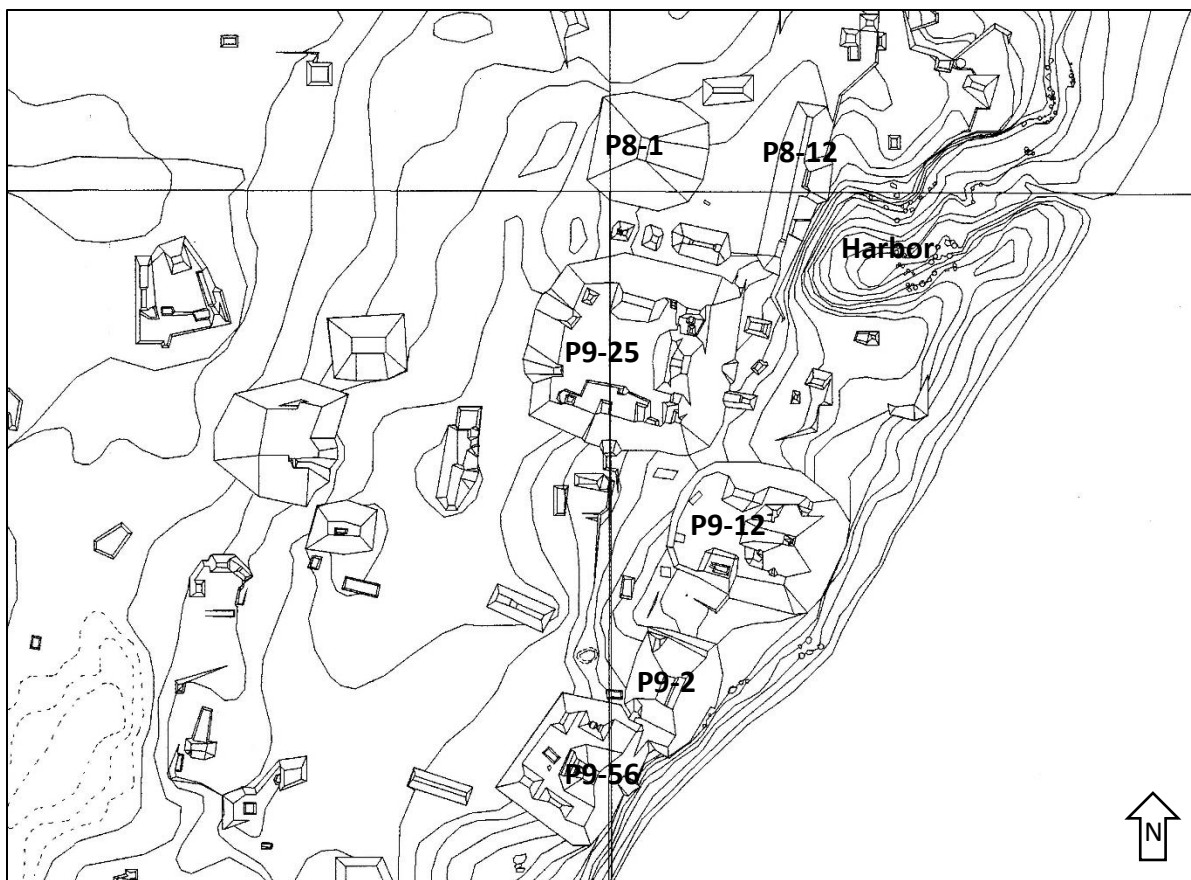


Figure 3.8. Map of the northern area of the Central Precinct.

Northern Area of the Central Precinct. From the evidence we have now, it appears the major activity (Figure 3.8) in the northern part of the Central Precinct, in the Harbor area, was in the Preclassic, with a later Terminal Classic intrusion. Here the largest platform at Lamanai, Structure P9-25, is an acropolis-like 18 meter high platform. It is an immense platform, measuring about 90 meters x 110 meters, that supports about a dozen buildings—several of those are 10 meters high—constructed early in Lamanai’s history. The latest components of this group date to the first part of the Early Classic (A.D. 250–350) (Graham 2002:402; Pendergast 1981a:40). Many Middle and Late Preclassic structures are found in the northern part of the site, although Preclassic structures extend far south to the area called Lamanai South, about three kilometers south of the Spanish Churches (Howard and Graham 1998) and beyond the official boundary of the Lamanai Archaeological Reserve. In fact,

most of the large ceremonial buildings at Lamanai were initially constructed in the Preclassic (Pendergast 1981a).

Directly north of Structure P9-25 are three small structures and a large pyramid, Structure P8-1, located just north of these. Across a plaza east of this pyramid at an area where the shoreline juts in is a 100 meter long range building, Structure P8-12. This was first presumed to be a harbor, however subsequent geological and archaeological testing in the area does not support this interpretation—but it is the source of the material for dating the time of initial occupation at Lamanai. Dense settlement extends for 1 km further north to the northern limit of the site at Barber Creek. These include scores of groups of residential structures (some of which were occupied or reoccupied in the Terminal Classic), a three-chambered *chultun* (a storage feature cut into the bedrock limestone) (Feature P8-2), and the remains of a possible sweathouse structure (Pendergast 1981b, 1981c). Across Barber Creek, a small creek that flows intermittently in modern times, lie the remains of raised fields built by the Maya for intensive agriculture.

Other early investments in monumental architecture in this area include three large pyramidal structures just south of the acropolis and flanking the lagoon shore, including Structure P9-12, Structure P9-2, and Structure N9-56. Structure N9-56 (colloquially referred to as the Mask Temple) is a Late Preclassic 17 m tall temple-pyramid that saw a number of modifications and rebuilding episodes through the Late Classic (ca. A.D. 800), after which the building was abandoned; however, it remained important and was the focus of ritual activity in the Postclassic (Pendergast 1981a:51).

As the northern central precinct ceremonial structures ceased to be used in what is now considered the Terminal Classic period, there was an intrusion of residential structures

in the area around the base of P9-25 and in the periphery of the northern Central Precinct (Pendergast 1981a:40). The residential Group P8-102 was one such intrusion that was investigated during the ROM project, with was later followed by ceramic and skeletal studies of burial materials (Howie et al. 2010:374). This analysis shows dietary differences and local imitations of “foreign” vessel styles, interpreted to reflect a migration of non-local people (Howie et al. 2010:374–395).

Southern Area of the Central Precinct. The area of the Central Precinct that dominated during the Classic period (Figure 3.9) is marked by the tallest structure at Lamanai at the north. Structure N10-43 (colloquially referred to as High Temple) is a 33 meter high terraced pyramidal structure (Figure 3.10). Map-wise, this is at the top of the N10 grid square, which is another area dense with ceremonial structures. Two other temple-pyramids, Structures N10-9 (colloquially referred to as Jaguar Temple), and N10-27 (colloquially referred to as Stela Temple), are located in this area, as is the N10[3] Ottawa Palace courtyard group (Pendergast 1985, 1986). Structures N10-43 and N10-9 each have a large plaza area flanked by range structures, which are largely unexcavated.

Originally constructed in Preclassic times, ca. 100 B.C., over a pre-existing plastered platform and hearth feature, the primary multi-terraced platform of Structure N10-43 had large masks flanking its three lower stairs, with a landing above the lower stairs that supported a small structure. There were probably three sets of stairs leading to the top, which supported a triadic arrangement of platforms and structures at the summit (Pendergast 1981a:41, 1981d:96). Minor modifications followed, although its Early Classic form is not well understood at present. In the Late Classic, about A.D. 700, a long chambered building,

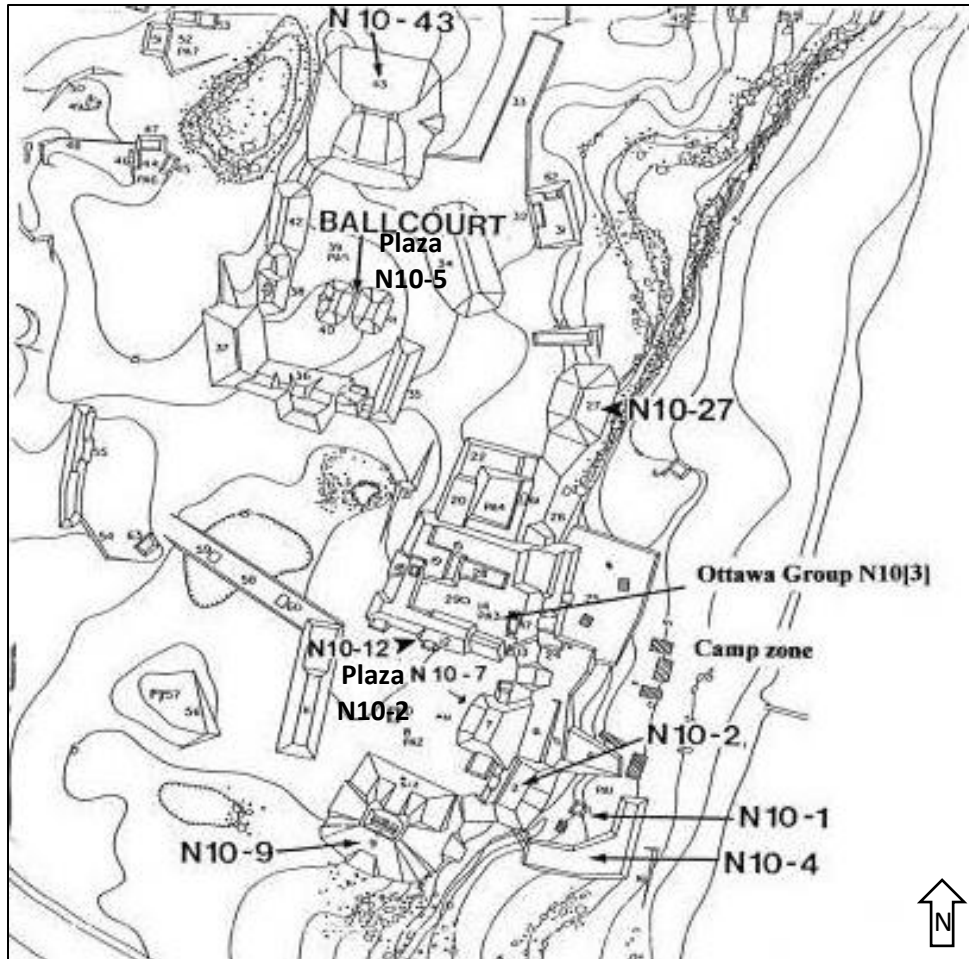


Figure 3.9. Map of the Classic period Central Precinct in the southern area of the site core, showing locations of the Ottawa Group, the Camp zone and other major buildings in grid square N10 (from Graham 2004:229 Figure 2).

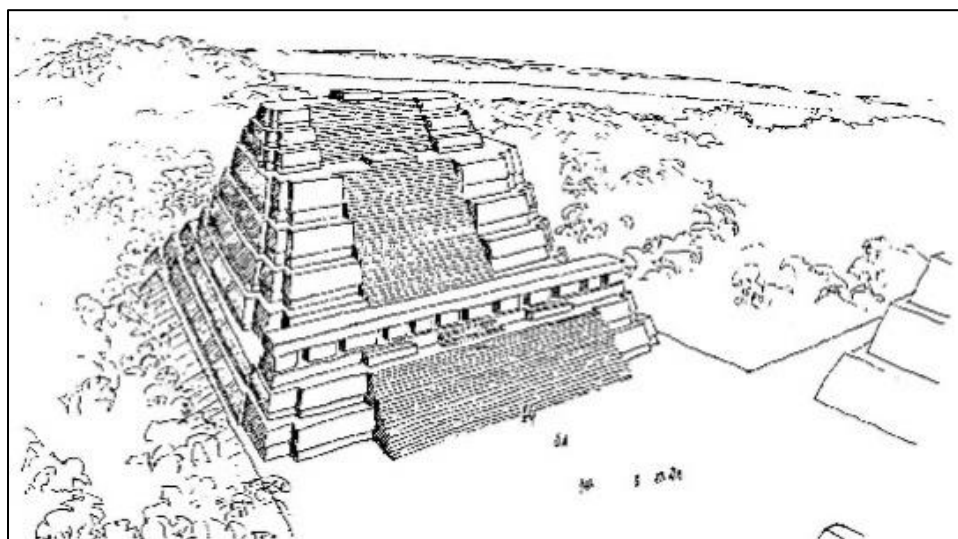


Figure 3.10. Lamanai Structure N10-43, Late Classic Phase (Pendergast 1981:41, Figure 13).

was added across the landing and the stair configuration was altered to become one wide central staircase. The summit structures were *eliminated* and replaced by a structure-less surface. This will be discussed further in Chapter V (Architecture), as these Late Classic modifications coincide with modifications in the Ottawa Group, as does the construction of Lamanai's first and only known ballcourt in the Terminal Classic Period in Plaza N10[5] to the south of Structure N10-43. The addition of the ballcourt divided the large plaza (Figure 3.11). This subdividing of plazas is seen at other sites in the Terminal Classic, such as Nohmul, where buildings of Yucatecan architectural inspiration were built after 800 A.C. (Hammond et al. 1985b:177). Beneath a massive stone ballcourt marker disk in the center of the playing alley an unusual cache was found, which is discussed later in this chapter. Although located in close proximity to one another, the connection between the Ottawa Group and Plaza N10[5] remains unexplored.

Structure N10-27 is a pyramidal structure that is located to the northeast of the Ottawa Group, and may have been in direct sight from Structure N10-15. A building situated across the central stair housed a stela, which was destroyed by fire that toppled its upper portion down to the plaza below where it quickly became covered over. Whatever purpose this structure served ended abruptly and midden accumulated against its sides. Ceramic from the midden are Terminal Classic to Postclassic (Graham 2004:230), and therefore it is postulated that the building that housed the stela was still used up to about A.D. 750 (Elizabeth Graham, personal communication 2015).

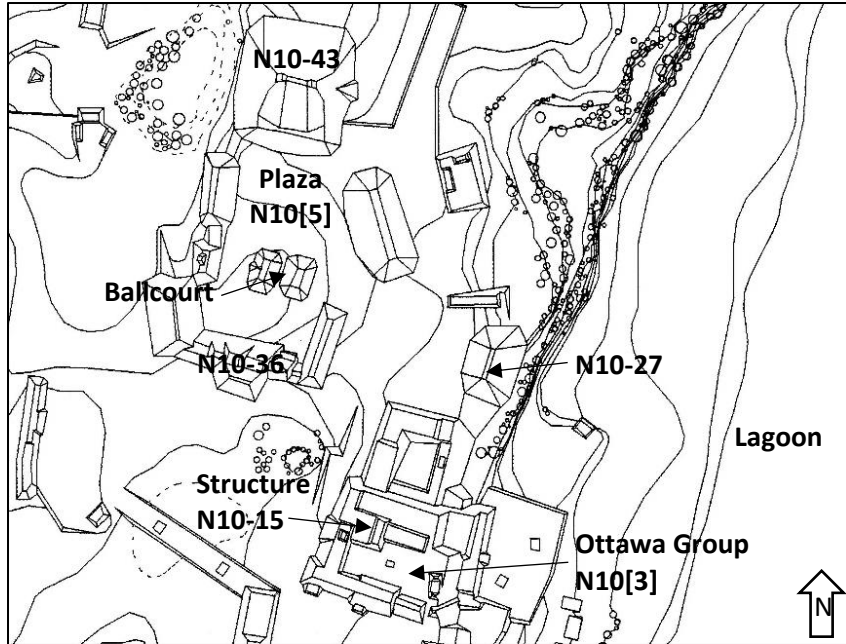


Figure 3.11. Map showing relationship of Plaza N10[5], with the ballcourt, Plaza N10[3] and with Structure N10-27.

Structure N10-9 (Figure 3.12), a 19 meter high pyramid, is on the south end of the large Plaza N10[2], which is flanked by the Ottawa Group on its north side (Figure 3.13). The earliest architectural stage encountered dates to the Early Classic. The front of the structure continued to be modified during the Late Classic and it is in this phase that a building was added across the substructure of this temple-pyramid, which at Lamanai is a typical Late Classic architectural modification to the pyramidal structures. (Pendegast 1978, 1980b, 1986:230–231).

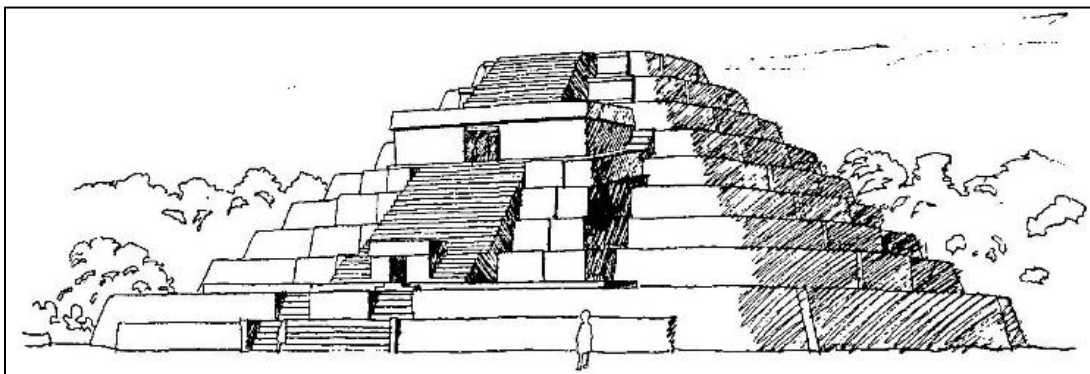


Figure 3.12. Lamanai Structure N10-9 Late Classic (A.D. 7th–8th centuries) phase (Pendegast 1981:35, Figure 5).

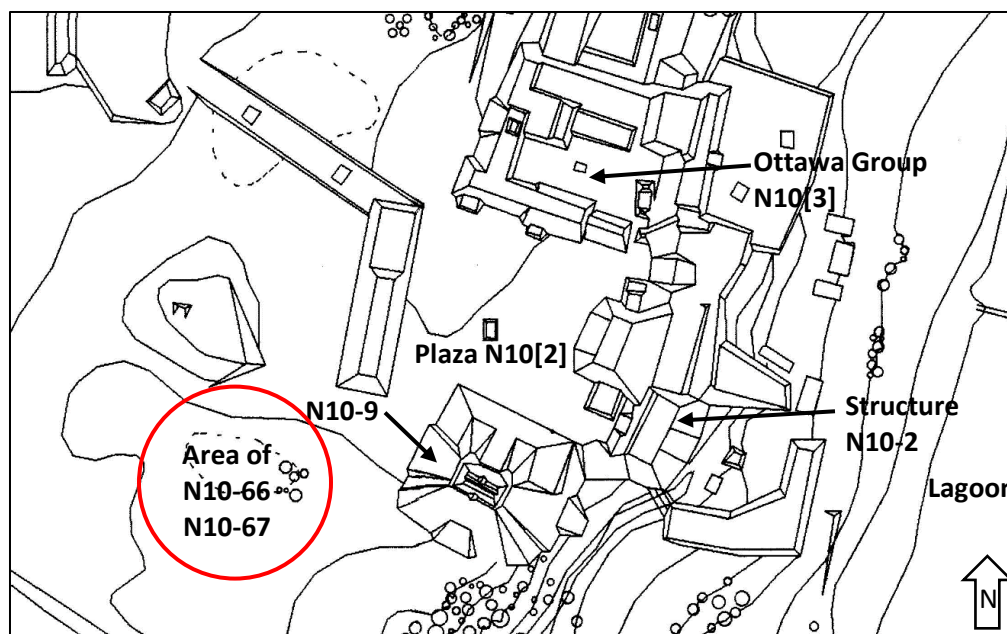


Figure 3.13. Map showing relationship of the Ottawa Group, Plaza N10[2], and the pyramidal Structure N10-9, and Structure N10-2 to the east.

No tombs were found in this structure, but numerous offerings were encountered on the primary axis (Pendergast 1998), which are discussed later in this chapter. Modifications were made in the Early Postclassic periods, but by the fourteenth century this structure was largely abandoned. A common Postclassic ritual deposit was that of smashed and scattered Buk phase ceramics offerings, and such deposits were found at Structure N10-9. Later in the historic period, small frontal additions were made to the building as evidenced by Yglesias pottery, so the structure remained important to all least some Lamanai residents for a considerable period of time (Powis 2002:58).

By the end of the Late Classic (Pendergast gives dates for the Late Classic here as 9th–10th centuries A.C., whereas the current Lamanai Chronology assigns the dates A.D. 624–A.D. 773 as the Late Classic) the more northern parts of the site center were largely abandoned as the focus of major ceremonial construction shifted slightly south, and to the

east at the lagoon shore—an area that later became the focus of a rich Postclassic development (Pendergast 1981a), but which saw changes in the Terminal Classic.

East of Plaza N10[2] is an assemblage of buildings that has been referred to as “the N10-2 plaza group” (Howie et al. 2010:375), of which the largest structures, N10-2 and N10-4, were modified until the Early to Middle Postclassic period. N10-4 has been described as an elite residential and administrative building (Pendergast 1981a:44–51, 1986) and N10-2 as a ceremonial structure. Numerous burials and a massive amount of ceramic material were uncovered near the base of Structures N10-9 and N10-2, many of the ceramics having decorative motifs that would later appear at Postclassic Mayapan, indicating a clear connection with communities to the north in the Yucatan peninsula. Postclassic burials in the area where structures N10-1, N10-2, N10-4, and N10-7 are located contained many vessels and objects of copper, gold foil, and shell, pyrite mirrors, and carved bone (Pendergast 1981a:44–49). Architectural affinities with northern sites are also present in these structures, as exemplified by the colonnaded Structure N10-2, which “was a single-room building with wattle-and-daub walls and a floor that amounted to little more than a thick coat of whitewash over the ballast” (Pendergast 1986a:235).

Another Terminal Classic residential intrusion included Structures N10-66 and N10-67 (referred to as Group N10-66 and incorrectly located on the map in Howie et al. 2010), located southwest of the Ottawa Group in an area bordering the southern Central Precinct where no earlier buildings were detected. This group of small, low structures, non-elite according to Pendergast (1986:229), was not recorded in the original mapping and hence not previously numbered. Investigated in 1982, the very small and low mound was heavily laden with Late/Terminal Classic burials, one of the better samples of that period from the site

(David Pendergast, personal communication 2016). The residents of this group probably migrated to Lamanai, as seen in the northern Group P8-102 (Howie et al. 2010:374–395). The fabric composition of the monochrome black vase in Burial N10-66/3 suggests it came from northeastern Belize, while another vessel in Burial N10-67/1, also of non-local origin, is from outside of Belize or the Yucatan (Howie et al. 2010:374–375). The residents of this group, like those living in Group P8-102 in the northern part of the site, are part of a migration of non-local people to Lamanai (Howie et al. 2010:374–375).

The focus of occupation at Lamanai had again moved further south by the sixteenth century. A seventeenth century church cemetery indicated that Maya still occupied the site at the time of the Conquest, making Lamanai one of the longest occupied sites in the Central Maya Lowlands (Pendergast 1981a:29). The desecrated remains of two Spanish mission churches were found approximately one kilometer south of the main area of Postclassic activity (Pendergast 1981a, 1986, 1991:341). The church had been erected over earlier Maya ceremonial structures (Graham 2008:7).

The N10[3] Ottawa Palace Courtyard Group

The buildings that ring the perimeter of Plaza N10-3 (Figure 3.14), which is a private courtyard rather than an open plaza, have been variously referred to as the Ottawa Group, the Ottawa Plaza, and the Ottawa Courtyard Group, and have been labeled at times as an “elite-residential group” (Pendergast 1985:93), a “residential and administrative assemblage” (Pendergast 1990a:172), “an elite-residential and administrative complex” (Pendergast 1992:74), and “The Ottawa Palace Courtyard Group” (Graham 2004:231). These are differing terms for a group that is generally accepted to combine both residential and administrative functions, but the use of the different labels points to the problems in

Maya archaeology of determining functions for buildings. As discussed in Chapter V, the name designation and the functions proposed for palace buildings and groups is highly variable among archaeologists. The important point here is that despite these different designations for Ottawa, we do not know the function of the structures in the Ottawa group, whether each building served the same or different purposes, or how the functions may have changed through time. A functional analysis of the structures based on the associated artifacts was impossible because the floors were swept clean when each new remodeling was undertaken. The Ottawa Group however, is considered to be the palace or court of Lamanai.

In the Late Classic (see Table 3.3 for Lamanai chronology) this group consisted of six structures. At the east side were Structures N10-28, N10-17, and N10-77. The three structures at the western end, Structures N10-15/19, N10-18, and N10-78 rested upon a triple-joined platform, a feature considered to exhibit Yucatecan architectural influence (Pendergast 1986a:231–232).

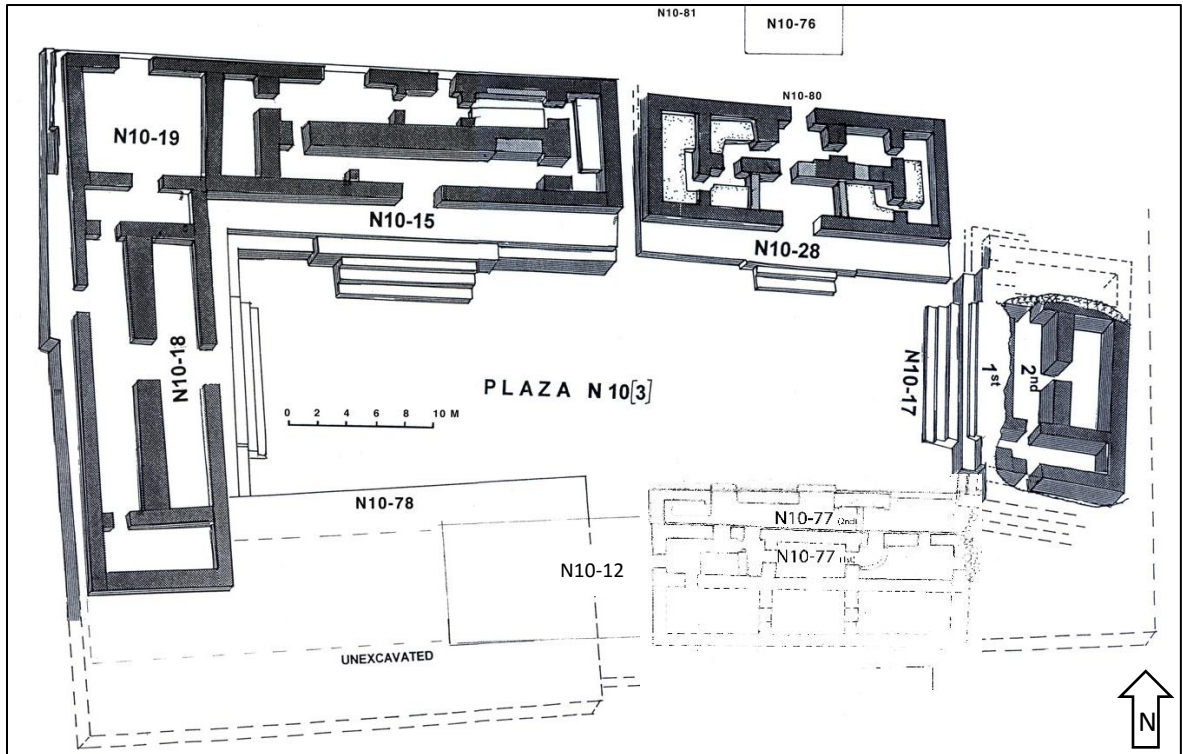


Figure 3.14. Plan of the Ottawa Group, Plaza N10[3] (from Graham 2004:229 Figure 3).

Table 3.3. Lamanai Chronology, Late Classic to Present (LAP 2016).

Lamanai Chronology	
From 1981 to the present	Independence
1964 to 1981	Self-governing British Colony
1862 to 1964	British Crown Colony
1787 to 1862	British Settlement
1660s to 1787	British occupation of the coast
1641 to 1700	<i>Yglesias</i>
1544 to 1641	Spanish colonial period
1492 to 1544	<i>Gatah-Yglesias?</i> Terminal Postclassic – Early colonial period
1350 to 1492	<i>Gatah?</i> Late Postclassic
1200/1250 to 1350	<i>Cib</i> Middle Postclassic
962 to 1200/1250	<i>Buk</i> Early Postclassic
773 to 962 (898–1025)**	<i>Terclerp</i> Terminal Classic
735 to 773 (656–891)	<i>Late Tzunun</i> Late Late Classic
624 (588–659) to 735 (601–870)	<i>Early Tzunun</i> Early Late Classic

Structure N10-28, a masonry building with an elaborately decorated, modeled, polychrome stucco upperzone, was constructed on a single terrace substructure on the northeast side of the courtyard. Some literature give its date of construction as A.D. 925–950 (Shelby 2000), but subsequent investigations have revised these dates to an earlier time, probably in the Late Classic (Graham 2004:232). Pendergast (1985:93) suggests that this particular structure was not residential in nature, but possibly served secular or ceremonial functions. Based on the iconography of exterior decorations, one interpretation for its function is that it was a *popol nah*. Sixteenth century accounts define a *popol nah* as “a place where government officials and elders of the community would meet” (Ambrosino 2003:260–261)—a type of council house (Andres 2005:254). These buildings are discussed in more detail in Chapter V. If the building was a *popol nah*, it may indicate political power-sharing (Andres 2009:12; Graham 2004: 232, 234; Shelby 2000), although more recently that functional assignment has been called into question (Elizabeth Graham, personal communication 2014). The imagery appears to be comprised of larger-than-life-sized humans, and curvilinear and lattice-work elements, which may shed light on Late Classic to Postclassic iconographic and color symbolism (Pendergast 1985:93–94). Andres (2009:13) compares the architectural layout of Structure N10-28 to council houses from Chau Hiix and other sites. It is questionable whether the interior layout lends itself to the function of a council house, despite the exterior decorative elements, because council houses are typically long open halls where many people can gather, and this building has multiple small interior rooms. Perhaps the decorative elements mean something entirely different and do not necessarily signify “a council house,” a question worth pursuing in understanding the role of the Ottawa complex. Pendergast (1985:94) suggests that the public or semipublic stucco

iconography on Structure N10-28 may represent a shift in focus away from the previously dominant images on the large monumental temples. This structure was razed during the boulder infilling of the courtyard.

The other structures on the eastern end of the courtyard include the masonry-walled Structure N10-17, which in its early architectural stages opened directly to the courtyard floor, but then the upper roof portion of the building was demolished leaving just 2 meter high stubs of walls, which were filled in with core material. The building was then encased by a new two-terrace substructure, with a stair leading up from the courtyard floor to a platform atop the substructure, but nothing remained of any building they may have sat here.

Structure N10-77 was a masonry structure with tandem rooms just a step up from the courtyard floor. There was at least one addition to this building that created a third row of rooms (Claude Belanger, personal communication 2014). The latest use of the building dates to the Late Classic/Terminal Classic transition (Graham 2004:236–237). The masonry structures at the west end tell a different story, as they remained standing for a longer period of time, although not much is known about Structure N10-78, as it remains unexcavated. Structures N10-15/19 and N10-18 are discussed in more detail below.

The Ottawa Group saw a number of remodeling episodes in the Late to Terminal Classic period (Table 3.3). At some point in the Late to Terminal Classic period, the Ottawa group was transformed, by razing the buildings on the east end and N10-78, and filling the courtyard and other areas on the north and west sides with boulders. This is the architectural stage referred to as “*Boulders*,” or “*Boulders Phase*” (not a ceramic phase), which is the name that describes both the stage and the stones that were used in this huge architectural transformation when Classic period buildings were razed and the courtyard was filled

(Graham 2004:232). Pendergast (1985:95–97) estimates this took approximately 21,000 metric tons of stone, transforming the area into a single huge platform, and was “clearly the work of a fully functioning community.” Core faces—areas of dry-laid stones stacked to form a vertical or near vertical face in which looser fill material is placed (Loten and Pendergast 1984:7)—found in the plaza core suggest that the plaza was filled in with task units (a subdivision of construction process, which may suggest a subdivision of labor, but also represents a construction approach to manage the tasks). Caches were found throughout the Ottawa core, generally in association with a core face or task unit (Shelby 2000:46).

The boulder core was then capped with a new plaster floor (two floors are seen in some areas) named Xix. This completely altered the former residential assemblage, but the area “still served as the dwelling place for families whose rank in the Lamanai community we cannot judge at present” (Pendergast 1985:95–97). After the courtyard filling and the installation of the new Xix floor, low single-terrace masonry platforms supporting perishable structures were erected above the areas where structures N10-28, N10-17, N10-77, and N10-78 once stood and at other locations on the new grand platform. Burials were found just below the surface of the plaza-fill core and are associated with Postclassic platforms that were later constructed on the complex. Although this courtyard infilling was first thought by Pendergast to have carried on for perhaps two hundred years, subsequent excavations by Elizabeth Graham and Christopher Andres in 2002 at Ottawa Structure N10-76 revealed a much more restricted time frame, putting its completion at approximately A.D. 850 (Graham 2004:234).

Terminal Classic ceramics and surface treatments persisted into the Postclassic as evidenced through offerings and midden findings at structure Structure N10-15. These

dramatic changes in architecture, and probably in function, may provide information important to understanding the Classic to Postclassic transition and the reasons some communities continued to thrive while others declined. The Ottawa Group research can tell us about the period when Tikal and other sites in the Maya are said to have collapsed and been abandoned. We are unsure about how Lamanai was affected by collapse, but it certainly was not abandoned (Graham 2004:231).

Structure N10-15 in the Ottawa Palace Courtyard Group

... Structure N10-15 has yielded an almost unmanageably large body of information on a dwelling...that saw a greater number of modifications than any we have previously examined. (Pendergast 1985:95).

In Ottawa, and especially in the structure with the prosaic name Fifteen, we have been proved wrong so many times that we now look upon refutation of the morning's decision by the afternoon's digging as the norm. Handwringing and tears have not quite become the order of the day here, but an observer would note interminable discussions, a great deal of shoulder-shrugging, occasional oaths, and a lot of foolish-looking grins as our attempts at architectural wisdom are ground into the dust by the data. (Pendergast 1982b:2).

Structure N10-15 is one of six masonry range-buildings on the perimeter of the courtyard of the N10[3] Group (Figure 3.15). The primary building had tandem rooms oriented on an east-west axis, flanked by transverse rooms, and was one of the longest occupied structures among the existing buildings in the Ottawa group (Pendergast 1986a:233). It is possible that it was a masonry-walled building with a wooden roof, but there is no conclusive evidence (Pendergast 1986a:233). Today the building consists only of the low remains of walls, referred to as stub walls, some of which were reconstructed, still as partial height walls, for tourism.



Figure 3.15. View of Ottawa Group courtyard, Plaza N10[3], looking west, showing the location of Structure N10-15 in relation to the other structures (photo by Karen Pierce, 2011).

On the south courtyard-side, Structure N10-15 sits upon a 2.7 meter high two-terrace platform. Five steps lead up from the courtyard to the upper terrace. The masonry characteristics of the stairs, with larger rectangular riser stones, are different than the smaller, irregularly-sized and unevenly-coursed facing stones in the terrace faces and the perimeter walls of Structure N10-15, which may indicate that the stair was a subsequent modification to the original terrace. This stair is also different in its design and construction than those at Structures N10-28 and N10-17, which could indicate different external stylistic influences. But it also may just reflect centuries of remodeling. We do not know what the north side looked like during the initial architectural phases because it is presently covered with

boulders. Excavations which removed the boulders in some areas have given us a glimpse of the north substructure, but not all details are known.

As for the construction of Structure N10-15, it saw numerous remodelings during its lifespan, many of which apparently involved the ripping out and perhaps ceremonial rebuilding of the same features in the same places (Pendergast 1985:93–95). One of these alterations to Structure N10-15 was thought to be a partially colonnaded addition—a Yucatecan influence (Pendergast 1986a:231–232), but Lamanai archaeologists now question the interpretation of it being colonnaded. With all the multiple layers of construction at this structure it is unclear, and nothing remains at present to suggest a colonnaded structure. Additions were built both to the north, which we are calling N10-15 2nd, and to the west at the adjacent area previously designated as Structure N10-19, which shares a wall at the west end of Structure N10-15.

The Lamanai master lot records indicate that during excavation Pendergast determined that Structure N10-19 was actually a part of N10-15 and he noted in the lot records that the designation N10-19 was to be changed to N10-15 (see Lot numbers LA696 and LA697), but since it was already named on the Lamanai map as N10-19, the designation stuck. Both buildings went through several stages of remodeling and northward expansion, making it difficult to differentiate the two structures. For that matter, Structure N10-18 also shares a wall with N10-19 and it could be that the Maya who utilized these buildings considered them as one. Structure N10-18 does have a courtyard stair feature stylistically similar to that of N10-15.

Structure N10-15/19 remained standing when other buildings in the Ottawa Group were later razed and Structure N10-18 may have also been spared destruction. The terraces at the west side of the Ottawa Group were expanded to the west, probably during the courtyard and north side infilling with boulders. Unfortunately, the present evidence does not allow us to fully reconcile the timing of the changes that were happening at N10-19 with the additions at Structure N10-15, but we do know that they were both being expanded northward through time, either as a single building, or as separate structures. Because of the complexity of sorting out the architectural sequences of each of these three structures, it is only Structure N10-15, as originally defined by Pendergast, that is the focus of this thesis.

Summary of Previous Research at Lamanai Structure N10-15

It is important to understand the history of archaeological work undertaken at Structure N10-15 in order to appreciate some of the limitations of data pertaining to this thesis, and which impacted both my theoretical and methodological direction.

The N10[3] building group was first excavated in the 1980s by David Pendergast, Stan Loten, Claude Belanger, and a crew of excavators. At that time the entire complex was a mound of humus and Post Abandonment Accumulation (PAA) with tree cover that included several very large strangle fig trees, and with scant visible architecture showing. As the first step in the investigation of this group, the surface was mapped to show contour lines and record any visible architecture. This was followed by painstaking removal of humus between the rocks to look for signs of Postclassic platforms (Figure 3.16). Excavations of Structure N10-15 revealed that only stub walls and benches remained, typically less than a meter high. In some locations only a single course of stones or a plaster floor-turn-up (an area where the



Figure 3.16. Beginning excavations at Ottawa Structure N10-15 in 1981 (photo by David Pendergast, 1980s slide C117-10).

plaster of the floor surface meets the base of a wall or architectural face and has a slight turn-up with the implication that the wall was present before the floor was laid) remained to suggest a wall or face had once stood there. In sum, there was no fully standing architecture here—no building, hence no roof—but merely the footprint of the building plan. This building plan was meticulously recorded by Stan Loten during excavation, yielding a detailed floor plan with accompanying notes, and several schematic floor plans outlining the different

construction stages of the building, as best they could be understood. These floor plans, notes, and cache/burial artifact and description lists, along with the plans, sections, and artifacts from excavations conducted by Claude Belanger and myself in 2014, are the primary data used for this thesis.

In 1981 and 1982 horizontal excavations to remove post abandonment accumulation (PAA) and fill down to the floor surface revealed most of the floor plan of N10-15, with a trench 50–80cm deep penetrating into the floors along portions of the primary axis of the structure. Any obvious cuts in the plaster floor were investigated for possible caches, and benches were excavated to look for caches and burials, and later rebuilt. According to David Pendergast (personal communication 2015), the rooms of the building had been intentionally filled with rubble/debris, including building collapse and pottery sherds in fill material, but it appeared that the floors had been swept clean, as there were no complete pots or other artifact deposits remaining on the floor surfaces. This is in contrast to other Maya buildings that had been quickly abandoned, such as Aguateca, leaving significant artifact deposits on floors (Inomata 2001a). This suggests that Structure N10-15 was intentionally prepared for the next stage of construction that followed. Because no artifact deposits were found on the floor surfaces it precludes the use of artifacts to determine building function, a method undertaken by other archaeologists working in the Maya area (Inomata 2001a; Fauvelle et al. 2013), although not all archaeologists believe that floor deposits can be used to determine function. This is an important clarification, because the suggested elite-residential (Pendergast 1985:91–97) and administrative function (Pendergast 1992:74) of the building would have been based on comparisons with similar building groups in the Maya area and with the floorplan layout of the building, not artifacts. As was fairly common at the time, no

micro-analysis or chemical residue analysis of the floor surfaces were undertaken to determine if there were any specific activity areas that could be identified in the structure, and the floors have now been exposed for over 30 years, trafficked by thousands of tourists, and potentially the subject of consolidation.

Some consolidation work was done on the structures of the Ottawa Group in the early 1990s by the (then named) Belize Department of Archaeology, overseen by Claude Belanger. This mostly consisted of filling in excavation pits and capping the tops of the stub walls of some structures with a lime-cement mixture, but specific details are not available. David Pendergast and Elizabeth Graham conducted field schools at Lamanai in 1998 and 1999 and some non-penetrating excavation was undertaken on Structure N10-15 to expose some areas of walls and benches that had not been previously exposed.

In 2000, the government of Belize was loaned money by the Inter-American Development Bank to undertake a Tourism Development Project (TDP), of which one component was to improve several archaeological sites for tourism. Lamanai was one of these sites, and Ottawa was one of the architectural groups at Lamanai to be (minimally) further excavated and reconstructed for tourism. With the TDP funds, the walls of Structure N10-15 were brought to a similar height throughout, following the floor plans prepared by Stan Loten. The masonry was repaired and consolidated as needed. It was at this time that the boulders that filled the courtyard were removed, thus fully exposing the south stairs and terraces of Structure N10-15 down to the level of the plaza floor.

No additional excavation or reconstruction work was undertaken at this structure until 2014 when Claude Belanger and I conducted excavation under the direction of the Lamanai

site Principal Investigator, Dr. Elizabeth Graham. The details of these excavations are discussed in the Analysis Chapter VI.

In contrast with palaces and temples at many other Maya sites, there are no known hieroglyphic texts associated with monuments, pottery, or other artifacts from the Ottawa complex. Archaeologists and epigraphers working at other sites, particularly in the eastern lowlands, have been able to reconstruct a political history—with named rulers and nobles (see Martin and Grube 2008), but the dearth of monuments at Lamanai has prevented such efforts.

Maya Caching Practices

A discussion of the Maya caching practices and associated ritual ceremonies merits inclusion here as caches are an important part of the later analysis presented in Chapter VI. This is followed by an overview of caching patterns specific to Lamanai in order to give context for the caches found in Ottawa Structure N10-15. Caches are defined as “one or more objects found together, but apart from burials, whose grouping and situation point to intentional interment as an offering” (Coe 1959:77). Others argue that grave goods are offerings, just as objects in caches, but in a different context (Kunen et al. 2002:198).

There is a relationship between caches and buildings, and the Chases (1998:326) argue that ritual offerings help define architectural space and that caches are also components used to define sacred space within the territory. Caches may be planned as part of the building design prior to construction. The pattern seen at Caracol suggests that the “Maya used their architecture to reflect their cosmos and active articulation of both the living and the dead” (Chase and Chase 1998:326). The nature of caches in buildings and how they relate to either the construction, dedication, commemoration, destruction, or abandonment of a

building, or a portion thereof, is a subject of much controversy among archaeologists (Chase and Chase 1998:302). When Coe offered the above definition of caches he identified two types of caches: dedicatory caches and intrusive caches, with a third category designated as termination offerings, which were not considered caches because they were not concealed (Kunen et al. 2002:198).

Whether caches can be considered dedicatory or commemorative for an architectural structure is controversial among Maya scholars (Chase and Chase 1998:302). Ethnohistoric information derived from sixteenth century Maya revealed that there are many different kinds of offerings depending on the ritual event that was taking place, which could include offertory functions that were dedicatory, commemorative, calendric, or that defined sacred community boundaries (Chase and Chase 1998:303). Coe (cited in Chase and Chase 1998:302) has suggested that ritual ceremonies involving offerings may serve multiple objectives. In light of our western biases, these points are easier to agree with than trying to assign one specific meaning or purpose for the placement of a Maya cache. Ritual offerings are complex and effective typologies for caches and meaningful distinctions between cache functions elude Mayanists (Chase and Chase 1998:302).

More recently scholars view both dedicatory and termination offerings as two distinct classes of caches, which mark the erection or destruction of structures or monuments (Kunen et al. 2002:198). Dedicatory, or foundation caches, are created at the time of construction of the associated structure, while intrusive caches can serve different commemorative purposes after the building is erected, and terminal offerings comprise smashed objects found around structures placed at the time of abandonment. Dedicatory caches establish an association between the supernatural world and the location of the offering (Joyce 1992). At Piedras

Negras an axial dedicatory offering in a summit structure featured two vessels placed lip-to-lip containing a number of elite prestige items including an obsidian blade, eccentric flints and obsidians, several worked jadeite pieces, and shells, which represent both the natural and supernatural world and established the building as a sacred location (Joyce 1992:499; Kunen et al. 2002:198). Termination offerings, in contrast, break the link between sacred space and the cosmos by destroying the materials that connect them. This frequently involves the smashing of objects, including jade items and pottery vessels, and scattering the pieces, as well as ceremonial burning (Kunen et al. 2002:198). In these scenarios the timing and location of cache placement in respect to the structure are thought to aid in determining their nature as dedicatory or termination offerings (Kunen et al. 2002:198); however, as Chase and Chase (1998:302) have pointed out, it is not such a simple matter to understand the motivation for placement of ritual offerings within a building. Further complicating the issue is the Maya penchant for constructing edifices by nesting sequential buildings such that “caches that intrude into structures may be interpreted as terminating the function of the intruded-on building but may also dedicate later versions of those structures” (Kunen et al. 2002:198). The reopening and resealing of caches also complicates interpretation. A contemporary example of offertory practice by the Tzeltal Maya reveals that a dedicatory offering cache is seen as placing a heart into the building to animate it (Kunen et al. 2002:198). Smashing and scattering objects at a building releases the soul and deanimates it. A single ritual offering cache can therefore simultaneously “mark both the cessation of life in the old structure and the inception of a new building” (Becker 2001:6 cited in Kunen et al. 2002:198). The opposing concepts of dedication and termination may better be seen as representing the cyclical process of birth, death and rebirth (Kunen et al. 2002:198).

Patterns of caching and burial practices can reflect the broad cultural practices of the Maya, but there are regional as well as temporal shifts in caching practices (Chase and Chase 1998:300). At many Maya sites changes are seen especially in the Late Classic and the Postclassic periods. For example, at Caracol Early Classic cache contents reflect an intentional layout related to the concepts of settlement foundation, centering, and sacred space connected to the territorial whole, often called “sacred space” or “cosmological map” caches, with layered contents, discussed in more detail below (Chase and Chase 1998:324). In the Late Classic at Caracol and other sites there is a shift in the focus of cache placement away from epicentral monumental architecture (although they still occur there), to domestically linked architecture with caches more decentralized and varied in nature, but at sites like Tikal, the focus of cache placement centered in monumental architecture continued (Chase and Chase 1998:326). This may represent two very different strategies for coping with changing Maya world, because “the location and nature of ritual deposits serves as a mirror of societal change and organization” (Chase and Chase 1998:326).

Although Pendergast (2006:59) has written a synthetic article on the cache placement at Lamanai, he states that presentation of a series of complex architectural sequences is necessary before undertaking a full assessment of Lamanai’s caches in the intersite context, so it is difficult to make comparisons between Lamanai and other sites, but a shift in focus away from monumental construction is seen at Lamanai in the Late Classic, so there is a change of ideas. At this time both Lamanai and Caracol embarked on a construction modification program that added rows of rooms across the central stairs of monumental pyramidal structures. In the Late Classic at Lamanai caches took a “significant leap forward in the opulence of offerings” (Pendergast 2006:65–66) and continued to be placed in the

additions made to the monumental structures, but it is unclear how the greater pattern of caches in monumental architecture as compared to residential architecture changed during this period.

The method of cache placement within a structure is also an important aspect of interpreting caches. Caches are frequently placed on the central axis of a building, as the central axis is an important aspect of Maya worldview; however, caches are also placed in other non-axis associated architectural-features, such as niches or benches (Pendergast 2006:61). In an overview of Lamanai caches Pendergast remarked that it is “abundantly clear from the record that the primary axis was the principal determinant of cache position in communally built structures.” Caches are often placed within a pottery container in the building core, but at times the objects are simply placed in the building core without a container. These caches would fall into the dedication or intrusion types discussed above. Sometimes pottery and other artifacts are left on the surfaces of building floors and these caches or deposits can reflect rapid abandonment, or if intentionally broken—often associated with burning—they are thought to represent some type of ritualized termination event. Repeated use of the same horizontal and vertical location over an extended time period can indicate social memory, continuity of ideology, and possibly continuity of local leadership (Iannone 2005), whereas changes in cache location could point to a disjunction; however, the nature of caches and the ritual associated with their placement may be different when they are placed in different types of locations—e.g. the primary axis vs. placement in rooms unrelated to the primary axis, or inside buildings as opposed to a location outside the buildings.

Caches and interments may serve as symbolic models of the cosmos incorporating different objects as physical representations of the Maya worldview and layers of the cosmos (Chase and Chase 1998:303–304; Guderjan 2004; Joyce 1992). The artifacts within these caches, or even groupings of caches, may be placed in association with the cardinal directions and “represent sacred symbols in which supernatural powers reside and evoke the presence of those spirits through creation reenactment or cosmological modeling” (Mathews and Garber 2004:53). A lip-to-lip cache is a form of cache composition that has vessels placed such that one is inverted over the upright bottom vessel to make a lidded container for objects. These “cosmological map” caches symbolically represent the three layers of heaven, earth, and the underworld or primordial sea. In one interpretation the domed upper vessel represents heaven, stones and jade are earth, and marine objects represent the underworld (Guderjan 2004). In a similar scenario, space under the lid is the upperworld, earth is represented by twigs and bones, and the nine levels of the underworld are represented by nine chert or obsidian flakes (Garber et al. 1998). Examples of these types of caches have been observed at Caracol (Chase and Chase 1998:314–318), Blue Creek (Guderjan 2004); Blackman Eddy (Mathews and Garber 2004:52), La Milpa (Houk and Zaro 2011) and at Lamanai Structure N10-15 (personal observation). These and other cached offerings “were vital in the establishment and maintenance of a structure’s connection to ancestral spirits and supernatural forces” (Mathews and Garber 2004:53) and function to dedicate, and animate or activate sacred space often by bringing the “soul” of the old building into the new building (Freidel et al. 1993:244–46).

All caching in buildings was accompanied by some type of ritual ceremony, either public or private. Ceremonial burning and censuring were important acts in Maya religion.

Classic period inscriptions pertaining to architectural rites speak to the importance of fire and incense (Stuart 1998:403), and it may be that the carbonized and ashy remains found in many caches and deposits represent the remains from ritual ceremonies involving burning.

Ethnohistorical accounts are fundamental sources of explanation for fire rituals including the Aztec New Fire ceremonies, and hieroglyphs are providing more evidence of ritual ceremonies involving fire. David Stuart argues that archaeologists underestimate their importance as a ritual practice. A stela at Naranjo provides one example of a fire-drilling ritual through the depiction of a ruler wearing a mask of the Jaguar God of the Underworld holding a long staff which is a symbolic ceremonial drill, with a tridentlike flint object in his other hand (Stuart 1998:404). This flint object is important to note because, as will be discussed below, there are a variety of forms of ceremonial flints that are placed in caches associated with the ruling elite. Ceremonial burning is tied to ceremonies associated with dedication, sacrificial rites, and important Maya calendrical positions: as forms of ritual and spiritual expression, burning and bloodletting went hand in hand (Stuart 1998:403).

Bloodletting implements are found in many caches, an example of which are obsidian blades and stingray spines in caches at Piedras Negras (Joyce 1992:501). Blood sacrifice is tied to ceremonies that mark the passage of time and to ensure order in the universe (Chase 1991:89). It is also an important part of the New Year's ceremonial ritual (Chase 1991:93). Blood sacrifices played a major role among the Maya elite and bloodletting paraphernalia such as stingray spines and obsidian lancets affirmed the status of high-ranking individuals and there is evidence of continuity of this practice from the Classic to the Postclassic (Chase 1991:96). In the Classic period there is an association between bloodletting and the erection

of stela that mark calendrical period-endings and Diane Chase (1991:96) argues that certain caches are ritual markers of the passage of time.

Among some of the prestige items that are often included in Maya caches are worked jade objects or rough jade stone. Because of its green color, jade was associated with maize and water and it was the most precious material in Mesoamerica—at the time of the Spanish invasion it exceeded the value of gold (Miller and Martin 2004:292). Along with jade, marine objects including *Spondylus* bivalve shell (the likely source of the pearls found occasionally in burials and caches) are placed in caches. These are a defining feature of the maize God's costume (Miller and Martin 2004:294). Another prestige item in caches are “eccentric” lithics (i.e. flaked stone symbols or eccentric flints) made from chert. At Lamanai, Altun Ha, and a number of other sites these are found in caches, in and around burials, and beneath plaza floors. In the chert-bearing zone of Belize these explicitly symbolic chert forms occur in a range of anthropomorphic, supernatural, zoomorphic, celestial, and other abstract forms that reflect both complex technological and symbolic knowledge (Meadows 2001). Meadows argues “that flaked stone symbols were part of a common ideology and helped to legitimate political authority when used in a ritualized setting” (Meadows 2003:15).

Eccentric flints or obsidians are made in a variety of configurations, including the *k'awil* form. In Maya religion the *k'awil* character, formerly referred to as God K and the Manikin Scepter, is associated with lightening and maize and was important to elite lineages, rulers, and in royal accession ceremonies (Miller and Martin 2004:293). As described by Martin and Miller, “his forehead features a mirror punctured by a stone celt or some flaming device: either a cigar or torch. His body often displays scales and one leg and foot are usually depicted as a writhing snake.” These “chert eccentrics were associated with the royal palace

and temples but not with residences. This strongly suggests that eccentrics were considered royal ritual objects” (Inomata 2006:820).

Plants and plant products were important elements of Maya ritual, although they are much more difficult to detect. The use of pine (*pinus*) in ceremonial deposits is common, with the ritual burning of pine a symbolic act associated with the offering of "food" sacrifices to deities (Morehart et al. 2005). Pine may also have been burned as torches, similar to the ways candles are used in modern ritual. Carbonized pine wood and needles have been found in caches (Chase and Chase 1998:317). Although pine was used for a variety of purposes from construction to furniture and fuel, one study suggests that pine products circulated as a component of socio-political strategies and that access to pine was variable (Lentz et al. 2005). Plant and sea sponge remains were present in nine ancient Maya vessels at Blue Creek (Bozarth and Guderjan 2004), where they are termed dedicatory caches, which commonly took form as lip-to-lip caches enclosing different artifacts (Bozarth and Guderjan 2004). A number of these caches contained sponge spicules indicating that marine sponge was part of the offering, as well as palm phytoliths and other plant remains, some of which were foods including squash and corn.

Consistency in the style of ceramic vessels that are included in caches can link caches to each other, and using La Milpa as an example, Houk and Zaro (2011:179) argue that “their placement within plaza construction ritually integrates seemingly discrete architectural components into an intentionally engineered Late/Terminal Classic royal precinct plan of Plaza B.” A similar pattern of linking caches has been observed at the North Acropolis of Tikal, where deposits that included articulated crocodiles were placed within different structures at the sides of the architectural complex to symbolically “center” this area in

relation to the rest of the site as part of the broader cosmological plan (Chase and Chase 1998:326).

Caches are our primary source of dating for the construction sequences of Structure N10-15, and therefore locating them in sequence is crucial for a more fine-grained understanding of the timing of the construction events in Ottawa Group. But the construction sequence also is used to help refine the ceramic chronology, so there is tacking back and forth between the evidence to refine the dating of both the architecture and the ceramics. All caches encountered in Structure N10-15 are of Late to Terminal Classic date, but again this is a long span of time—a period of over three hundred years. In other words the caches placed in N10-15 have ceramics from the Early Tzunun, Late Tzunun, and Terclerp Phases, but because there is much continuity in ceramics during the time represented by these phases it is not always clear as to which phase they belong in. All other dating is relative within the architectural stratigraphy because although the associated ceramic sherds in building core and the later room fill can suggest dating, it is not from a primary context and therefore cannot provide secure dating for these architectural features. The ceramic sherds recovered during the 2014 and 2015 excavations from floor ballast, wall core, and other fill have been analyzed by Dr. Elizabeth Graham and they are in accord with the time period proposed for construction activities at Structure N10-15.

The Architectural Context and Patterns of Caching at Lamanai

Lamanai caches fall into three contextual categories: community or public structures; residential structures; and monumental structures. Caches in the first two categories were thought to be placed to maintain connection with the deities, with the last category's function being less certain (Pendergast 2006:59). Caches in public architecture first occur in the Late

Preclassic where the pattern of cache placement was on the primary-axis of a structure. This pattern was found to be the most common and it continued until the Early Postclassic (Pendergast 2006:61). The Preclassic caches contained pottery, which was a *nearly* universal cache component throughout Lamanai's history, and it was simply placed in building core, another dominant feature of Lamanai caches (Pendergast 2006:61). Building core is the internal masonry of a unit such as a platform, wall, bench, vault, stair, or outset, and it is different from fill, which applies to material that is dumped into an excavated pit or other feature (Loten and Pendergast 1984:6, 9).

From the Preclassic through the Terminal Classic, Lamanai also had a number of empty pits, later dubbed "Lamanai holes," which are suspected of having been perishable offerings, as upon investigation they contained nothing (Pendergast 2006:61). This is not unique to Lamanai as it is seen at other sites too, such as Palenque (Joyce 1992:502) and Tikal (Becker 2015:9), but, as Becker point out, these ash or dust deposits have typically not been examined in detail. Graham (2006:122) makes the point that "the major portion of cache deposits comprised organic materials," which is further supported by recent archaeobotanical analysis of cache contents at Lamanai, discussed below.

A modest Preclassic offering in the imposing Structure N10-43 contained a single flaring-side redware dish, with two bird skeletons. Although the next two modifications to this structure yielded no caches, a subsequent and more major modification that included a new stair was marked by the first paired-vessel cache known at Lamanai—with one vessel of the pair inverted over the other. The cache consisted of two pairs of redware dishes, one pair of similar shaped vessels—the other pair not. This second pair contained a tubular jade bead (Pendergast 2006:62). A later cache in the lower part of this structure was an unusual lidded

black cylinder with a small bib-helmet style pendant of jade (royal insignia) and a small Olmec-related infant figurine of Spondylus shell. One other Preclassic cache in a residential structure (P8-14) contained paired vessels (Pendergast 2006:63).

In the Classic Period caching locations appear to be erratic—sometimes present as expected, and other times not—and there was no pattern in cache contents (Pendergast 2006:63–64). The Early Classic is one period where ceramic vessels were often lacking in the caches. When vessels were found they were paired, placed lip-to-lip, unslipped, large round-side bowls, each with slightly different body-profiles that appear to be hastily made specifically for cache use (Pendergast 2006:63–64). The contents of these were generally jade and shell objects (often ear-ornaments), jade and shell mosaic fragments, and organic decay. Fern spore was identified in one of these caches, suggesting the use of botanicals in caches.

Nearing the end of the Early Classic when construction of Structure N10-9 was underway, an offering of jade mosaics was placed on the upper stairs, although not inside pottery vessels, which may have been a deviation from the norm during the last century of the Early Classic—but without vessels it is hard to date this.

In the Late Classic, at about A.D. 600, cache composition became more opulent. The paired vessel tradition continued, but the forms changed to a deep bowl and a more shallow bowl as the lid, such as when the building was added on the terraces of Structure N10-9, and also with additions to Structure N9-56 (Pendergast 2006:63–65). The contents of Early Classic caches shifted in the next period to contain groups of ceremonial flints and other large objects, such as occurred in caches in Structure N10-9 and N10-15, and a single large flint—the largest known—placed with two vessels in N10-18.

Flaked stone symbols appear in Late and Terminal Classic caches at Lamanai along the axis of monumental structures, including (or possibly limited to) Structure N10-9 at the south end of the large open Plaza N10[2] which the Ottawa Group adjoins on the north. They were also cached in the Ottawa Structures N10-15 and N10-18, and found in association with an altar in Plaza N10[2] (Meadows 2001:271).

Also typical in the Late Classic was the introduction of obsidian blades, flakes, and cores in caches. Structure N10-43 had a primary-axis offering with 15.6 kg of obsidian. Beneath Stela 9 at Structure N10-27 was a cache, or reburial of child bones and underlying this was a cache of 13 ceremonial flints. Another offering of chert flakes was associated with a giant altar located NW of this structure (Pendergast 2006:65–66). Dating to the late 9th or early 10th century A.D., an offering placed under the ballcourt marker had two fragmented dishes, and a lidded vessel containing crystalline hematite, cinnabar, two miniature vessels, jade and shell objects, and a pearl resting atop a pool of mercury (Pendergast 1980:4, 1982e:533).

“Lamanai polychromes” are red and black on orange, usually with encircling stripes around the rim interior. The interior base is commonly decorated with a cartoon-like jaguar or other animal. The design of these Lamanai polychromes appears to be unique at Lamanai as they have not yet been identified elsewhere. They are typical of the Terminal Classic period (ca. A.D. 800 or later) caches (Graham 2004:235). Caches at this time frequently feature charcoal or carbonized remains. In the Ottawa Group caches tend to have Lamanai polychrome dishes placed with one vessel inverted over the other as a lid, commonly referred to in the literature as lip-to-lip vessels or a lip-to-lip cache (Bozarth and Guderjan 2004; Chase and Chase 1998; Garber et al. 1998; Kunen et al. 2002). These Terminal Classic vessel

pairs served as a container for charcoal and obsidian flakes, blades, or lancets (Graham 2004:235; Elizabeth Graham, personal communication 2014). Caches also feature black cylindrical vessels, often only partial or broken. These Terminal Classic caches are found in both masonry structures and the boulder-filling core and platform core in the Ottawa Group.

In evaluating the Late to Terminal Classic painted ceramic vessel tradition, compared to other Classic sites in the Maya lowlands, the artistic traditions at Lamanai were modest. It has also been noted “that the cache vessels conform to what could be considered a strong local stylistic convention [Howie, personal communication 2006]” (Graham 2006:122).

Moving into the Terminal Classic (originally considered Postclassic by Pendergast), one of the larger offerings at Lamanai, Cache N10-14/6 (LA 578) on the lower terrace of Ottawa Structure N10-17 (the architectural stage nicknamed Snow), consisted of about 1.5 cu³ of ash and charcoal and eight specialized vessels—some common and some uncommon at Lamanai—placed with the infilling of the Ottawa Group courtyard with a massive amount of boulders (Pendergast 2006:66; Pendergast 1981b:4).

Later in the Postclassic the use of multiple vessels was often replaced by the use of a single vessel or other object. Regarding this reduction of cache composition, Pendergast argues “that reduction in cache size reflects a shift in values rather than a decline in means” because other evidence points to a strong economic pattern at this time at Lamanai (Pendergast 2006:66). Termination rituals were taking place at Lamanai during this period with large scale smashing and scattering of Mayapan-related figurines on the surface of abandoned structures such as Structure N9-56. Ritual refuse was also deposited at Structure N10-27 beginning in the Terminal Classic period and continuing as long as Buk pottery was made, possibly as a result of ritual activity associated with the Ottawa Group (Graham

2004:231). After Spanish contact indigenous offering practice was disrupted, but still some offerings were placed at the Spanish churches—perhaps snuck in as they were constructed—and later continued after Spanish hegemony at Lamanai waned (Pendergast 2006:68–69).

So How Did Lamanai Survive the Collapse?

As is evident in the above discussion, the site of Lamanai is among the small (but possibly increasing) number of sites that transitioned from the Classic to the Postclassic *and* that has been intensively excavated and researched. Pendergast (1986, 1992) has speculated about potential reasons for this stability at Lamanai.

Among the reasons are the low number of identifiable palaces at Lamanai, which may mean there were fewer elites living at Lamanai than there were at other sites (Pendergast 1992:67). The river and lagoon provided for a means of communication and exchange of goods with a more distant world, which may have fostered stability (Pendergast 1992:73). Economic factors are poorly understood for Lamanai, so it is difficult to say what, specifically was contributing to economic stability during that time, but the riverine location may have been beneficial. With the lagoon at the site's edge, diet may also have played a role. Providing an abundant source of protein, commoners may have had healthier diets and been physically stronger than their contemporaries at other locations, thus making it easier for them to bear the duties involved with labor and tribute to their lords (Pendergast 1992:71), and of course their own subsistence. The elite may have demanded less labor tax than that of other sites, but “the kind of data required for real quantification of differential loading imposed on communities” does not exist (Pendergast 1992:71). The more modest frontal modifications to some structures in the later part of the Classic period may imply this; however, it is a pattern now seen at many sites in the Maya lowlands during this time, some

that did not survive the collapse. It could be that the ruling elite of different polities were all trying the same thing, but different outcomes resulted. In a complex and difficult time, the qualities of leadership may have been a factor in survival. Although intangible, Pendergast (1986:247) suggests that there may have been a psychological component to Lamanai's survival—community leaders functioning to meld individual optimism into a positive collective will. Of course the archaeological record cannot tell us what thoughts were going through people's heads.

Great changes took place at the Ottawa Group, which were seen by Pendergast (1992:73) as one of the “major restatements of the community's continued well-being” during the troubled time of the collapse. But were there earlier roots to these changes? Does the changing chronology at Lamanai revise this scenario? If the Ottawa Group did indeed serve as the “palace” for Lamanai—the seat of government—what was the role of divine kingship at Lamanai during the time when Ottawa was being revamped? The question arises, did elites pursue strategies that mitigated the delegitimization that accompanied the collapse elsewhere? Was there an ideological change?

To answer these questions we need a more detailed understanding of centrally located public architecture at Lamanai to examine the transition in greater detail. Gaining a better understanding of the sequence and timing of the construction activities at the Ottawa Group is one place to start, although this will need to be seen alongside other aspects of the built environment in the Central Precinct area that borders Ottawa. Does the refined ceramic chronology realign any of the changes that were taking place at nearby plazas, temples and range structures at the same time Ottawa was being reinvented?

When first reported by Pendergast (1985:95–97) the changes at Ottawa were thought to have occurred over a very long time span—several hundred years—of which at least a portion fell in the Postclassic period. Later excavations by Graham (2004) have potentially reduced the time span of the project and placed the construction activity associated with the boulder infilling of the Ottawa courtyard earlier—in the Late to Terminal Classic. Although multiple construction sequences certainly did occur over an extended time period we do not yet fully understand the overall chronology. Was Ottawa the central focus of activities of the royal court, a palace in that sense? We do not know. In its initial form—with range buildings surrounding the courtyard—the Ottawa Group is considered to be an elite residential group that probably served both residential and administrative functions. We do not yet have the full picture that will allow for an interpretation of the Ottawa Group in its later forms, but it appears that it became more open and accessible, and perhaps at least some buildings in the group suggest a change in function.

CHAPTER IV

METHODOLOGY

My research question is, “Do changing architectural and caching features of Structure N10-15 at the centrally located N10[3] architectural group speak to ideological changes at Lamanai during the Late to Terminal Classic Period that relate to Lamanai’s subsequent survival of the collapse?”. The purpose of this research is to assess whether there was *qualitatively meaningful* and *visually expressive* ideological change at Lamanai during the Late to Terminal Classic period by examining the architecture and associated caches of Structure N10-15 in the Ottawa Group. To be considered visually expressive a change in architecture or in the caches would have to be 1) visually noticeable for some audience—either other elites, or non-elites—and 2) it must convey some message that qualitatively changes the nature of rulership, views of the cosmos, etc.. An ideological change during this time may have contributed to Lamanai’s survival of the collapse. The function of the Ottawa Group is not clearly understood at present, but it no doubt served some aspect of the needs of the royal court at Lamanai, whether it be residential, administrative, or a combination of the two. The significance of this architectural complex is demonstrated by both its location and duration, and certainly it embodied and communicated the ideology of the rulership of this city. Elizabeth Graham (personal communication 2010) has noted that “although Ottawa’s Terminal Classic construction seems to be a seamless continuation of Late Classic investment in building activity in some ways, aspects of the architectural features of the Terminal Classic structures are at variance with known Classic building styles – for example: even rather than odd numbered terraces; idiosyncratic stair and stairside outset features; and use of unusual veneer masonry”. This deviation from the norm may signify a change in

ideology and ultimately a turn away from divine kingship and the belief system that upheld it. A change in the architectural features could be attributed to a number of variables, including such things as foreign influence and emulation, changes in access to materials and labor, changes in the building function—all of which can embody ideological change at Lamanai. Although some of these may be indicative of things other than ideology, they are still relevant for changes associated with the collapse. Of equal importance are the caches that were placed in Structure N10-15 during its different architectural stages, as differences in the manner of placement and the nature of the cache contents may also signify ideological change.

Existing Data for the N10[3] Ottawa Group and Structure N10-15

The research design of this study is based primarily on the foundations of prior work in the N10[3] palace-courtyard architectural complex, nicknamed the “Ottawa” Group, conducted by David Pendergast under the auspices of the Royal Ontario Museum’s Lamanai Expedition. While the whole of Ottawa is taken into consideration as the contextual setting, this study is focused on Structure N10-15 and it relies heavily on the data produced by David Pendergast and Stan Loten during the 1981 and 1982 excavations. The Ottawa Group’s architectural history has been documented with a series of detailed plans, sections, accompanying notes, photographs, artifact lot records, and cache records. These have been generously provided by Elizabeth Graham, David Pendergast, Stan Loten, and Claude Belanger, as have many personal discussions regarding Structure N10-15. While a formal structure number has been assigned for most of the structures and platforms in the Ottawa Group, there are also nicknames for most of these, and floors are known only by name. The names of these architectural features and a brief description are delineated in Table 4.1.

There are also several additional Tables in the Appendix that list the names of features associated specifically with Structure N10-15, especially those related to cache locations.

This study also incorporates the results of additional excavation of Structure N10-15 undertaken by Claude Belanger and myself, under the direction of Elizabeth Graham, in 2014, followed in 2015 by a 1 x 4 meter unit in the plaza floor at N10-15, which provided further clarification. Investigations in 2014 focused on looking for access stairs at the north side of Structure N10-15 and further refining the construction sequence of the many remodeling episodes of this building. The details of the 2014 excavations, as well as information on the research goals, excavation methods, and laboratory methods are covered in the *Preliminary Field Season Report 2014, Lamanai Archaeological Project, Lamanai Op14-3* (Pierce 2014). The key findings of these excavations are reviewed in Chapter VI, Analysis. Investigations in 1999 and 2000 carried out by the Lamanai Field School, and Mark Shelby's (2000:25, 30–33) stucco frieze project at the adjacent Structure N10-28, provided some additional contextual information.

Here it is appropriate to remind the reader that the Ottawa complex is located in the heart of the Central Precinct at Lamanai, situated among three temple-pyramid structures with great plazas, and it is one of few elite-residential-administrative groups identified at Lamanai. The plaza (N10[2]) and temple-pyramid (Structure N10-9) with which it is most closely linked, saw continuous modifications from at least the Early Classic through the Postclassic, as did the Ottawa Group. This points to the importance of the group and no doubt its prominence as a center of royal activity. As discussed previously, the Ottawa complex has provided evidence of a construction sequence that extends from the Late Classic through at

Table 4.1. Plaza N10[3] Ottawa Group structure numbers, floor names, a brief description, and alternative names used for these architectural features.

Table of Plaza N10[3] Ottawa Group Structure Numbers and Alternative Names		
Name	Description	Alternative names or spellings in field notes or plans
Thistle Floor	The courtyard floor primary to Structure N10-28, and which the substructures of N10-15, N10-18 sit upon. Structure N10-77 opens to this floor.	N10[3] courtyard floor
Salt Floor	A floor primary to and 15 cm below Thistle Floor at the east end of Ottawa at the west face of the Sleet building platform.	N10[3] courtyard? floor (early)
Shamrock Floor	A floor at the east end of Ottawa that lies below the Salt Floor.	N10[3] floor (early)
Xix Floor	The floor that capped the boulder infilling of the Ottawa Group.	N10[3] floor (late), maybe Xiu?
Boulders phase	This is an architectural stage referred to as “Boulders”, which is the name that describes both the stage and the stones that were used in this huge architectural transformation when Classic period buildings were razed and the courtyard was filled (Graham 2004:232). The floor that capped the boulders is named Xix.	Boulders (See also N10-14)
Structure N10-12	A long masonry platform built over the razed and filled remains of Structures N10-77, N10-78, and the access passage between these two structures. There were two building stages. It has been excavated on the east side only.	Trillium
N10-14	The name given to the boulders infilling, Architectural Stage 6 in this analysis.	Boulders, Boulders phase (Not a ceramic phase)
Structure N10-15	A masonry building with tandem rooms oriented on an east-west axis, flanked by transverse rooms; expanded through 7 building stages.	Fifteen, N10-15 1 st , N10-15 2 nd
Structure N10-17 Primary stage	Sleet is an earlier structure that stands with its walls almost intact to their full 2 meter height; with its roof ripped away, it was capped by Snow. There may be two stages to this structure that are built on different floors below Salt Floor. It was a 4-room masonry building with 2 tandem rooms flanked by transverse rooms.	Sleet
Structure N10-17 Intermediate stage	The facing that cases Sleet is Snow. Snow is a terraced platform with large stairs and the platform top lying above the wall tops of Sleet.	Snow
Structure N10-17 Final Stage	Slux is a little platform built atop the boulder core that covered Snow.	Slux
Structure N10-18	A masonry building with tandem rooms oriented on a north-south axis, flanked by transverse rooms. Only partially excavated on the north end.	Mux

Structure N10-19	This structure was first considered separate from Structure N10-15, but was later determined to be a part of N10-15. It connects N10-15 to N10-18, which may represent a single L-shaped structure.	Willows
Structure N10-28	A masonry building with tandem rooms oriented on an east-west axis, flanked by transverse rooms; expanded through 3 building stages.	Tulip
Structure N10-76	A 17m x 6.5m platform about 60 to 80cm in height with a wall at its west side.	Plant
Structure N10-77	A masonry building with tandem rooms oriented on an east-west axis; expanded through 2 building stages, with a third row of rooms added. Partially unexcavated at the south side. This building underlies Structure N10-12 at the east side of Ottawa.	
Structure N10-78	Unexcavated structure that underlies Structure N10-12 at the west side of Ottawa.	
Central Access	An open passage between Structures N10-77 and N10-78 at the level of the courtyard floor connecting Plaza N10[3] and Plaza N10[2].	Access passage, access passageway
Structure N10-80	A small platform built on top of boulder core over the razed remains of Structure N10-28	Paper
Structure N10-81	A low crude platform at the west side of N10-76 built of earth and small stones, which lies just west of N10-76, abutting the west face of N10-76. Built on top of boulder core.	Mess
N10-XX	A low platform, ca 24 cm high, built on top of boulder core.	Oxblud

Table 4.1. Continued.

least the Early Postclassic. The demolition of some of the earlier buildings, filling of the courtyard and north plaza, followed by new construction, reveals a major reconfiguration of the group during the transitional Terminal Classic period in Maya history. It is the sequence of architectural changes at Structure N10-15 in the Late to Terminal Classic period that I am specifically focused on here, as this particular building stood while others in the complex were destroyed. The fact that Structure N10-15 was not demolished as the others were attests to its importance over other structures in the Ottawa Group in the Late to Terminal Classic period and suggests that it is a building of great ideological significance to the ruling elite of

Lamanai. The modifications and additions to this building may hold clues to Lamanai's ultimate survival into the Postclassic.

Although the excavations of Structure N10-15 in the 1980s demonstrated that there were multiple stages of construction, which included several additions to this building, the stages have not been entirely defined and no specific dating has yet been assigned, other than the understanding that the stage in which the filling of the courtyard and northern part of Ottawa in the architectural sequence was completed in the Terminal Classic period, but other building activity at Ottawa continued into the Postclassic.

General Approach for Analysis

The data described above will be used to undertake an analysis of the construction stages and the caches associated with each stage. Below I describe the methods and what I will be looking at in these different analyses and discuss the reasoning behind this with examples from the Maya area.

The methodological thrust of this research is to clarify the architectural sequences in Structure N10-15 and correlate the cache placement within these sequences. This will then serve as a component of future studies of the Ottawa Group, when the established architectural sequences for Structure N10-15 can be used in conjunction with the architectural sequences for the other structures in the Ottawa Group to determine the overall sequence of changes within this group and more precisely date this sequence of events, and then examine this in the broader context of regional changes during the Late to Terminal Classic period.

Methods

The methodology of the project includes six main steps: 1) excavation at Structure N10-15, 2) a preliminary literature review of elite residential/administrative/palace architecture, 3) a preliminary assessment of the architectural features of Structure N10-15, 4) determine the architectural sequence of Structure N10-15, 5) locate caches on plan and in the architectural sequence, 6) analyze caches. For each of these five steps I first define the activity required then follow with a discussion of why it will help answer the research question.

Excavation at Structure N10-15

Activity. Excavation of Lamanai Structure N10-15 and associated lab analysis and recording was conducted May – July 2014, and in June 2015, and is described below. I continued architectural analysis, completion of “field forms,” and excavation reporting for several months after returning from the field.

Discussion. The overall goals of the 2014 field season were to further refine the architectural construction sequence of Structure N10-15 (Figure 4.1), clarify some items on the plans and notes prepared by David Pendergast and Stan Loten during the Royal Ontario Museum excavations of this structure in the 1980s, obtain additional information pertinent to the sequence of the boulder filling that took place both in the courtyard and to the north of Structures N10-15 and N10-28, identify access to Structure N10-15 on the north side of the building, and to some degree, gain an understanding of N10-15’s relationship to the other structures in the Ottawa complex through time. Architectural construction features were noted for various building stages. A photo record was made to document all of the wall and platform faces in each room and across the exterior of the building, which included scaled

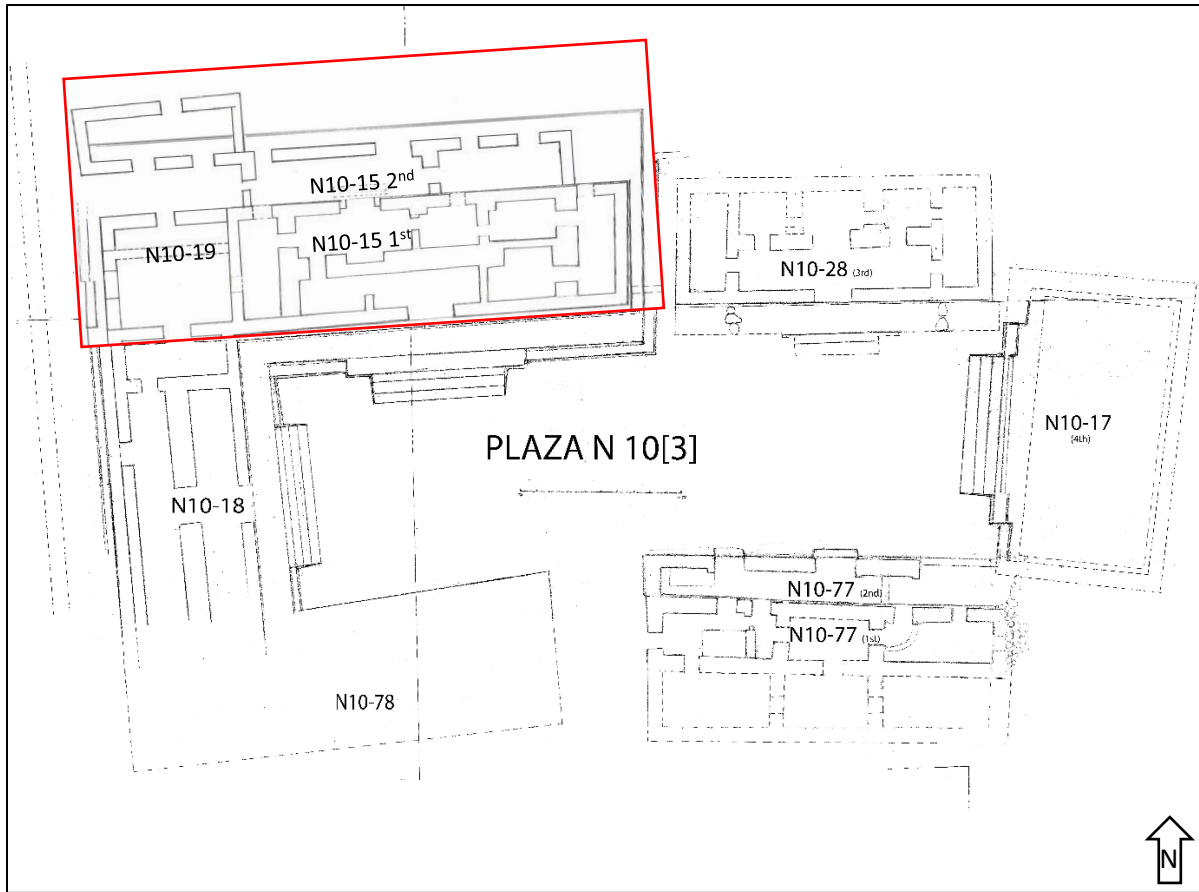


Figure 4.1. The Ottawa Group, Plaza N10[3], highlighting Structures N10-15 and N10-19 (red area).

photographs of the terraced substructure. These were keyed to a floor plan of the building. Excavation units followed architectural features. Beginning with an excavation unit at the north central stairs to determine if the stairs continued below the upper floor, the placement of additional excavation units was determined by the architectural features exposed in the preceding sub-ops in order to clarify the features that were exposed.

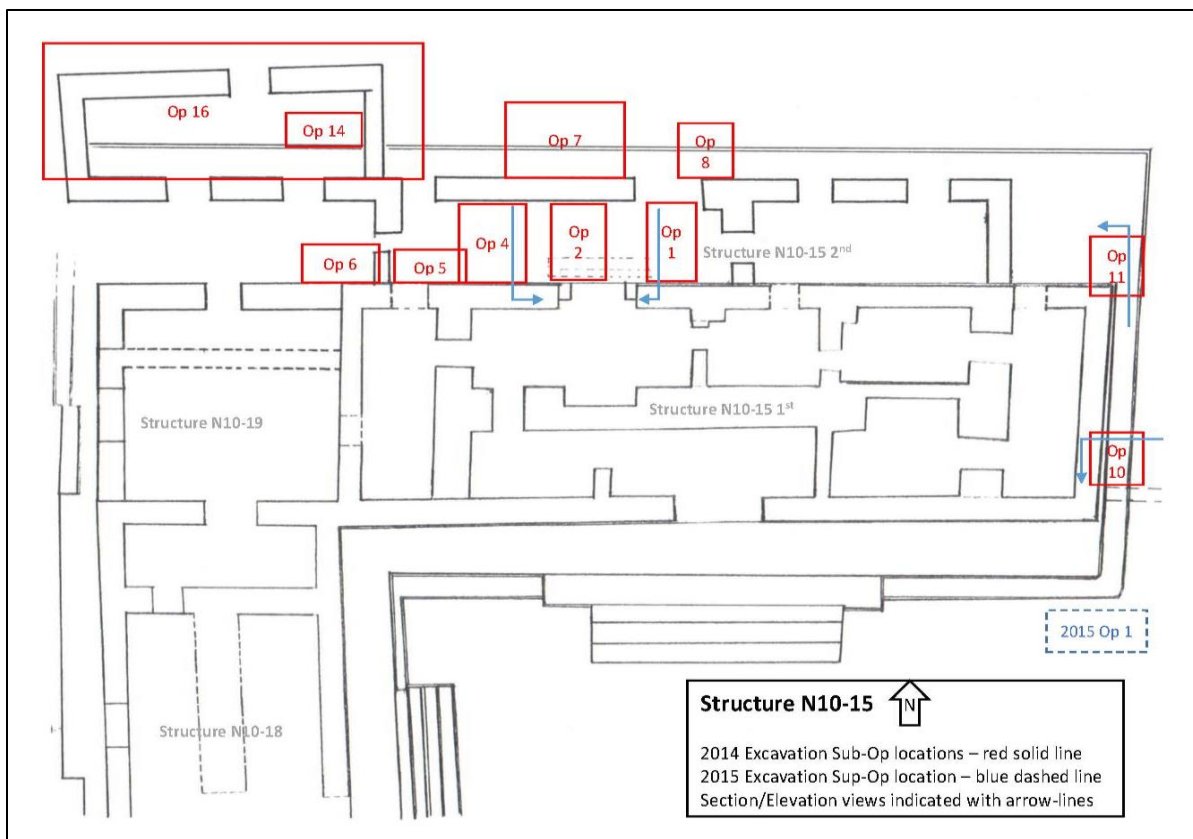


Figure 4.2. Plan of Structure N10-15 indicating the location of 2014 excavation operations that are incorporated into this analysis.

In 2014 a total of 18 excavation units (sub-ops) associated with Structure N10-15 were investigated—primarily on the north side of the building (Figure 4.2). These were all subsumed under Lamanai Project Operation 14-3, but each individual unit of investigation was assigned a sub-op number. Table 4.2 provides details on the Lamanai recording system including operations, sub-operations, lot numbers, and cache numbers, and gives the specific numbers assigned for the 2014 excavations. As a follow up to the 2014 investigations, one additional unit was excavated in 2015. The findings most relevant to the present study are incorporated into the section in Chapter VI that addresses the architectural stages of Structure N10-15 and is presented in chronological order.

In 2015, excavation OP 15-01, Sub-Op 2, was a 1 m x 4 m test unit excavated on the south side of Structure N10-15 in the courtyard floor to determine if the buried substructure

located under the courtyard floor where Structure N10-28 stands—exposed in 2014 excavations—extended across the plaza towards the south, which would have suggested that the Ottawa Group may have sat on two separate platforms at an earlier time. No such substructure was found where we anticipated its location, but instead there was the dismantled portion of an earlier structure.

The key findings of the 2014 and 2015 excavations at Structure N10-15 in the Ottawa Group are presented in Chapter VI in the section titled Architectural Sequence of Structure N10-15, which describes the architectural stages of the building. The architectural stages are reported in chronological order and the summarized excavation findings are included within the appropriate chronological stage. More detailed information on these excavations can be found in the *Preliminary Field Season Report 2014, Lamanai Archaeological Project, Lamanai Op14-3* (Pierce 2015) and the *2015 Lamanai Field Season Report* (Graham 2016).

Table 4.2. Description of Lamanai Field and Laboratory Recording Procedures and numbers assigned for components of the 2014 excavations at Structure N10-15 (adapted from Simmons 2005:23).

Description	2014 Field Season designation used	LAP System
OPERATION	OP14-03	OP indicates an operation, the 14 indicates the year in which the operation was assigned and carried out. The second number is assigned in chronological order and indicates the number of operations that have been assigned at Lamanai that year. Each distinct area under investigation is assigned a separate operation that will track all lot numbers, burials, vessels, etc. that are assigned for that Operation. In 2014, the N10-15 excavation was the 3 rd operation assigned, as other Ops were undertaken in other areas of the site by different archaeologists.
SUB-OP	Sub-Op 1 – 20	Sub-Op indicated a specific unit or sub-operation that is encompassed under the greater Op designation. For example in 2014 there were 18 individual excavation units and 2 additional mapping and infrastructure undertakings, for a total of 20 Sub-Ops.
LOTS	LA 3101 – LA 3153 52 total lots assigned in 2014	Lot numbers are then assigned and numbered sequentially within each operation. A lot is a distinct area under investigation and can include, but is not limited to, an architectural feature, a 10–20 cm (or other) arbitrary level of soil, or any other significant deposit. A lot form is filled out (Appendix 1) for each distinct area under investigation and provides information such as thickness of deposit, date of deposit, and relationship to datum and/or surface. A master list of lots is maintained for reference and to aide in assignment of open lot numbers.
SMALL FINDS (aka Special Finds)	LA 3140/1 1 total Small Finds recovered in 2014 From Sub-Op16	Culturally and/or temporally significant artifacts, termed small finds, are pulled from their lot and given a distinct catalog number. Attribute analyses are conducted and a separate form is completed for each small find that contains information such as the dimension, weight, provenience, and illustration. A master small find list is maintained for reference and ease in assignment of catalog numbers. All small finds are labeled and stored in the secure bodega at Lamanai.
CACHES	3 caches identified in 2014: Cache N10-15/9 Cache N10-15/10 Cache N10-15/11	Cache control numbers have typically been assigned according to the structure number and numbered in sequence in the order of their discovery. There are detailed field and laboratory forms that require all caches to be systematically recorded. All relevant lots are recorded.

Preliminary Literature Review of Palace Architecture

Activity. A preliminary literature review of selected structures that have been interpreted similarly to the Ottawa Group will be carried out. Presently the function of the Ottawa Group and the buildings that comprise it is not clearly understood, but it has been suggested that it served a variety of purposes. This initial literature survey will to help to narrow down the interpretations of the Ottawa Group and Structure N10-15 by comparing it to other buildings or groups that have been deemed—sometimes ambiguously—palaces or elite-residential-administrative centers. In this thesis I view building groups designated as palace and as elite-residential-administrative centers as one and the same, but take the position that individual buildings within these groups could serve different functions. If a building group is designated solely elite-residential I consider it to serve as an upper-class residence, without administrative functions.

Discussion. The buildings or architectural groups that are selected for comparison fall into several different categories which include: 1) similar morphology, 2) clarity of evidence as a palace, and 3) examples of regional variation in palace architecture. Architectural groups that share a similar morphology are key because they may serve the same purpose and this can help to ascribe a function to the Ottawa Group and Structure N10-15. Other groups or structures that have been designated as palaces, regardless of their morphology, will be reviewed to examine similarities, or just as important, dissimilarities, in their floor plans and other architectural traits. A brief survey of buildings/palace-type architectural groups from different regions of the Maya area will allow for a very general morphological and stylistic comparison to Ottawa and Structure N10-15.

During the centuries of the Late to Terminal Classic period, when the architectural changes addressed herein were underway in the Ottawa Group at Lamanai, the Maya sites of Tikal and Calakmul were the two big superpowers with great but fluctuating power and influence. As their power faded and southern sites were being abandoned, sites in the Yucatan flourished, with Chichen Itza rising to prominence during the Terminal Classic. As a critical class of archaeological data, architecture can be used to “examine relationships between regions or sites in the Maya area” (Chase and Chase 1982:596). Architectural plans and features can be distinct in different regions and their incorporation at Lamanai may reflect emulation, foreign or non-local influence, or more generally, regional affiliation; however, it must be taken into consideration that various architectural attributes could have arisen independently at Lamanai and not necessarily be attributable to any outside sources. The shift between one architectural stage of Structure N10-15 to the next may indicate new spheres of influence for Lamanai, with accompanying ideological changes. As discussed in Chapter II, there are a number of hypotheses regarding Maya collapse, or more specifically, the delegitimization of dynastic authority, and some of these models entail non-local influence, which could occur through a variety of mechanisms including migration, systems of warfare/tribute ransom, and the spread of a new religion. Identification of any non-local influence in the architecture of Structure N10-15 could in part contribute to a better understanding of the source of changes at Lamanai—changes which may have been accompanied by new and different worldviews ushering in a different ideology.

While it would also be ideal to look at sites located near Lamanai, as well as sites where elite-residential-administrative plaza groups were in-filled as the Ottawa Group was, many have not seen the intense level of excavation and recording that the Ottawa Group has,

so this limits the selection of comparative assemblages; however, there are some sites with enough reported excavation results that some comparison is possible.

Preliminary Assessment of Architectural Features of Structure N10-15

Activity. A preliminary assessment of the construction material and stylistic attributes of Structure N10-15 assesses features including stairs, terraces, masonry characteristics, and benches. These are compared with the other structures in the Ottawa Group to illuminate similarities and differences with Structure N10-15.

Discussion. While this step is not intended to be a highly detailed analysis of architectural features, even a cursory review of some of the architectural characteristics of Structure N10-15 can contribute to a better understanding of the building. Architectural features can be drawn into other discussions regarding the function of the building, materials and labor, and non-local influence.

Assessing architectural features serves several purposes. Changes in the methods of construction and/or in the architectural style—if such changes are present—can help distinguish the different architectural phases of Structure N10-15. Architectural features can potentially be cross-dated to other like attributes in the Ottawa Group to help clarify the entire sequence of change in the group. Changes in various features can reflect socio-political-economic changes at Lamanai. New architectural characteristics could reflect foreign influence. There are several architectural features that are considered Terminal Classic markers, as are discussed in Chapter V (Architecture).

Architectural changes can provide another line of evidence. For example, if there is a difference in the masonry characteristics from one phase to the next then this can inform about changes in access to materials, changes in labor, and non-local influences—all of

which can be tied to political-economic and ideological changes. Is there a distinct change that accompanies the different building phases? How do the material attributes compare with other buildings within the Ottawa Group? Might the various structures in N10[3] have been constructed by different social groups? These types of things can reflect economic concerns, new cultural contacts, labor issues, the use of task groups in the construction process, possible disruptions in access to certain types of materials, or the reduced tribute demands of the ruling elite at Lamanai—many of which can point to a shift in ideology.

Archaeologists have observed there is often a wide variety of masonry styles and other architectural traits found on a single building and it is not understood if this reflects different builders, different architects, different construction episodes, or other factors (Hansen 1998:96). The approach to masonry on Maya buildings changes through time, with more labor-intensive masonry features employed in the Preclassic, followed by a “radical shift in the manufacture and use of stone, both technically and administratively” in the Classic period, when the labor for masonry was minimized (Hansen 1998:102–103). In the Early Classic period the technique of using veneer masonry, generally cut-stones, placed over a rubble-filled wall was introduced (Hansen 1998:102–104). Hansen also notes changes in plaster/stucco characteristics from the Preclassic to the Classic, with wall stucco color changes from cream/yellow-brown to grey due to the inclusion of more charcoal. Red iron oxide color tended to remain consistent between periods.

Changes in the architectural style from one architectural phase to the next can speak to ideological changes that may arise through a variety of factors, including non-local influence accompanied by new ideas, which has been noted in other areas of the Maya Lowlands. Stylistic differences may show up in details such as floor plans, the number and

design of stairs, the number and design of terraces, bench forms, masonry techniques including the size and shape of cut-stones used for stairs, walls, basal molding, door jambs and thresholds, and other decorative elements such as medial molding or sculpted stucco friezes, etc. (for architectural terminology see Loten and Pendergast 1984). The specific significance of each of these characteristics depends upon their context. A change from constructing buildings with masonry to the use of perishable materials is another important factor to consider, although for archaeologists working in the Maya Lowlands, the frustrating consequence of this change to perishable materials is that the evidence for these buildings is scant, making detailed comparison impossible. How do the attributes of Structure N10-15 compare with other buildings in the Ottawa Group and at Lamanai? A number of archaeologists working at sites in northern Belize have noted stylistic influence from the Yucatan during the Late to Terminal Classic period, to be discussed in Chapter V. Are there stylistic similarities that Structure N10-15 shares with other elite-residential-palace groups in the Yucatan or elsewhere in the Maya lowlands during this time period?

Establishment of the Architectural Sequence of Structure N10-15

Activity. One of the primary tasks involved in this study is to undertake an evaluation of the evidence from excavations to determine the architectural sequence of additions and modifications to the primary building. This involves the use of all field notes, floor plans and sections, as well as referencing artifact assemblages when that information is pertinent and available. Each significant change in the architectural layout of Structure N10-15 is designated as a phase in the architectural sequence and is recorded as a separate floor plan.

Discussion. Changes in the architectural form of the building from one phase to the next may signal a number of different things, including changing roles of the elite, an

increased need for space within the building, a shift in the function of Structure N10-15—all of which might be the result of an underlying ideological change, or conversely, the preservation of the status quo. In order to evaluate the extent of changes and possible reasons behind them, this is a necessary first step.

Drawing upon the literature review outlined above in the first step, it is possible that aspects of the aforementioned palace architectural comparisons and the functional interpretation of Structure N10-15 have the potential to aid in the identification of specific architectural features that mark distinct changes in the architectural sequence, which can help to clarify the architectural sequence that is determined in this step.

Establishment of Cache Locations on Plan and in the Architectural Sequence

Activity. Using Pendergast's field notes, excavation photographs, and other available information, the location of the caches is determined and recorded on the floor plans. This may seem an atypical step in the methodology, but during the excavation of Ottawa in the 1980s, with few exceptions, it was not typical for the caches to be recorded on the floor plans. Rather, their locations were described in the field notes, which made use of the names of building features (walls, floors, benches, stairs, etc.) as points of reference. To determine the cache locations one must have a command of the building-feature nomenclature invented during excavations, which is particular to each structure. Once the cache locations are determined they are assigned to the architectural phase with which they are associated resulting in their placement in chronological sequence.

Discussion. This step paves the way for the analysis to be undertaken in step five. Even without further analysis, an understanding of cache placement within the architectural sequence, along with associated ceramics, helps to assign dating to the different architectural

phases. Discernable change in the caching pattern also has the potential both to aid in the refinement of the architectural sequence, and to speak to ideological changes at Lamanai.

Analysis of Caches

Activity. With the caches located spatially and within the architectural sequence there is an established, although unverifiable, chronological order for the interment of caches. This last step entails charting the cache contents for each of the Structure N10-15 caches followed by an analysis of the cache artifacts, patterns in cache content, interment method, and location. The analysis also seeks to identify changes in the caching pattern. The implications of these findings are incorporated into a discussion of the Structure N10-15 caches and how they might index ideological change at Lamanai. Changes in caching features are considered in conjunction with changes in architectural features and how they might relate to Lamanai's survival of the collapse.

Discussion. If the method of caching, the form or type of pottery in the cache, or the components of caches change from one architectural phase to the next, this may signal ideological changes associated with caching practices and more broadly index ideological change in society. Factors to be considered in this analysis include questions such as, what is distinctive about the cache contents; are they elaborate and do they contain prestige goods; do caches relate to traditional dynastic rulership, such as *k'awil* (a Maya 'god' associated with rulers and elite lineages) forms and prestige items, or do they reflect more basic cosmological ideas, or are they un-elaborate and more abstract? How do they change over time? Do these types of caches appear elsewhere in Ottawa and at Lamanai, and if so what type of structures are they found in? Does this help to assign Structure N10-15 to a more specific functional category? Answering these questions allows for the identification of

changes in the caching pattern associated with the different architectural phases. A general discussion of the Maya caching practices and associated ritual ceremonies and an overview of caching patterns at Lamanai is presented in Chapter III, Context, as these have some bearing on the interpretation of the caches in Structure N10-15.

Challenges. Although several of the caches of Structure N10-15 are easily associated with a specific building stage, this is not the case for all the caches. All of the caches associated with Structure N10-15 are placed in some type of floor core. There were no known wall, niche, or lintel caches, because the wall stubs that remained post-abandonment were only approximately 1.3 meters high, or less. Caches that were cut into a floor—intentionally intruded—and covered over by the next floor have a definite floor association, but not all caches were placed in Structure N10-15 in this manner, so there is some guess work involved. Some of the caches were placed in an architectural unit as it was being constructed, or modified.

CHAPTER V

ARCHITECTURE AND THE MAYA BUILT ENVIRONMENT

The built environment is commonly regarded as “the sum total of all purposeful human modifications of the landscape” (Webster 1998:5). It can be used to study social organization, change, and other human activity. One advantage of architecture as a class of material culture is that it is found in its original context. This chapter serves as a literature review and introduces topics related to the built environment that are pertinent to the analysis of Lamanai’s Structure N10-15, which is presented in Chapter VI. These topics are each components of, and make contributions to, the broad interpretative framework in which Structure N10-15 can be seen.

The built environment is examined by scholars in a number of different ways and in this Chapter I discuss some of these approaches that have a bearing on the interpretation of Structure N10-15, especially in the way architecture can be visually expressive of an ideology to both an elite and non-elite audience. In my final analysis and conclusions I draw upon aspects of these approaches, such as the way architecture communicates, and how social interaction is facilitated through architecture.

Concepts of city planning and the organization of buildings in relationship to one another can embody and communicate a symbolic and ideological message, and this is discussed as a basis for considering how the Ottawa Group was incorporated into the city plan at Lamanai. Maya cosmology and worldview infuses all aspects of Maya life on a range of scales, from city planning to the arrangement of items in caches, or the positioning of groups of caches, therefore an introduction to this provides a necessary foundation for interpretation.

Scholars have observed changes to the prevailing patterns in architecture and the built environment that arose during the Late to Terminal Classic period which are introduced, as the alterations and additions to Structure N10-15 that took place during this period may be seen to incorporate some of these new approaches. Having an understanding of these patterns can help with the identification of different stages in the architectural sequence.

At the dawn of the Terminal Classic period Yucatecan influences begin to arise at a number of sites throughout the Maya Lowlands. During the Late to Terminal Classic period at Lamanai there is evidence of foreign, or non-local, influence seen in both architectural traits and artifacts, which Pendergast and other scholars attribute to influence from northern Yucatan. This could result from long distance trade and other interaction, including migration. Although non-local influence may not pinpoint the source of ideological transformation at Lamanai, nor is it an objective of this thesis to identify the source of change, it is important to consider that non-local influence may have contributed to shifts in the socio-political structure at Lamanai and other sites; therefore, I am reviewing evidence for foreign influence at Lamanai. Knowing that there is non-local influence may facilitate the identification of ideological change in conjunction with other lines of evidence. Because of all the architectural modifications at the Ottawa Group during this time, many of which are not completely understood due to the perishable nature of some of the buildings, I review a range of these northern architectural features so that unusual architectural forms found at Ottawa might be better understood in light of this menu of new architectural styles not seen there before. This could help to visualize some of the difficult-to-interpret features of Structure N10-15, especially in its last architectural stage.

Before moving on to look at some comparative examples of palace architecture, I discuss the often ambiguous terms of range structure, palace, court, and elite-residential-administrative complex. Necessary for understanding any discussion of Maya architecture are terms associated with the components of Maya buildings, hence some of the basic terminology is introduced here. With Maya elite masonry architecture comes the challenge of investigating and understanding what is often centuries of accumulation of buildings that are built on top of preexisting buildings. Because this is the pattern seen in the Ottawa group, it is necessary to make the reader aware of this construction practice, which leads to a palimpsest of occupation that is not always easy to unravel. The chapter closes with some examples of palace buildings found in the Maya area to emphasize their great variety and for comparison with Lamanai's Ottawa group, and Structure N10-15 in particular.

Because it is thought to have served a range of regal elite residential and administrative functions, the Ottawa Group can be interpreted as a palace at Lamanai, and in fact it has been labeled as such in more recent literature (Graham 2004). An initial literature survey will help to narrow down the interpretations of the Ottawa Group and Structure N10-15 by comparing it to other buildings or groups that have been deemed palaces or elite-residential-administrative centers.

The Study of Maya Architecture

Architecture is seen as informatively valuable material culture related to social power relations, and both architecture and construction can play a causative role in the creation and maintenance of power and status (Abrams 1994:91). The architectural complex, as noted earlier, is the primary source of information for archaeologists. It serves archaeologists now as the material residue for past behaviors, whereas formerly it helped to shape and define its participants and their ideology (Abrams 1994:91; Inomata and Houston 2001:3). The

monumental architecture of the Maya Classic Period includes pyramids with their summit-temples, plazas, platforms, palaces, and ballcourts. Maya architecture and urbanism can be studied by examining the buildings themselves, their construction, their modifications, and their arrangement within the site. Maya architecture is frequently depicted on other forms of material culture including sculpted models of buildings and scenes painted on Classic Period polychrome ceramic vessels. The iconography on these vessels often feature images associated with royal courts, ritual, and architectural settings that are a window into the multiple functions of court buildings (Reents-Budet 2001). Textual information—Maya glyphic records, ethnohistoric documents, and graffiti—also makes reference to architecture (Houston 1998a:333). All of these can be employed in the study of Maya architecture.

As with most archaeological studies, there are theoretical debates and contradictory approaches to the analysis of Maya royal and elite architecture. Materially, Maya architecture can be analyzed through its morphological, functional, and typological attributes, and epigraphically through associated hieroglyphic inscriptions. Architecture has been approached from multiple theoretical perspectives including functional approaches, interpretative approaches, structuralism, and structuration and practice theory. The most common approach to classifying architectural features is through function, which is determined by assessing form, spatial layout, and context resulting in a typology for structures and other built forms, which include types such as residential structures, temples, pyramids, earthworks, etc. (Abrams 1989:47–48). Functional studies can go further to examine the activities that were taking place in architectural spaces by looking at artifact assemblages—macro and micro and geochemical—in these spaces (e.g. Inomata and Ponciano 2010; Inomata et al. 2010). Structural analysis focuses on the built environment,

symbolism, the organization of space and behavior, or social action (Liendo 2003:184), and can incorporate the study of theater, performance, and ritual (e.g. Inomata 2006), and how architecture communicates. These approaches are briefly described here, as aspects of these methods will be drawn upon in the analysis of the architectural changes at Lamanai Structure N10-15.

Space syntax (see Hillier and Hanson 1984) couples techniques of graph analysis, which evaluates viewsheds, sightlines, and access, with a set of theories to quantify spatial relations as patterns of permeability and connection within buildings and settlements—the interconnections between spaces—to study how social interaction is either facilitated or constrained by the structure of the architectural space. Giddens's structuration theory underlies space syntax theory utilizing two themes. First, architecture is culturally meaningful: space is socially constructed and is produced and reproduced in architecture; and second, social interaction is situated in time and space (Foster 1989:41). Christopher Andres (2005) employed space syntax in a comparative study that included Lamanai's Ottawa group during the Classic to Postclassic transition period to examine diachronic changes to patterns of access to elite residential and civic-ceremonial architecture. He observed a tendency for buildings at Lamanai to become progressively restricted prior to about A.D. 800 before becoming increasingly accessible after this point.

Architectural communication theory examines the ways specific messages, usually social and political, are communicated through the design of cities and buildings. Smith (2011:175) identifies three types of architectural communication, all related to power and identity: monumentality, or scale, as a measure of power; identity creation through

architecture; and political emulation or the replication of archaic plans to emphasize continuity for ideological purposes.

The first, monumentality, is the most common theme in applications of architectural communication theory employed by archaeologists (Smith 2011:175). Materialist archaeologists use the scale of civic architecture as a measurement of the political and economic power of the rulers (Smith 2011:175). One way of measuring this is to utilize architectural energetics (Abrams 1994). Other interpretations of monumentality can be symbolic, in that size has emotional impacts on people, or political economic in nature where scale is seen as the competitive display of power and labor control.

Architectural energetics is a means for translating buildings into labor-time estimates (Abrams and Bolland 1999:263). Architectural energetics sees energy as an attribute of architecture that is cross-culturally valid and measurable. Labor and labor systems are thought to provide empirical and verifiable data that is valuable in comparative analyses of architecture (Abrams 1989:75–76). Increasing energetic expenditure can indicate transformations of the systems of labor allocation and may suggest inequality and social differentiation.

The second form of architectural communication is related to identity and the way in which alternative types of identity can be created by subscribing to different architectural traditions. Richard Blanton (1994) has advanced this work through a model that distinguishes between canonical and indexical communication. Canonical communication is reflected in architecture that subscribes to a broad cultural tradition, a sort of maintaining the status quo, whereas those who wish to claim status or wealth use indexical communication in their architectural forms, i.e. bigger is better, to advance themselves. This model by Blanton also

features prominently in environment-behavior studies (Rapoport 2006:61). The practice of constructing civic buildings can also contribute to the identity of commoners through their labor participation in the construction of these monuments (Smith 2011:175). An analysis of architecture and planning in Aztec city-state capitals reveals several forms of architectural communication theory described here (Smith 2008). Monumental constructions reinforce the political power of kings, construction tasks reinforce commoner's identification with and allegiance to the king, and standardization of building-type communicates a message of participation in a regional network of the noble class (Smith 2011:175).

The third type of architectural communication concerns referencing the past architecturally by drawing upon symbolic associations of worldview or archaizing earlier architecture, which are discussed in more detail below. In this form of architectural communication, the message is ideological.

Characteristics of Maya Cities and Planning

To understand how the Lamanai Ottawa group fits into the broad context of a Maya city, I first present an overview of the Maya built environment and aspects of city planning before turning to a discussion of Maya palaces. In the Classic period, Maya cities had a basic inventory of range structures—some of which could comprise royal palace compounds—ball courts, temple-pyramids, and low platforms that served various purposes, including sculpture display, and dance. Other constructed spaces included plazas, courtyards, and *sacbeob* (raised roads). According to Smith (2007:25), “these patterns suggest some level of standardization of concepts of appropriate capital cities.”

Maya cities typically share two kinds of spatial patterning: first, public architecture is concentrated into a planned central district with unplanned residential zones surrounding this

center, and second, the central district's buildings and temples are generally arranged around formal rectangular plazas (Smith 2007:27). In Maya city plans the voids, such as plazas, have as much meaning as the structures. The open plazas generally represent areas for public gathering and courtyards serve as private gathering spaces, while the structures can serve a range of functions including ceremonial, elite-residential, administrative, and a myriad of other things.

The built environment conveys symbolic messages that express the worldview of a culture. A variety of planning concepts were used to plan the built environment of the Maya, and as discussed in Chapter II, parts of the built environment are considered to be stages for ritual. Specific meaning can be inferred from architecture and city layouts (Ashmore 1991; Sugiyama 1993:103). Ashmore and Sabloff (2002:204) have observed two principles employed in Maya civic architectural design: cosmological directionality and political emulation—both of which serve as a form of architectural communication. In the Maya area, Wendy Ashmore (1991; Ashmore and Sabloff 2002) has argued for the existence of widespread, cosmologically-based site planning principles or “templates” that embody Classic period conceptions of the cosmos and extend them to the arrangement of buildings and spaces in a city, or other area. In fact, in both elite and non-elite sectors, many features reflect Maya worldview and ideology—caches, burials, tombs, altars, plazuelas, and milpas (Mathews and Garber 2004; Zaro and Lohse 2005).

Symbolically integrating cosmological beliefs into a site layout is one approach for planning, but there are multiple other influences on planning and spatial order. Political ideology and emulation expressing political affiliation is another major influence on the spatial planning of buildings, civic groups and other constructs (Ashmore and Sabloff 2002).

Archaizing architecture and city plans for ideological purposes was another strategy employed by many premodern societies (Smith 2011:175), and one does not have to look far to see how our nation's capital has done this very thing in constructing many of the monuments that reference Classical Greek and Roman architecture.

Maya Cosmology, Worldview, and Symbolism

A brief overview of Maya cosmology is provided here, as it is an influential aspect of the Maya organization of space, and some interpretations of the built-environment and architectural spaces draw on this type of cosmological symbolism (Ashmore 1991, 1992; Ashmore and Sabloff 2002; and see Smith 2005 for a critical overview of recent applications, and Šprajc 2005) and worldview. Cosmology can also be reflected in many other things, including both cache contents and their placement within the built environment, and in natural settings.

The Maya cosmological worldview spatially characterizes the world as a multilayered universe consisting of three vertical divisions (a tripartite divisioning of space)—the sky (subdivided into thirteen layers) held up at the corners by four *bacabs* (deities associated with quadripartite divisioning of space); the earth or terrestrial world at the center; and the watery underworld below (consisting of nine layers). This world is divided into four parts (a quadripartite divisioning of space), frequently associated with the cardinal directions, with a center point—the *axis mundi*—that connects the layers vertically (a quincuncial divisioning of space). A celestial band that traversed the sky from east to west unites these parts. Combined archaeological evidence, ethnohistoric documents, epigraphy, and modern ethnographic data support these concepts and offer further meanings for each layer, with the sky being the place of the royal ancestors, and the watery underworld the place of

supernaturals, the mythological Hero Twins, and ordinary dead people (Ashmore 1989, 1991:201).

For the Maya, natural features of the landscape evoked sacred associations, both real and imagined, and served as models for architectural mimicry and were incorporated or referenced in architectural spaces, engineering, and the design of city layouts (Brady and Ashmore 1999:125–126). Symbolic features of the natural landscape include caves, water, mountains, and astronomical features—the sun, moon, planets and their movements across the sky. Portals, such as caves or cenotes, through which the living and divine came together were manifested in architecture: mountain-pyramids were seen both as cave entrances to the underworld and seen to communicate with celestial beings in the upperworld. Ballcourts were entrances to the underworld. Important messages were communicated through architecture, monumental sculpture, texts, and other pictorial representations that were incorporated into site layouts (Miller and O’Neil 2010:31).

Ambiguous Terms: Palace, Court, and Elite-Residential-Administrative

Since the Spanish first made contact with the Maya in the New World, Maya monumental architecture was generally lumped into two categories: temple-pyramids and palaces. *Palace* designated a variety of masonry structures that were not temples (Webster 1998:24–25; Webster and Inomata 2008:151). It was not until the last century that this concept of “palace” came under academic scrutiny as the growing body of archaeological evidence revealed numerous monumental multi-chambered masonry structures on low platforms, usually arranged around courts, in a variety of settings, with functional attributes that were *both* public and residential, religious and political, making it difficult to assign the

term *palace* based on formal or functional attributes alone (Christie 2003a:2–6; Webster 1998:24).

There is still disagreement over the definitions and characteristics of a palace, both functional and morphological (Kurjack 2003). Many buildings that were initially termed palaces comprise range structures—defined as long buildings with rooms “ranged” along a transverse axis. These long and narrow buildings are also referred to as multi-chamber or gallery buildings (Inomata 2001b:341). Peter Harrison’s (1970:94–104) seminal study at Tikal described and categorized the different types of room arrangements found in range structures. Range buildings are frequently constructed entirely of masonry components—walls and roofs—although some were combinations of masonry and perishable materials. While range structures are components of palaces, they can also serve other functions. More recently scholars have built upon Harrison’s work to add more fine-grained distinctions to the type of range structures that exist in Maya architecture (for example see Chase and Chase 2001).

A number of scholars have offered definitions for palace, and some have also proposed typologies for palaces (e.g. Christie 2003a; Harrison 1999; Webster 2001:141). One such definition is that a Maya palace is a compound that serves administrative, domestic, and ritual purposes for the royal court. It contains special purpose features, such as ceremonial and dance platforms, shrines, and other buildings (Inomata and Houston 2001:17). The size and grandeur of the palaces, although variable in both scale and style from one Maya city to another, were likely to have impressed both users and viewers of the buildings, and evoked emotional response—either positive or negative (Inomata 2001b:342). Inomata (2001b:342) uses the term *elite-residence* merely as an indication of function, and the term *palace-type*

structure is “defined in terms of its morphological attributes, regardless of function.” The morphological attributes of palaces have both functional and symbolic implications (Inomata 2001:342). Not all palace structures were residences and not all elite residences were necessarily palatial. Jessica Christie (2003a:11) has suggested that it is possible that Maya palaces may have served primarily as administrative buildings rather than residences, or that they were part-time residences, and the royal and noble families’ permanent residence may have been a more modest dwelling on the periphery of the city. To this day there is no agreement among Maya scholars on the definition of *palace*, and as will be evident in the last section of this chapter, there is incredible variety to the buildings and building groups to which this term is applied, and to the functions that are ascribed to them. Much of the time it appears that *function* is assigned on rather shaky grounds, or at the least, with too much certainty.

There are challenges in assigning functions to Maya buildings, especially when the morphology is so similar among a great number of them. As Webster (2001:134) has pointed out,

It is by no means clear that all, or even most, of the buildings labeled palaces served as royal residences in the strict sense. In fact, so difficult was it to document residential functions that some archaeologists, such as Linton Satterthwaite, rejected any functional implications of so-called royal palaces at all, regarding them simply as a default class of architecture of unknown function.

In this case, the behavioral criteria of eating and sleeping had to be in evidence for the assignment of a residential function. Today many scholars rely on epigraphic and iconographic evidence to determine function, in conjunction with artifacts, and the recovery of microdebitage, and chemical concentrations on floors (Inomata 2010:5–6). Analogy with historically documented royal palaces and ethnohistoric sources can provide additional

evidence for function. Generally Maya palace complexes and even individual buildings served both as residences and as the arena for a multitude of diplomatic activities, some public and some private. Open plazas are generally considered the public domain associated with the royal court and courtyards are to a degree, semi-public. Locations of buildings and their entrances from these plazas and courtyards can contribute to an understanding of building function. Many Maya scholars are not explicit as to what attributes are used to assign functions to buildings. An elite residence can be identified by the presence of sleeping benches in rooms, a nearby kitchen facility with food preparation areas, and midden accumulation that represents domestic activities. However, benches are sometimes thrones or may serve purposes other than sleeping, and kitchen facilities are often in separate buildings.

Residences are identified based on the presence of large numbers of rooms, long sleeping benches, wall holes for curtains, and burials (Harrison 2001; Harrison and Andrews 2008). Domestic buildings usually have a room or rooms with a bench covering most of the floor and with a door opening onto the bench (Andrews et al. 2003:74). Central rooms, sometimes with a public view, are often the setting for reception, meetings, royal audience, and administrative activities (Inomata et al. 2001:293, 302). These rooms could also be locations for elite production activities. Bench types can be a marker of activity, with a range of functions, some completely unknown, from sleeping benches to thrones which represent courtly activity (Harrison 2001:78). Throne or reception buildings are identified by the presence of benches with side arms (Harrison 2001, 2003). Other palace group buildings were devoted to administrative and ceremonial functions, serving as shrines or oratories, storage facilities, and kitchens, and still others had multifunctional purposes such as use for

temporary activities such as men's ceremonial houses or pre-marriage houses (Andrews et al. 2003).

Court is another term associated with these royal compounds, which Inomata and Houston (2001:3) observe has two meanings—a group of people, or an architectural compound—of which the latter serves as both the residence of the royal family and the stage for many court activities. In the second sense, this is the same as a palace when that term is not used synonymously for range structure. Barrientos (2014:204) has capably summarized the numerous court activities that took place, which included such things as:

...polity administration, adjudication, diplomacy (welcome visiting dignitaries), royal rituals (marriage, accession), feasting, public rituals and ceremonies (sacrifice, war captives presentation, dancing, divination), commercial activities (gift exchange, local and external tribute collection), artistic and scribal production and attending the royal family needs (Inomata 2001: 28, 49; Reents-Budet 1994:253–255; Houston and Stuart 2001; McAnany and Plank 2001).

Just as there is variation among palace structures, attributable to different types of political and economic organization, there can be great variation among royal courts (Chase and Chase 2001). At the beginning of the Late Classic period the construction of palaces is believed to coincide with an increasing administrative function in Maya society. In the Late to Terminal Classic an emerging upper class became more wealthy and powerful and the accelerated construction of palaces during this period could represent an increase in bureaucratic functions taken on by this group (Liendo 2003:191).

Architectural Terms Associated With Palace and Range Structures

As previous examples illustrate, there is often confusion that arises from inconsistent terminology, and architectural terms are another example of this. This sometimes makes architectural comparisons challenging. With the publication of *A Lexicon for Maya Architecture*, Loten and Pendergast (1984) sought to standardize the terminology with which

Maya architecture is described. In the present study descriptions of architecture adhere to this terminology as much as possible. Of particular relevance to this study are terms associated with the building platform and stairs (Figure 5.1 and Figure 5.2). Also worth noting is the different use of the terms *platform* and *terrace* by scholars working in different regions of the Maya area. Scholars in Mexico do not typically use the term terrace when describing Maya architecture, as it is considered an agricultural feature (Lorraine Williams-Beck, personal communication April 2015). There are several architectural terms used in this thesis that are not included on these drawings, such as core, fill, and chopped, which are either defined when they are first mentioned in the text or included in Appendix B.

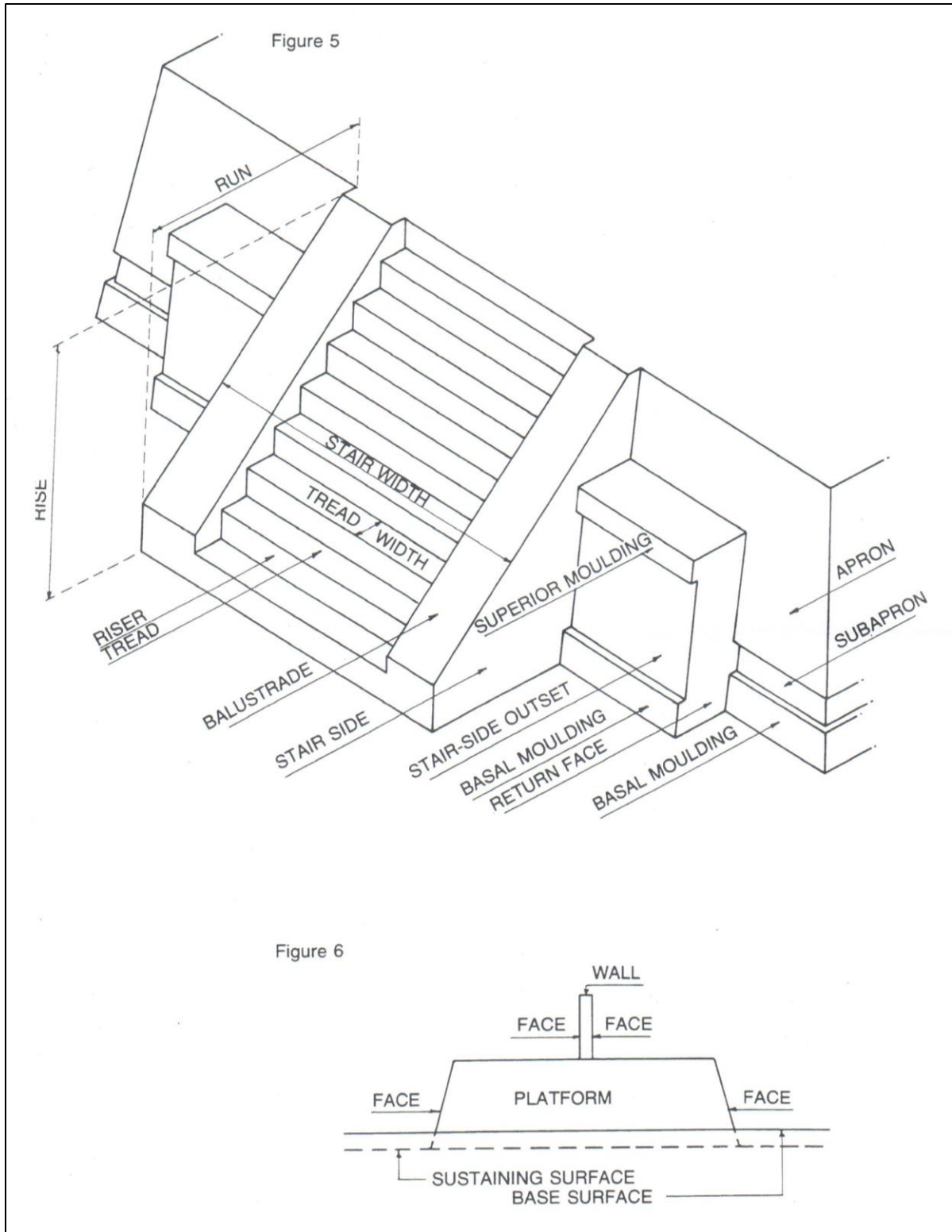


Figure 5.1. Architectural terminology for Maya masonry structures (Loten and Pendergast 1984:22).

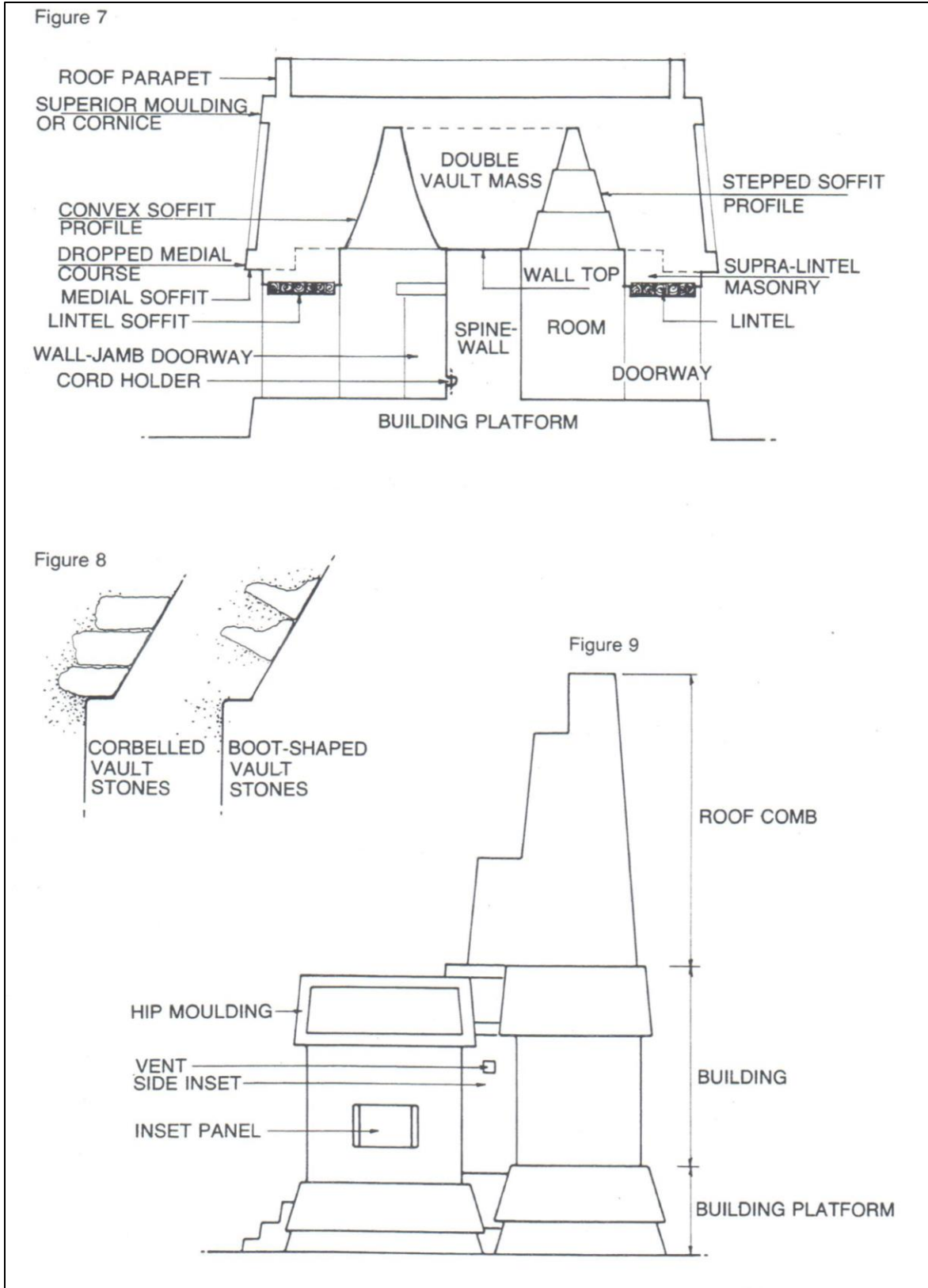


Figure 5.2. Architectural terminology for Maya masonry structures (Loten and Pendergast 1984:23).

Patterns in Maya Built Environment during the Late to Terminal Classic

In many Maya communities there is a demonstrable change in the architectural building programs during the Late to Terminal Classic periods, with the cessation of monumental temple construction at major centers, replaced by remodeling projects and the construction of smaller buildings. Specific examples for Lamanai were previously described in Chapter III.

Scholars have noted that during the Late Classic period there is a pattern of increasingly restricted access to certain buildings and plaza areas within Maya centers (Andres 2005:45; Pendergast 1982c, 1992). One way to restrict access was by increasing the height of a building by constructing it on top of a superstructure that could consist of any number of terraces to raise it above the level of the plaza floor. Hence many buildings and architectural groups were elevated during this period, placing a greater emphasis on height and verticality—especially in central Peten (Andres 2005:45). Access-ways were reduced or eliminated, plazas were subdivided, and buildings were remodeled or had ancillary structures added to them (Andres 2005:45). As an example, at Altun Ha stair blocks were added over stairs on temple-pyramids, which blocked frontal access to the summit, reduced the visibility of the summit, and redirected traffic flow (Pendergast 1992:62–63). In a study of changing patterns of access at Lamanai, Altun Ha, and Chau Hiix, Andres (2005) demonstrated a pattern of restricted access to the Ottawa Group in the Late to Terminal Classic period. Structures in architectural groups tended to become physically connected to each other by filling in the spaces between them, platform plugs or wall units blocked access between buildings, doorways were sealed to reduce access, and the overall number of doorways were reduced (Andres 2005:69–73). Buildings and architectural groups became more inwardly

focused, with private courtyards and much less accessible interior spaces that Pendergast (1992:63) calls “claustral” (Andres 2005:83; Houston 1998b:522).

Also in the Late Classic—probably eight century at Lamanai—there is another type of architectural modification to temple-pyramid buildings referred to by Pendergast (1981a:35) and Loten (2006) as a Lamanai Building Type (LBT). The LBT feature is a room or series of rooms constructed across the terraces of an existing temple-pyramid: a chambered building set across the central stairway of the pyramid structure, part way up the staircase. More recently Pendergast (personal communication 2015) stated that the Lamanai Building Type features date from the early part of the Late Classic, or possibly as late as the early A.D. 700s. Although thought to be uncommon when first encountered (hence the name), a similar feature has been noted at other sites, including Altun Ha (Structure B-4), Xunantunich (El Castillo), and Caracol (Caana). At Lamanai, the addition of this feature coincided with the elimination of buildings at the summit of the pyramid, thus it redirected access to the plaza, but at other sites this feature is found in conjunction with summit structures, where it divided access. At Lamanai there is evidence of the continued modification and expansion of the initial, smaller, LBT chambered buildings through time. The LBT at Structure N10-43 eventually spanned the entire front of the structure (Pendergast 1981a:41).

Braswell et al. (2004) have described a similar temple modification program at Calakmul Structure II in the Terminal Classic Period, beginning in the mid-eighth century and continuing into the ninth century. The huge Maya site of Calakmul is located in Mexico, at the southern end of the Yucatan peninsula and “was the capital of one of the largest and most powerful regional states in the Maya lowlands” (Braswell et al. 2004:162). Martin and

Grube (2008) have called the polity of Calakmul a Maya superpower and its connections were far reaching. At Temple II, masks were covered over and a central stair was added. Structures were built on the summit to form a palace group and later a series of rooms were built across the lower façade (Figure 5.3). These lower rooms functioned as areas for household activities and artifact production (Braswell et al. 2004:172). By the end of the Late Classic this temple-pyramid structure served as both a palace compound and a temple, which the authors call “palace-temple pyramids” (Braswell et al. 2004:179). The linking of functions of temples and palaces within one structure suggests that earlier conventions regarding the temple pyramid structures had changed. Temple pyramids now had a secular as well as sacred function—“where everyday production and consumption activities were conducted by the elite and their retainers,” while their use as temples persisted (Braswell et al. 2004:179). But this new approach was to no avail, as relatively early in the Terminal Classic Calakmul lost its power and ceased to be a great city (Braswell 2012:179).

The authors noted similar modifications at Caracol’s Caana structure, as mentioned above, which, like Calakmul, had structures on the summit. These combined functions are thought to have been more common in the northern Lowlands of Campeche and Yucatan, examples of which are the Cinco Pisos at Edzna, Santa Rosa Xtampak, many Rio Bec region sites including Rio Bec B Structure I and Horniguero Structure II, and further north at Sayil (Braswell et al. 2004:179, 180; Williams Beck 1995). This suggests that during the Late to Terminal Classic period Calakmul elites maintained ties to sites in the Rio Bec, Chenes, and Puuc regions (Braswell et al. 2004:180), which is consistent with the model of Terminal Classic accelerated interaction with the northern Lowlands. Although the change in the

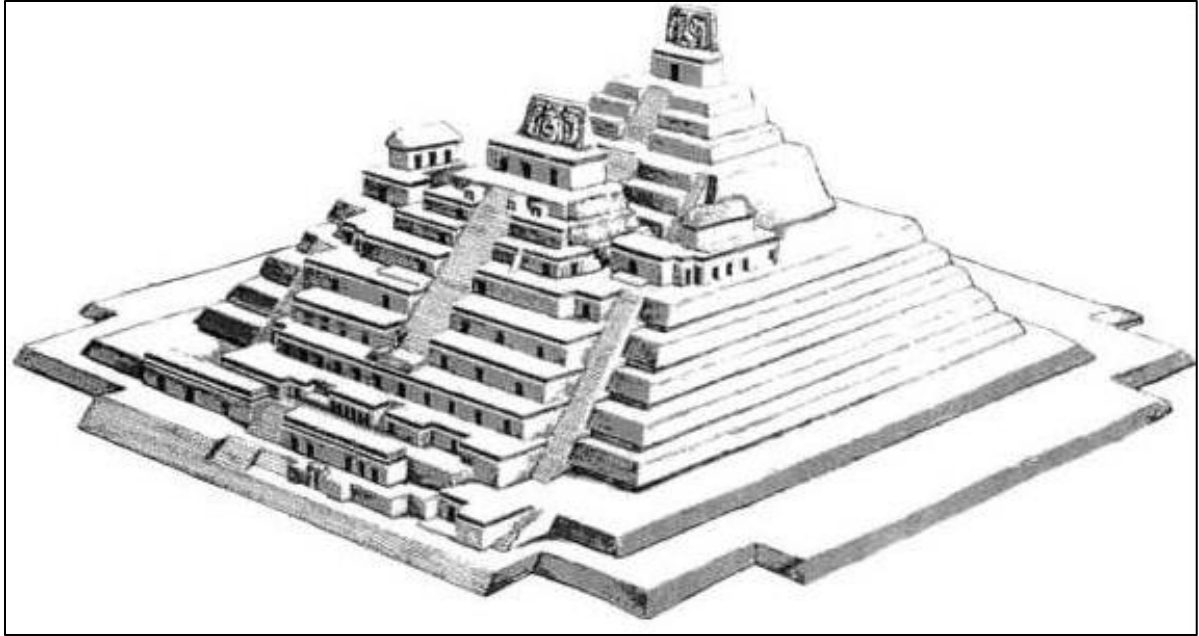


Figure 5.3. Calakmul Structure II, Palace-Temple Pyramid reconstruction drawing (Barrientos 2014:261, figure 8.19).

function of temple pyramids is peripheral to the research focus of this thesis, it has important implications for the changes at Ottawa, because a shift in architectural conventions that had once divided sacred and secular space to practices that combine them is part of an ideological change. Something similar was happening at Lamanai Structure N10-43. The Ottawa Group certainly saw dramatic changes in the Terminal Classic and there may be other, perhaps less obvious, changes in the nature of buildings at Lamanai.

Another Terminal Classic pattern is that of the infilling of elite-residential groups which has been observed at sites throughout the Maya Lowlands. Comparable to the Lamanai N10[3] construction-destruction activities, several Belize sites—La Milpa, Xunantunich, and Minanha—experienced an intentional cleaning/abandonment or infilling of elite residences (Iannone 2005:39; LeCount et al. 2002:44; Yeager 2010:156–157; Zaro-Houk 2012).

Recently this has been observed for palace groups at other centers too—La Cariba and La Corona (David Chatelain and Marcello A Canuto), Actuncan (LeCount), Holmul (Francisco

Estrada Belli), Cancuen (Demarest, Barrientos) as mentioned in session papers at the American Anthropological Association annual meeting in Denver (2015). At Lamanai, in stark contrast to the elite-residential groups at Xunantunich, Minanha, and La Milpa, new buildings are built on top of the infilled area and there is continuous occupation of the site into the Postclassic period (Zaro and Houk 2012:156). At least some of the new buildings, however, were constructed of perishable rather than masonry structures perched atop low masonry platforms. Worth noting here is that the nature of Maya archaeological excavation in the mid-twentieth century was often focused on Classic period architecture and some scholars have observed that later Postclassic buildings were more difficult to detect and hence may have been excavated away without archaeologists realizing they were present.

Terminal Classic Period Architectural Traits from Northern Yucatan

In western Belize there is significant evidence of Yucatecan influence during the Terminal Classic Period observed in both shared architectural programs and styles, and by specific ceramic forms and types (Awe 2015). Some of these features that pertain to the built environment include: round pillars, low walls to channel or delineate activity spaces, dance platforms, “ticket-booth” type structures, Uxmal and Chichen Itza-like ballcourt rings, round structures, balustrades flanking stairways, false stairs, circular structures (Harrison-Buck and McAnany 2013), C-shaped structures, C-shaped benches, patio-quad structures or gallery-patio/patio-gallery structures with a sunken inner court (Braswell and May 2012:258; Chase and Chase 1982; Hammond et al.1983:249; Ringle 2004:213), and colonnaded halls or council houses (Ringle and Bey 2001:276). Several of these features also have been noted at sites in northern Belize.

Although far from an exhaustive search of the literature, publications on various sites in northern Belize remark upon aspects of this Yucatecan influence on architecture and ceramics in the Terminal Classic period. Several architectural examples include Nohmul with its Yucatecan style patio-quad and round structure (Chase and Chase 1982; Chase and Hammond 1982; Hammond 1983); a round structure at Caye Coco (Masson and Rosenswig 2005:361); an elongated, plaza-level, semi-perishable C-shaped-related structure at Chau Hiix (Andres 2009). Ties to the Yucatan are also noted at Lamanai in a triple joined platform (u-shaped substructure) and colonnaded features associated with Structure N10-15 (this interpretation of a colonnaded feature *may* have later been revoked—there is no evidence for it now where the building stands, or on the excavation floor plans, but it could have been a feature of a perishable structure that was undetected or only partially understood and not recorded on plans), and the colonnaded Structure N10-2 (Pendergast 1985:93; 1986:235). Northern influences on Terminal Classic ceramics in northern Belize are discussed by Chase and Chase (1982), Graham (1987a), and Masson and Mock (2004:394, 397). A materials analysis of Lamanai Terminal to Postclassic ceramics at Lamanai was undertaken by Howie (2005) to ascertain northern connections. Several of the above-mentioned architectural forms and traits have been noted at Lamanai, and others could be there waiting to be discovered, so it is worth a brief consideration of them in more detail. We know there were low masonry platforms constructed at and near the Ottawa group between the Late to Terminal Classic and Postclassic period, such as Structure N10-76, but partially due to their poor preservation not all have been excavated or defined in detail.

In the Terminal Classic period a new building form, C-shaped structures (also discussed in Chapter II regarding migrations), are built with a free-standing masonry

foundation wall at the back with short side walls extending at both ends, supported by benches, and a perishable roof (Andres 2005:215; Bey et al. 1997:238). These buildings had an open layout on the front side which was colonnaded. These buildings are thought to serve as a *popol nah*, which are considered by Mayanists to be council houses (Andres 2005:254). Sixteenth century accounts define a *popol nah* as a council house—“a place where government officials and elders of the community would meet” (Ambrosino 2003:260–261). *Popol nahs* are frequently associated with woven mat imagery, a common symbol of Maya rulership (Ambrosino 2003:260–261). A C-shaped structure (GS-12) at Ek Balam was interpreted as an administrative building by Bey et al. (1997:251) who connect them to long houses, or what the Quiche called *nimja* (big houses), which were kinship-based administrative buildings. These structures are often placed in or near the site centers, which “indicates that the canons covering the traditional use of space were breaking down at the time of construction” (Andres 2005:250).

At Uxmal and at other Puuc sites, small C-shaped and L-shaped structures were built in plazas and in front of palaces and temples during the period of demographic decline at those sites in the Late Terminal Classic (Braswell 2012:19). A number of C-shaped structures have been identified at Uxmal: two were located on the platform of the House of the Governor—one colonnaded with a bench and the other colonnaded and of the same form—with a third C-shaped structure open-fronted, single-chambered with a perishable roof, annexed during the last construction phase (Bey et al. 1997:248). Another C-shaped structure was located in the center of the Nunnery Quadrangle and a second one outside of its platform. The origin of this type of structure is unknown, however they are not seen at Chichen Itza (Braswell 2012:19). C-shaped benches, often associated with these C-shaped

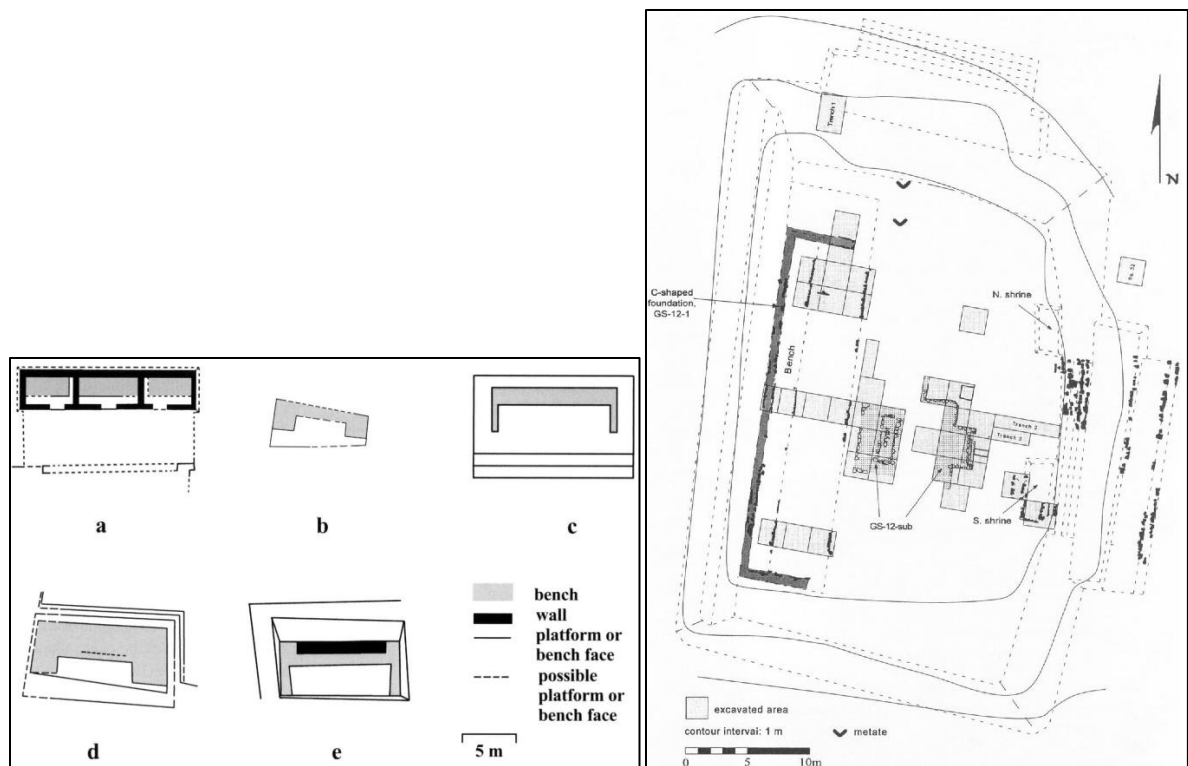


Figure 5.4. C-shaped architectural features. Left: benches (Schwarz 2009:415, figure 3). Right: Ek Balam C-shaped Structure GS-12 (Bey et al. 1997:242).

structures, are also noted during the Terminal Classic at sites including Seibal (Tourtellot and Gonzalez 2004:73) and Peten lakes sites (Rice and Rice 2004:132), and the benches found in the above-mentioned structures may also be considered C-shaped benches (Figure 5.4) (see discussion of migrations in Chapter II).

A vertical slab style of masonry becomes prevalent on some architectural elements in the Terminal Classic. Although variants of the vertical slab style have been found in the Ottawa group with plastered surfaces, one has to wonder if these were sometimes left unplastered so as to show off this masonry style. During the Terminal Classic at Nohmul much of the architectural design and technique derives from the Yucatan Peninsula. Hammond et al. (1985b:182, 188, 189, 190–191) observed there was vertical slab masonry at several locations: facing at the entry of Terminal Classic Structure 132, at the base of Structure 8 (Figure 5.5), vertical slabs as stair risers in Structure 1, and a small platform



Figure 5.5. Left: Vertical slab masonry at the base of Nohmul Structure 8 (Hammond 1985b:191). Right: A range structure at Calakmul, with vertical slabs at platform edge (photo by Karen Pierce, 2005).

edged with vertical slabs. A vertical slab stone wall was part of a C-shaped structure at Ek Balam, where it was observed that the use of vertical slab construction is also “characteristic of late masonry styles at Mayapan [Smith 1962:214–215] and was noted at the sites of Ake and Dzibilchaltun [Roys and Shook 1966:33–34]” (Bey et al. 1997:246). It is present at a number of sites in the northern Lowlands, including Calakmul (Figure 5.5) and Lamanai, and is often used in stair risers (personal observation) and at the edge of low platforms.

Patio-quad structures (Figure 5.6) are found at Chichen Itza where Ringle and Bey (cited in Kowalski 2003:236) argue that they are *popol nah*. These structures were noted at the northern Belize site of Nohmul, as were other buildings constructed in Yucatecan architectural style (Hammond et al. 1983:249). These may be antecedent for later colonnaded halls (Kowalski 2003:236). There are several variants of this building type, but overall they are “a quadrilateral superstructure, usually square in shape with roofed interior space and a single formal entry with free access to all its parts, but with a centrally placed, usually sunken patio” (Chase and Chase 1982:599).

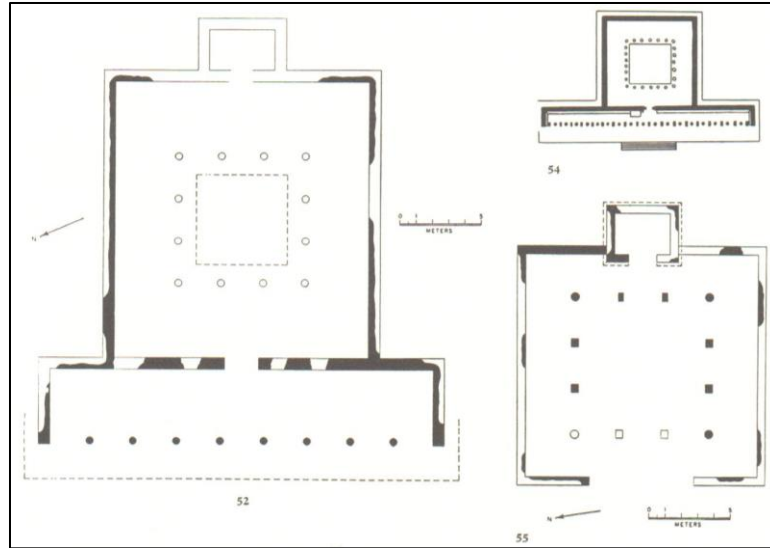


Figure 5.6. Plans of gallery-patio and patio-quad structures at Chichen Itza (Kowalski 2003:236, figure 8.19).

Circular shrine architecture, exemplified by the Caracol structure at Chichen Itza (Figure 5.7) and seen as far south as southern Belize, has been linked by Ringle and colleagues to the Cult of Quetzalcoatl and a new form of leadership in which the “placement of a circular shrine within an elite residence might signify the coronation of a local leader as a feathered serpent ruler” and an act of architectural emulation (Harrison-Buck and McAnany 2013:302). At Lamanai, a circular structure, Felino, Structure N10-29, appears in Ottawa after the filling of the courtyard—immediately south of Structure N10-15—which Pendergast (1982f) describes in field notes as “composed largely of unshaped stones set in an apparent circle... a platform of undefined type that probably served as the foundation for a perishable building”. Whether this was related to the function of the other circular structures described above is uncertain. It is not recorded on any of the architectural drawings in my possession, however I do not have the excavation drawings for Structure N10-18, and the field notes reference that building when discussing this circular feature.

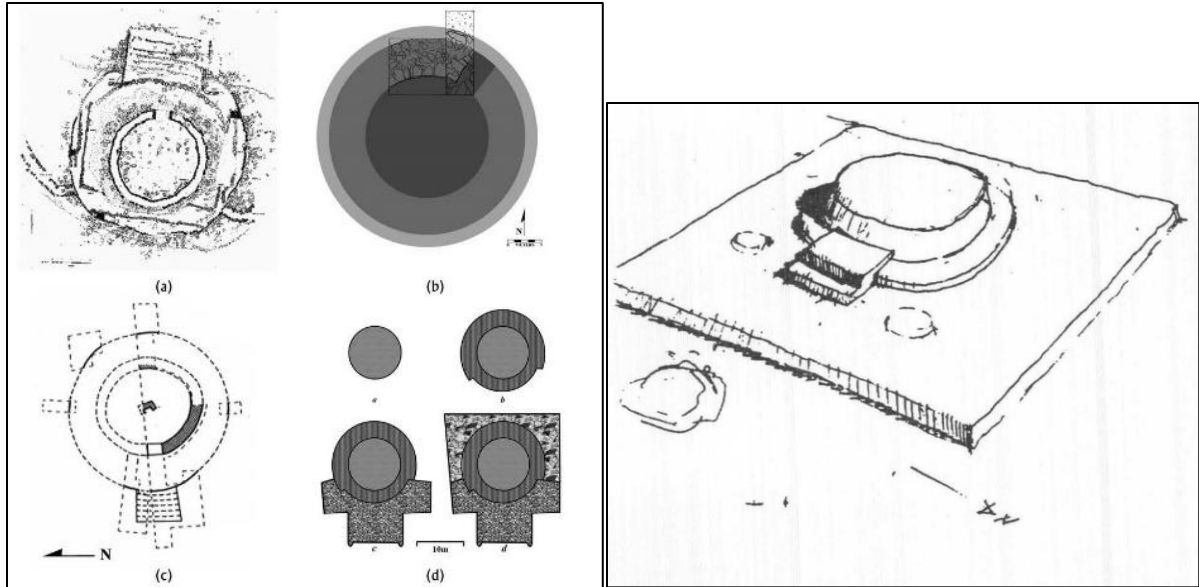


Figure 5.7. Left: examples of Lowland Maya circular shrine architecture: (a) the round structure at Uxmal, (b) Structure 100 at Pechtun Ha, (c) Structure 9 at Nohmul, (d) the Caracol at Chichen Itza (Harrison-Buck and McAnany 2013:298). Right: Lamanai Structure N13-9, original height ca. 1.2 m (Pendergast 1986b:11).

During the last field season of the ROM project at Lamanai, Pendergast (1986:11) and colleagues explored another circular structure, N13-9 (Figure 5.7), in the southern part of Lamanai, where it was found with a group of buildings of unfamiliar style, but for which it was difficult to assign a date. If this structure is indeed a circular shrine then it associates Lamanai with the spread of this architectural form, thought to have arisen in the northern Yucatan, in the Terminal Classic period.

Challenges of Investigating the Built Environment: A Palimpsest of Occupation

Many Maya sites have long histories of occupation, sometimes with abandonment and reoccupation, and the result is a city and buildings whose “final” layout is a palimpsest reflecting a myriad of construction sequences by many different rulers and architects, a sequence that cannot always be easily deconstructed into discrete layers of occupation (see Webster 1998:18).

There are several points about Maya architecture that are pertinent to the analysis of buildings and that particularly resonate with the investigations at Lamanai's Structure N10-15. One is that Maya architectural groups are frequently an accretion of centuries of construction activity. Buildings may be demolished, or partially demolished before subsequent construction continues in the same location (Webster 1998:15–16). An example of this was clearly seen in an excavation unit at Lamanai's Ottawa plaza floor in 2015, revealing a portion of an exterior wall and terrace of an earlier structure, discussed in Chapter VI, Analysis. As groups of buildings are expanded, they may rest upon the terraces, foundations, and floors of previous structures and incorporate all or part of those earlier buildings into remodeled architectural groupings (Figure 5.8). The second point is that demolished buildings can be a source of building material—the reuse of facing stones and other building material such as stone and marl core fill, and plaster, is common (Awe 2015; Pendergast 1986a:231; Webster 1998:16). The opposite is also true—some buildings are encapsulated by later building phases. Entire buildings can be preserved within later buildings—a good example of this is the Rosalila structure at Copan, which was carefully buried and preserved intact under the later structure, Temple 10L-16 (Association Copan 2016; Fash 1998:237).

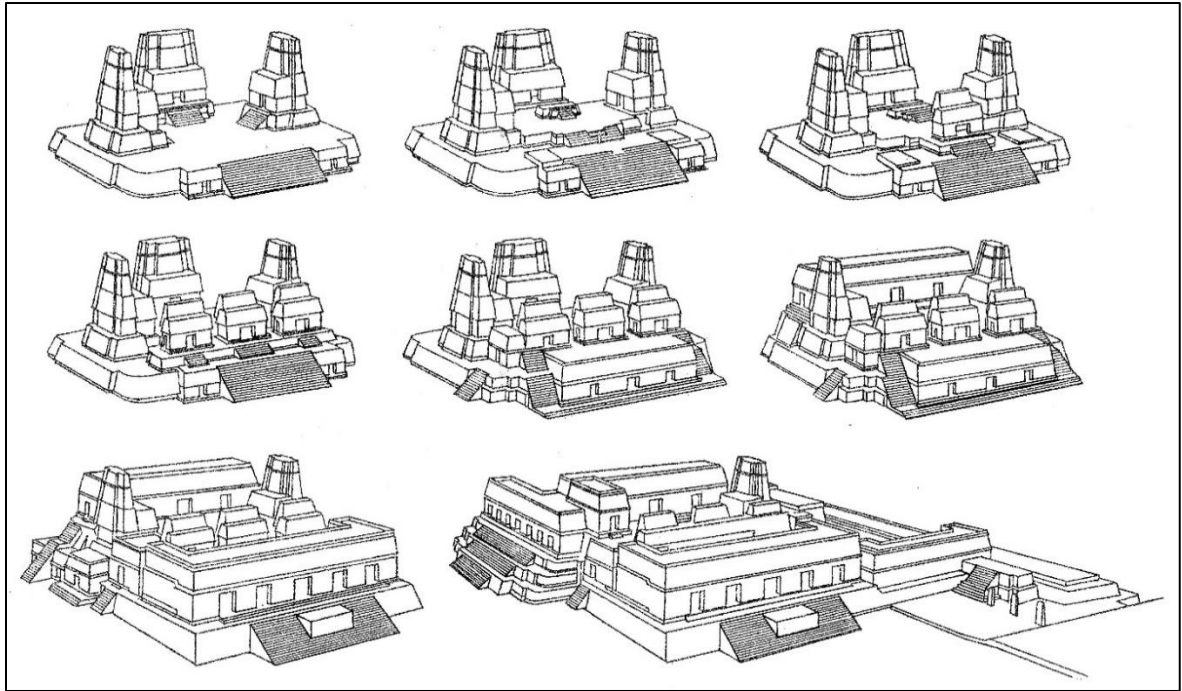


Figure 5.8. Eight major architectural stages at Uaxactun Group A from Early to Late Classic (Miller 1999:30).

Both the ancient Maya and modern archaeologists have created buildings that reflect a combination of stages. Structures exposed by archaeological excavations tend to reflect the later or latest stage of construction, and often times several temporal periods of the building phases are exposed simultaneously. As one might expect, this can make architectural comparison challenging if detailed excavation information is unavailable. In addition to these tangible limitations pertaining to architectural analysis, there are conceptual limitations, as reflected by the disagreement among scholars about how the built environment shaped social interaction and how cultural patterns are reflected in architecture (Andres 2005:111).

Examples of Palace, Elite-Residential, and Administrative Architecture

As should be evident from the forgoing discussion, any comparisons made between Lamanai's Ottawa group and Structure N10-15 to other similar Late to Terminal Classic palace structures in the Maya area is not without its problems. For purposes of comparison, data from Classic through Terminal Classic period palaces that have been well documented

through extensive excavations at different sites located throughout the Maya Lowlands are presented below. Many sites have more than one palace, and that is likely attributable to the application of the term *palace* to a variety of building groups. Several of the examples represent palace groups from the most powerful Classic period centers, while other examples represent Late to Terminal Classic palaces at smaller centers and at sites in the northern Lowlands.

The Late to Terminal Classic period changes and posited foreign influence at Lamanai may stem from people and centers located in the northern Yucatan, or the Mexican Gulf coast of the southern Yucatan peninsula—in or near the cities of Champoton and Campeche (Elizabeth Graham, personal communication 2012); however, published architectural examples for purposes of comparison are rare for the latter. In the Río Champotón drainage region of Campeche, there was occupational continuity of pre-Hispanic Maya communities throughout the Classic to Postclassic transition, with communities participating in interregional exchange networks (Ek 2012). Although archaeological survey has taken place, large scale archaeological excavations from this area are underrepresented—there have been some excavations of Terminal Classic architecture in western Campeche, but “alas few are published” (Lorraine Williams-Beck, personal communication 2015). Several sites that are in the vicinity of the modern day city of Campeche are included in this survey, but it is not understood how they may compare to sites that had a more prominent coastal or riverine location.

The selected sites and palaces are presented here to provide a sample of building forms and stylistic attributes (masonry, stairs, and terraces) in order to demonstrate the range of palaces and to provide a foundation for the analysis of Lamanai’s Structure N10-15, which

is presented in detail in Chapter VI. As discussed above, many of these palace complexes are aggregations of multiple building phases, and often the data will reflect the final stage of construction. These data show the extraordinary variety in both individual buildings and the palace complexes as a whole (Webster 2001:159).

In comparing Maya palaces with other types of buildings, Barrientos (2014:327–328) identified four main variables to be considered: size and elaboration, location, architectural elements, and structural and spatial arrangement. Compared to other buildings, palaces usually have finer architectural and decorative features and represent the largest amount of construction volume at a site (Barrientos 2014:327–328). Palaces that are considered to be administrative are located in the site center, while residential palace locations vary, but are generally more private. Although there are basic patterns of construction and planning, there is a high degree of variability in features such as walls, doors, and benches (and I would include stairs), believed to indicate the multiple functions of the buildings. Seven types of Maya palaces are proposed: single palaces, passage-gateway palaces, presentation-throne palaces, residential palaces, palace complexes, temple palaces, and tripartite palaces (Barrientos 2014:327–328).

Before looking at a sample of the range of palaces in the Maya Lowlands, let us first revisit Lamanai and the setting of the Ottawa group in the city center, since context is important to any consideration of this group. As noted earlier, the function of the Ottawa group is thought to represent activities of a palace or court, but no specific functional analysis has been undertaken. The application of the term palace to any of these buildings, including Ottawa can have variable meaning. At Lamanai three temple pyramid structures are located in the Late to Terminal Classic site core, with the Ottawa group centered among them (Figure

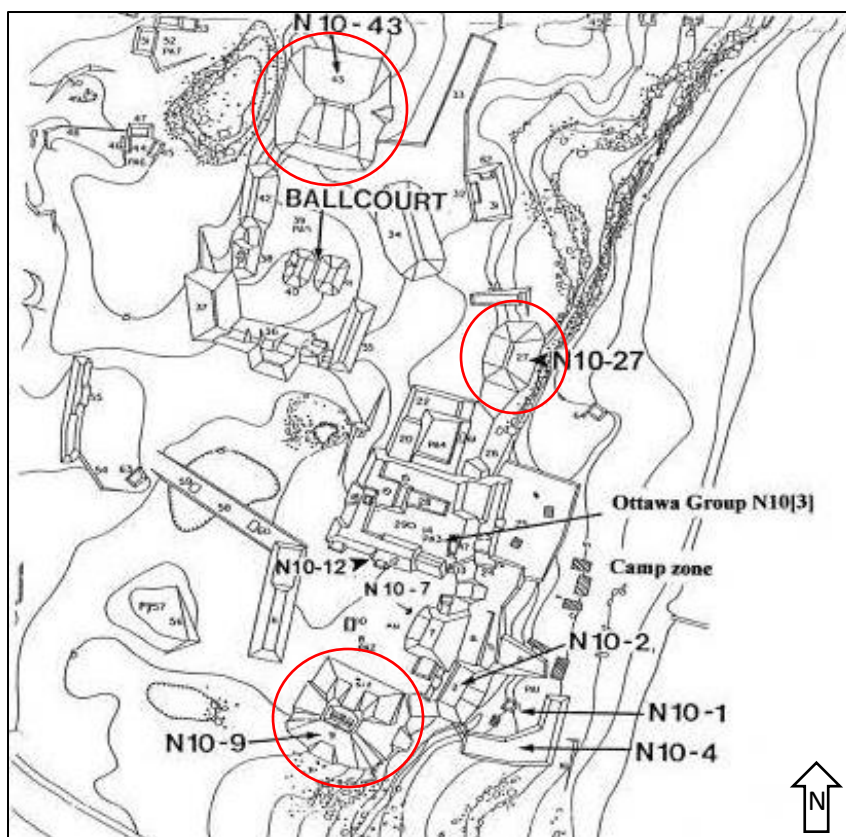


Figure 5.9. Map indicating the location of the three pyramid-temple structures in Lamanai's Classic period site core (adapted from Graham 2004:229).

5.9). In Maya worldview and cosmology this may represent a centering of the ruling family in the city. The location also supports the function for the Ottawa Group as the royal palace complex.

The highest structure at Lamanai, Structure N10-43 (Figure 5.10) is located northwest of Ottawa. During the Late Classic—the time period relevant to the changes at Structure N10-15—it was modified with a new central stairway, the addition of a long row of rooms across its lower terrace, as previously discussed. Contrary to the pattern seen at Calakmul, Xunantunich, and Caracol (sites incidentally, that did not survive the collapse), the summit platform of N10-43 no longer featured masonry structures—the earlier Preclassic buildings that had been on the summit were incorporated into a plain platform, which of course could have supported perishable structures. To the south of the Ottawa group is the pyramidal

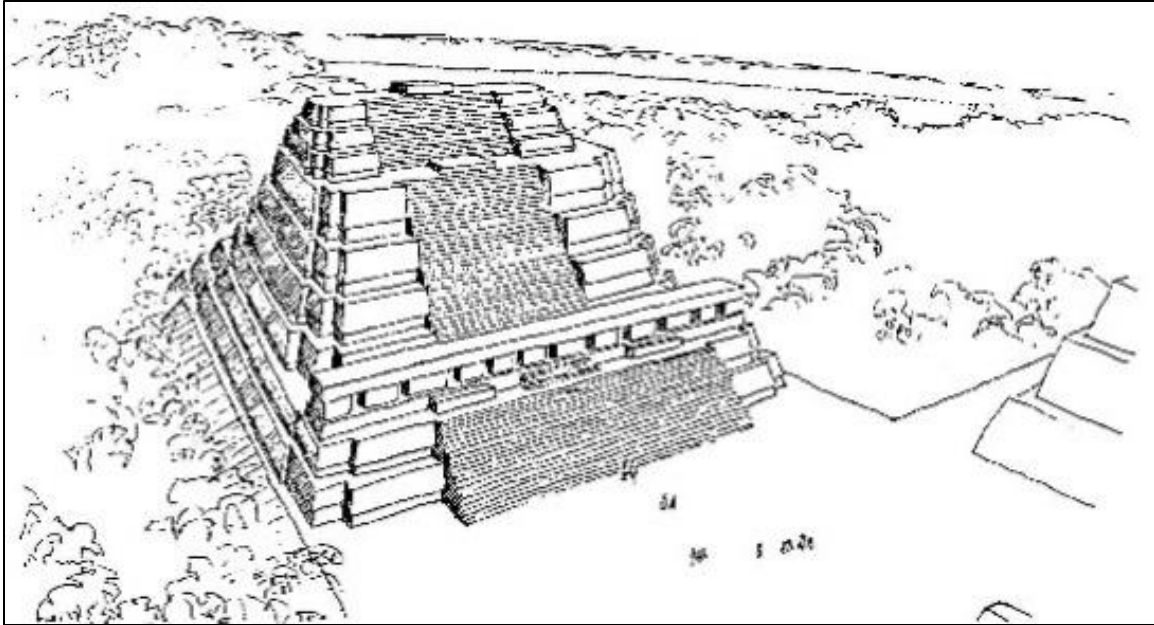


Figure 5.10. Above: Lamanai Structure N10-43, Late Classic phase (Pendergast 1981a:41, figure 13). Below: Lamanai Structure N10-43, after 2002 TDP reconstruction (photo by Karen Pierce, 2012).

Structure N10-9 (Figure 5.11), which underwent frontal modifications in the Late Classic. To the northeast is a smaller pyramidal structure, N10-28 (Figure 5.12), which is notable for housing Lamanai's Stela 9—the only known stela at Lamanai that is mostly-legible—that was located within a room (a LBT) built across the lower central stairs. N10-27 was

abandoned at the end of the Classic period, but continued to be the focus of the deposition of ritual refuse (Graham 2004:231). More or less centered between these three temples is the N10[3] Ottawa Group (Figures 5.13).



Figure 5.11. Above: Lamanai Structure N10-9 Late Classic (A.D. 7th–8th centuries) phase (Pendergast 1981a:35, figure 5). Below: Structure N10-9 after 2002 TDP reconstruction (photo by Karen Pierce, 2014).

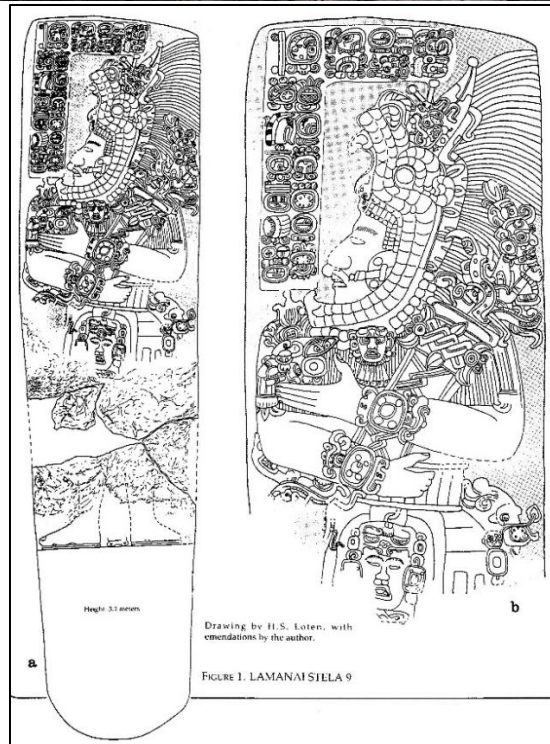


Figure 5.12. Top: Lamanai Structure N10-27 after 2002 TDP reconstruction, with replica of Stela 9 set inside the LBT where the base of the stela was found (photo by Karen Pierce, 2003). Bottom: Stela 9 illustration (Reents-Budet 1988:18, Figure 1).

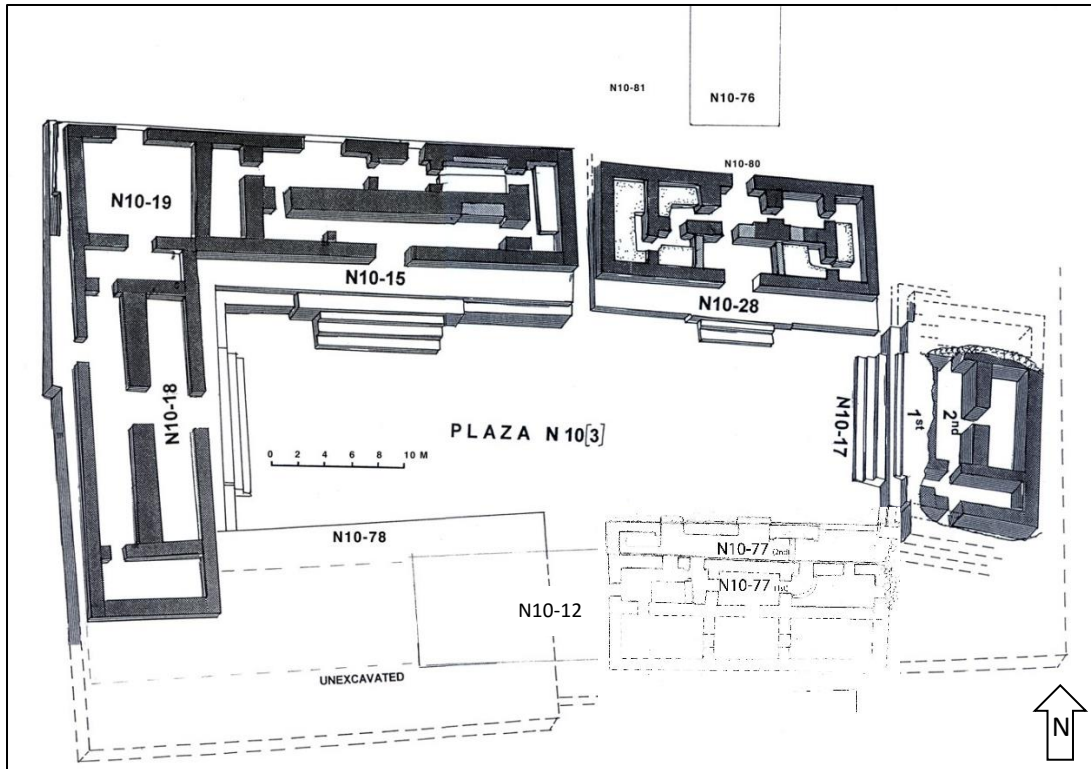


Figure 5.13. Above: Plan of the Ottawa Group (adapted from Graham 2004:229). Below: Ottawa N10[3] courtyard with Structures N10-15 and N10-28 viewed from the south (photo by Karen Pierce, 2014).

Two kinds of palaces found throughout the southern Maya lowlands are the acropolis style and the elaborate household group (Fauvelle et al. 2013:243). The illustrative sample of palace architecture that follows begins with sites located in the southern Maya Lowlands (Figure 5.14), in the Peten region of Guatemala and in central Belize.



Figure 5.14. Map of the southern Maya Lowlands (adapted from Evans 2008:569).

Tikal was a powerful kingdom and one of the major Classic period cities. The Central Acropolis at Tikal (Figure 5.15) is considered a multi-functional assemblage of vaulted masonry buildings that are two to five stories high. Access was more restricted to upper level palace structures, which are secondary construction units added late in the Classic period (Andres 2005:57). The Tikal Central acropolis is included here as it is representative of the acropolis style palace and because Tikal was a major influence in the Classic period. The immense size and layout of this group suggests that activities of the royal court were further

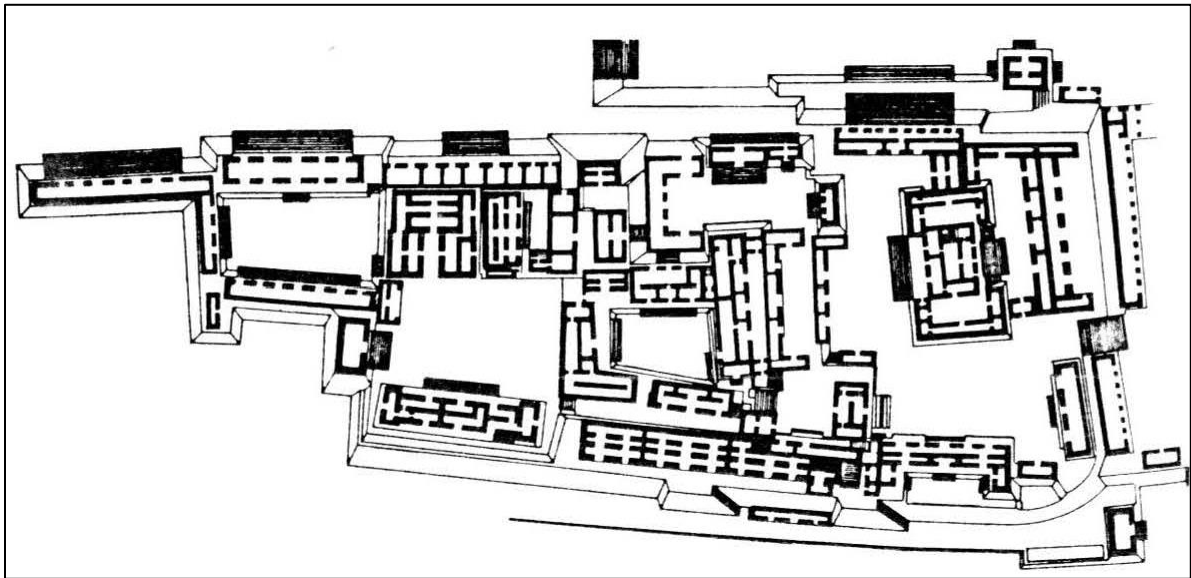


Figure 5.15. Above: Plan of the Central Acropolis at Tikal (Andrews 1975: figure 13).
Below: Tikal Central Acropolis (photo by Karen Pierce, 2010).

removed from the public, more complex and specialized here, as compared to sites that feature an elaborate household group type of palace. Fauvelle et al. (2013:243) make the point that “if form follows function, it is reasonable to think that different types of palaces reflect differences in the constitution of the royal court, the kinds of activities conducted by that court, and even the structure and organization of the polities run from the palace.”

Moving 75 km southeast from Tikal into southern Belize is another major Classic period city—Caracol. At Caracol, Caana (Figure 5.16) is the largest structure at the site and it is thought to be the palace of the dynastic ruler (Chase and Chase 2001). This compares with the modifications made at Lamanai Structure N10-43, Xunantunich, and Calakmul. The upper level construction dates to ca. A.D. 680, and the lower level rooms were built across the lower façade after A.D. 760, at the beginning of the Terminal Classic (Chase and Chase 2001:110–116). The nearby Barrio group (Figure 5.16), located just east of Caana, was an elaborate residential compound dating to the Late to Terminal Classic (Chase and Chase 2001:120–122). There are similarities in the forms and relationship of these two structures to Lamanai. Lamanai’s Structure N10-43, underwent similar modifications in the Late to Terminal Classic period, and the buildings and layout of the nearby Ottawa Group at Lamanai bear some similarity to the Barrio Group, incidentally, including a drum.

In contrast to other palace compounds at Caracol, a lack of eastern interments and mausoleums in the Barrio has been interpreted as an indication that the inhabitants differed from those occupying Caana and the Central Acropolis (Chase and Chase 2001:120–122). Similar to Ottawa’s Structure N10-15, the western building in this courtyard complex underwent extensive modifications, including the addition of a courtyard facing platform suggesting great variation in use over time. Like Lamanai Structure N10-15 this building also

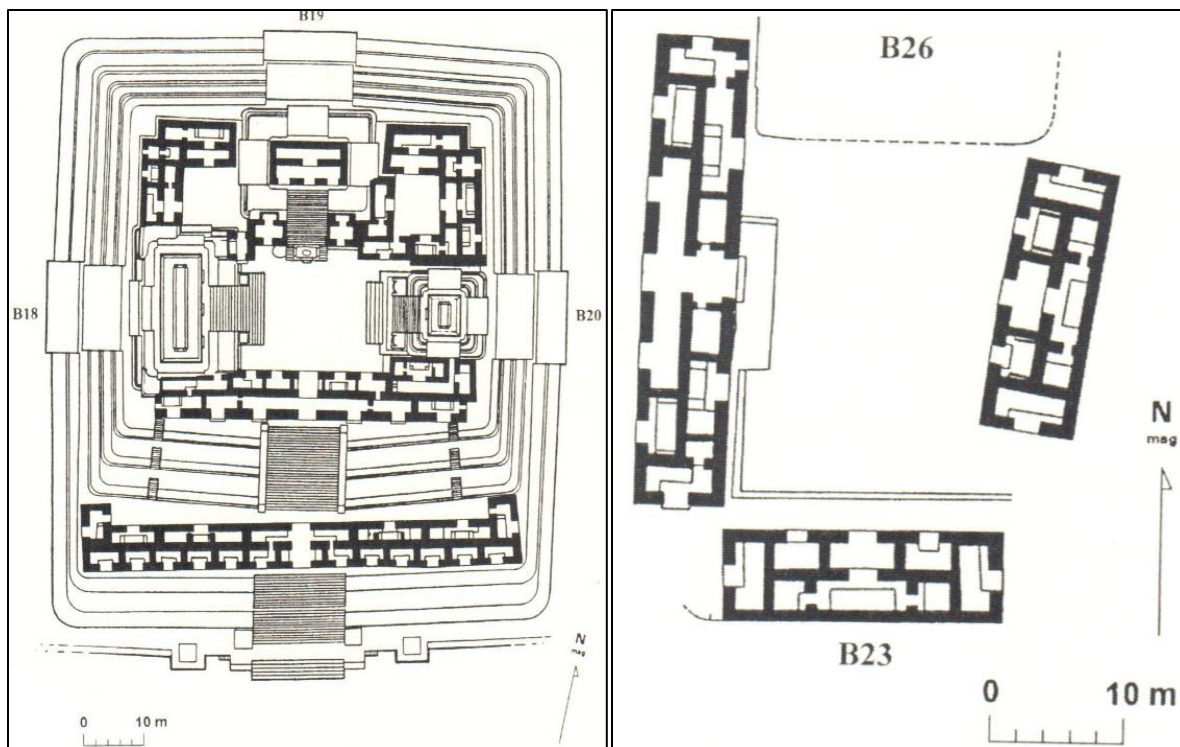


Figure 5.16. Left: Plan of Caana, Caracol’s most elaborate palace compound, with a row of rooms built on the lower substructure, across the central stairs (Chase and Chase 2001:110, figure 4.3). Right: Plan of Caracol’s Barrio palace compound (Chase and Chase 2001:121, figure 4.9).

faces an interior courtyard on one side and a large public plaza—with the Caana structure—on the other side, although the alignments are different. There were no special deposits found in an axial trench, but there was a drum in one room, and several armed reception benches in different rooms. Taken together, these features suggest a non-residential function for this building, although the others in the group are considered residential (Chase and Chase 2001:120–122).

Approximately 35 km north of Caracol is the secondary center of Xunantunich, located on a hill above the Mopan River. At Xunantunich most of the ceremonial architecture was rapidly constructed during the Late Classic period (Yaeger 2010:147). At the end of the Hats’ Chaak ceramic phase (Late Classic, ca. 744 C.E.) the monumental pyramidal palace structure, El Castillo, underwent several modifications, one of which was the construction of

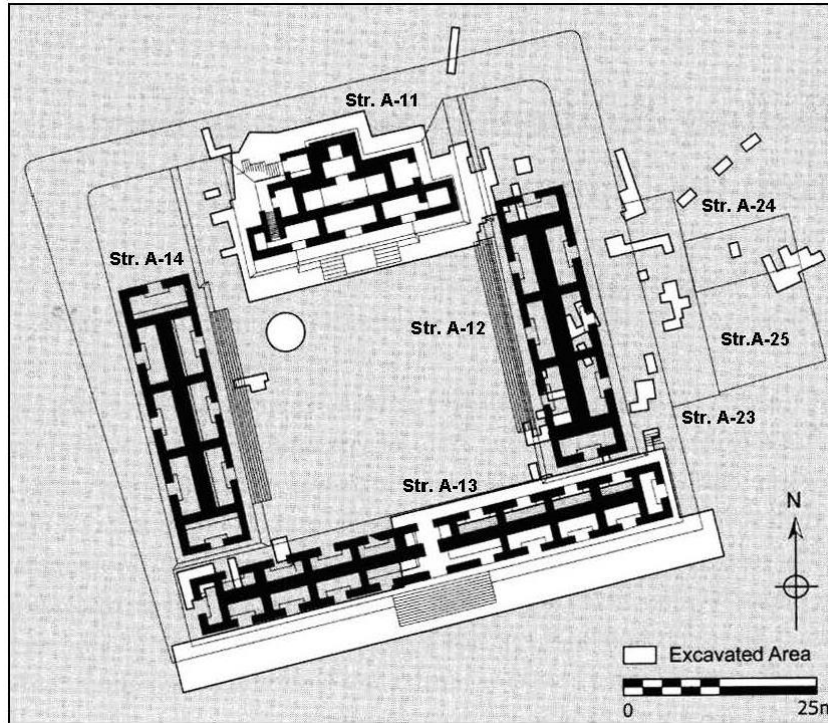


Figure 5.17. Plan of Plaza A-III, a Palace at Xunantunich (Yaeger 2010:146, Figure 7.1).

a long building placed across the lower northern façade (Structure A-32), similar to the modifications noted at Caracol and Calakmul discussed above (Yaeger 2010:147) and at Lamanai. A new multi-level royal palace compound, Plaza A-III (Figure 5.17), was constructed in a different location, north of the existing palace at El Castillo, which signals a break in continuity and suggests shifting political power during this period (Yaeger 2010:147). This new palace complex was eventually destroyed and in-filled, in a situation similar to Lamanai's Ottawa group, but no further construction took place in that location.

Located 9.5 km northeast of the site of Xunantunich, the site of Cahal Pech is also found in the upper Belize River Valley and was probably part of the Buenavista polity. It flourished during the Late and Terminal Classic periods. Its multi-level palace (Figure 5.18) included a long passage range structure between the main Plaza B into Plaza A, and Plazas D and E courtyard groups, situated around a pyramidal temple (Ball and Taschek 2001). This is

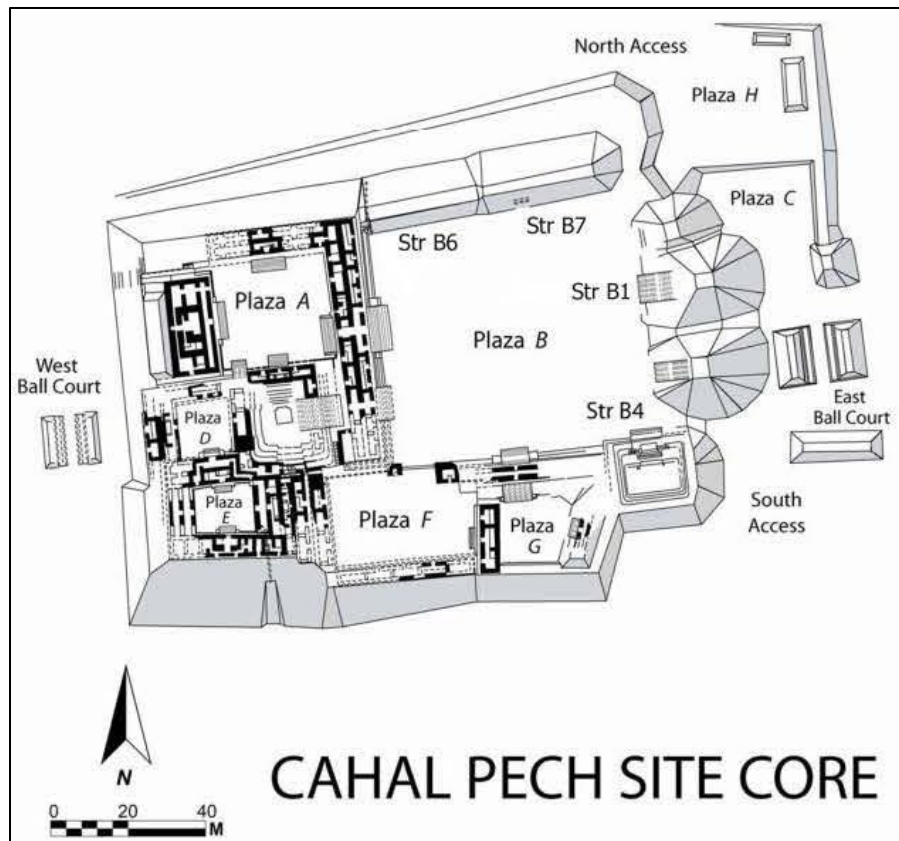


Figure 5.18. Top: Cahal Pech site core map (Awe 2013:34, figure 1). Bottom: Late Classic palace compound, Plaza E, view to south (photo by Karen Pierce, 2010).

an example of an elaborate household group type palace (Fauvelle et al. 2013:243). What is interesting to note here is that the courtyard groups of Plaza A and E groups share a similarity to Ottawa with the stair and stairside outset features, and in part the positioning on a contiguous elevated platform. Plaza A also has a formal entry access passage, like Ottawa in its Late Classic form.

In the southern periphery of the Maya Lowlands is the site of Copan, which is notable for several reasons. First, Group 10L-2 (Figure 5.19) is another example of the elaborate household group palace type (Fauvelle et al. 2013:243), although all together there are twenty-five excavated buildings around two courtyards with another unexcavated, and probably another washed away by the river. This group also had what is interpreted as a council house, Structure 10L-22A, which is very different in form from many of the long open buildings that have been interpreted as council houses in northern Yucatan, discussed later. This building has been compared to Lamanai's Structure N10-28, however the interior floor plan is different (compare Figures 5.19 and 5.13) (Andres 2005:254–256). Copan's Structure 10L-22A, erected in A.D. 746, depicts images of nine permanent representatives from named places in the Copan polity (Harrison and Andrews 2008:128–129). The morphology of Copan's council house is much more similar to that of Structure N10-28 in the Ottawa Group than to the long open council house forms, but the interior floorplans of the two buildings are very different. Interestingly, from the standpoint of foreign influence, some architecture at Copan features the stacked masks that are the hallmark of *later* period architecture of the Puuc, Chenes and Rio Bec styles in Yucatan, which implies a directional flow of ideas from south to north (Braswell 2012:16).

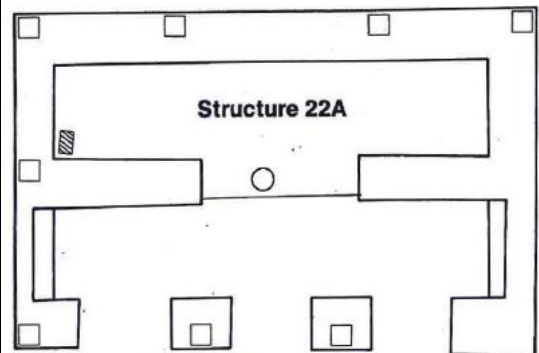
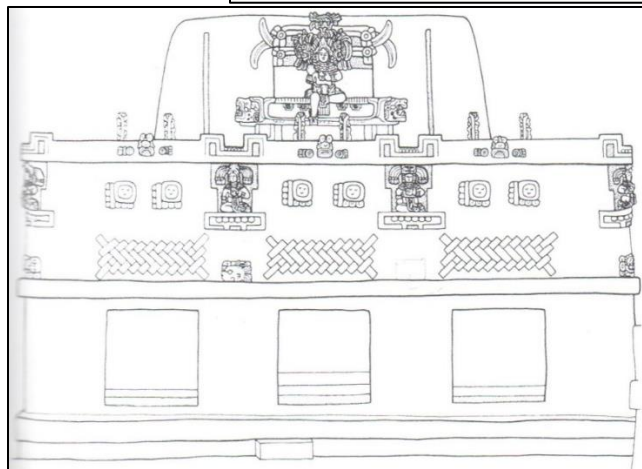
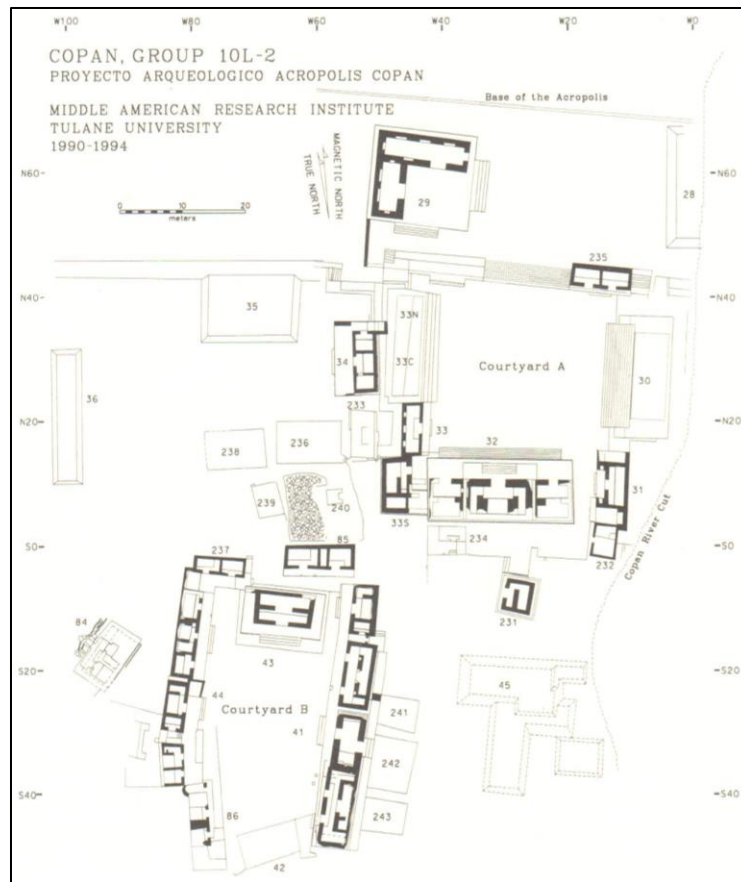


Figure 5.19. Top: Plan of Copan Group 10L-2 (Andrews et al. 2003:71, Figure 3.2). Bottom Left: Council (mat) house reconstruction of Copan Structure 10L-22A. The upper façade is ringed with images of lords of the Copan kingdom each seated above a place name glyph (Harrison and Andrews 2008:129, Figure 14). Bottom Right: Plan of Structure 10L-22A (Fash et al. 1996).



Figure 5.20. Map of the northern Maya Lowlands (adapted from Evans 2008:568).

At the end of the Late Classic period, sites in the northern Maya Lowlands (Figure 5.20) experience a florescence. During the Terminal Classic period the Yucatan is seen as the source of new cultural influences throughout the central and southern Lowlands.

Although the scale of the architecture at Edzna is much greater than Lamanai, the architecture at Edzna is indirectly relevant to the Ottawa Group for several reasons. One is that Edzna is an example of an architecturally documented site in close proximity to the Gulf Coast. It was closely tied to trade activities with the Gulf Coast for a time, so it was positioned to spread new ideas. Additionally it represents a site that has the northern variant of temple-palace structures referred to by Braswell et al. (2004), *plus* the presence of a council house, which may represent new ideas about Maya governance. If the Five Story

Palace serves similar functions as the Ottawa Group it demonstrates the variety of forms that palaces can take.

Edzna reached its greatest extent during the Late Classic period and was the capital of an important polity. Architecture, sculpture and ceramics suggest cultural ties with major Classic centers to the south suggestive of a commercial network between western Yucatan and Classic centers to the south (Sharer 1994:362–363). In the Late Classic, from about A.D. 600–700, the Agua Potable ceramic complex links Edzna with Champoton on the Gulf coast, and to the Chenes area to the north. A canal system likely connected Edzna to the upper reaches of the Rio Champoton, creating a riverine route that extended from the interior to the Gulf of Mexico, and resulted in the movement of both goods and people (Ek 2012:153). During the Terminal Classic the ceramic links between Edzna and Champoton diminished as the exchange system shifted to long distance coastal trade (Ek 2012:153, 156). During the Terminal Classic period construction activity continued at Edzna, with both ceramics and architecture closely tied to the Puuc region (Braswell 2012:19). When the Puuc polities to the northeast collapsed Edzna followed at roughly the same time (Braswell 2012:19). Many of Edzna’s buildings “show characteristics that are antecedent to Puuc architectural style that emerged in the Terminal Classic” (Sharer 1994:362–363). A variant of Puuc-style masonry, The Five Stories (Cinco Pisas) palace at Edzna (Figure 5.21) is what Braswell et al. (2004:172) describe as a northern variant of the palace-temple pyramid. Across the main plaza from this is the impressive long Structure 424, Nohochna (Figure 5.21), which is interpreted as a council house.

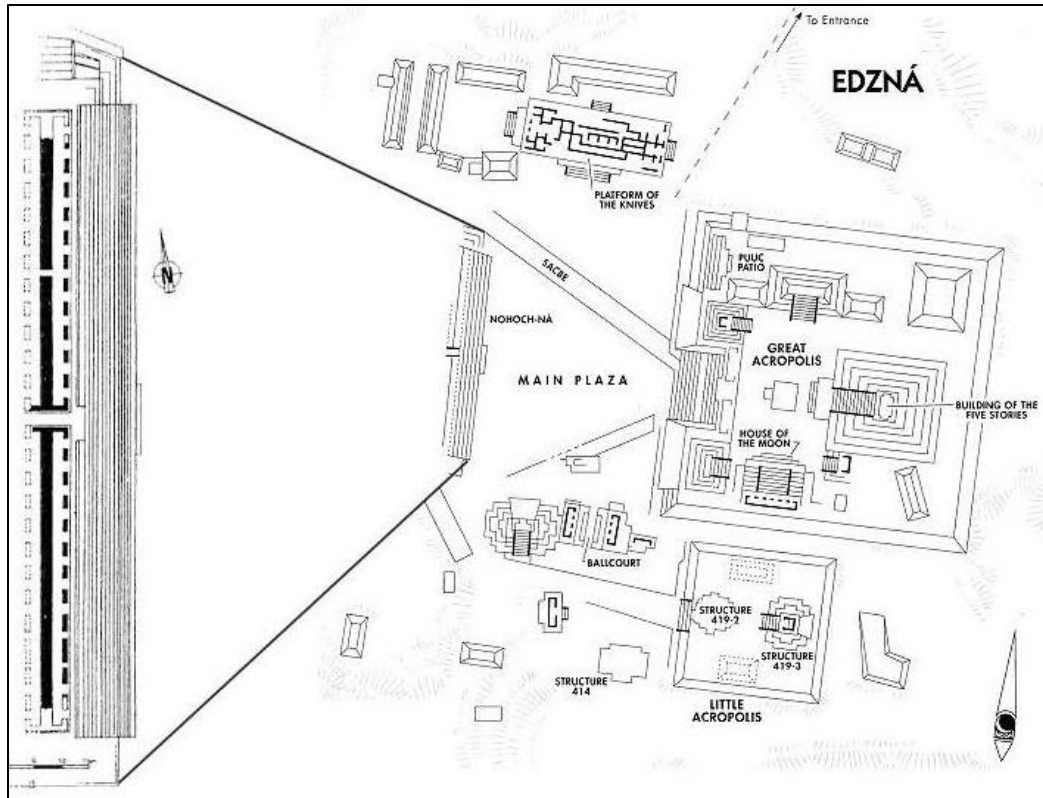


Figure 5.21. Top: Edzna Site Plan (Barrientos 2014:307, Figure 8.52). Bottom: Edzna Five Stories Palace Structure (photo by Karen Pierce, 2005).

The Puuc region lies to the north of Edzna, where “the great city of Uxmal emerged as the most powerful political capital in the Puuc region” in the Terminal Classic period (Braswell 2012:19). Puuc style architecture featured elaborate and elegant core-veneer masonry unknown elsewhere in the Maya area (Braswell 2012:16). With its finely fitted veneer masonry and mosaic upper façade, the House of the Governor is one of the finest examples of the Puuc architectural style. This style of masonry veneer, with the use of well-cut square blocks, is a sharp contrast to that of sites to the south, which exhibit a masonry style is generally more akin to modern day bricks. One of the hallmarks of Rio Bec, Chenes, and Puuc architectural styles is stacked Monster masks (Chaaks or Wits’ earth monster), which began to adorn the corners of northern Lowland structures in the late eighth century, and became “*de rigueur* on Classic Puuc Mosaic style structures dating to A.D. 830–900/950” (Braswell 2012:16). Interestingly, these stacked masks have also been found on earlier architecture at Copan, which suggest directional flow from the south (Braswell 2012:16). It appears that buildings in the Puuc architectural style ceased to be built after A.D. 925 (Braswell 2012:19).

The House of the Governor at Uxmal is a tripartite palace structure built in the Puuc style, constructed in a single effort around A.D. 900–915, not long before Uxmal’s abandonment (Christie 2003b:295–298) (Figure 5.22). The House of the Governor comprises three structures positioned in a linear fashion connected by two recessed transverse vaults to create the appearance of a single long structure. Each of the three buildings is divided into smaller interior rooms. The grand platform on which the House of the Governors sits—approximately 160 m wide x 133 m long and ranging between 7 to 11.8 m in height—could accommodate thousands of people (Kowalski 2003:213). As at many

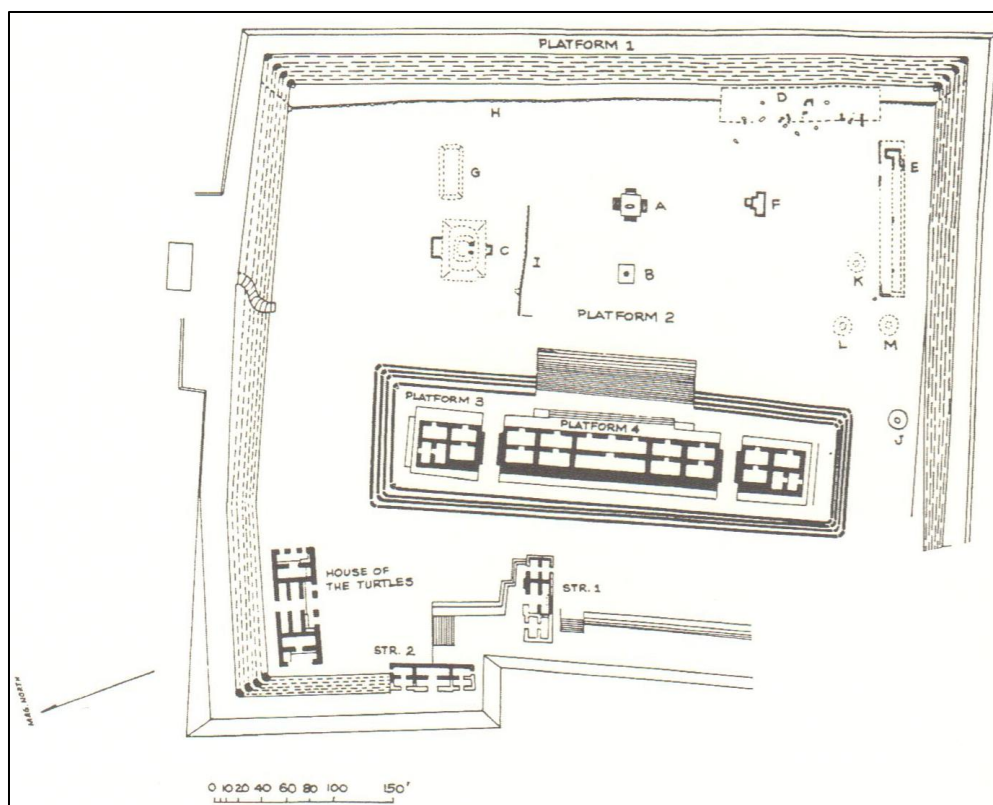


Figure 5.22. Plan of Uxmal House of Governors and the great platform (Christie 2003b:296).

sites, several C-shaped structures (discussed above) were built on the platform, following the collapse of the Puuc region.

The Nunnery Quadrangle (Figure 5.23) is another palace group at Uxmal, probably non-residential because of its formal courtyard layout, coupled with iconography and artifacts that associate it with the presentation of tribute and state ceremony (Kowalski 2003:219–220). It combines the local Puuc style architecture with “the adoption of ‘Mexican’ iconography and architectural traits in the late ninth or early tenth centuries” (Ringle 2012:193). Ringle and Bey (cited in Kowalski 2003:220) suggest it is the “primary meeting place for the Uxmal court,” and that similar quadrangles at other sites probably served a similar function. To support this conclusion they point to a lack of domestic features (although they did not specify these features specifically they usually include sleeping benches and kitchen facilities), the placement relative to pyramids, *sacbeob*, and other civic

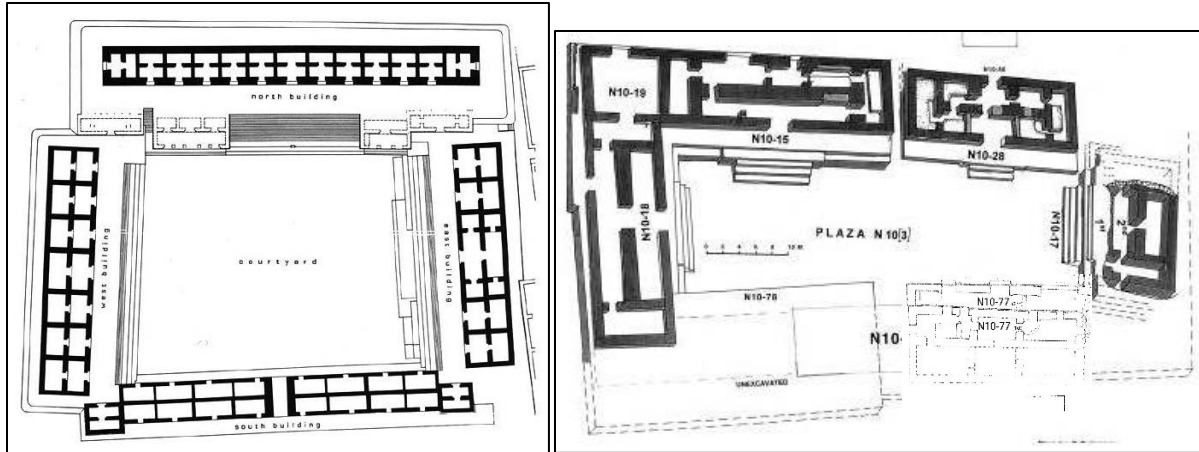


Figure 5.23. Left: Plan of the Nunnery quadrangle at Uxmal (Andrews 1995:219). Right: Lamanai Ottawa Group (adapted from Graham 2004:229).

structures, and the presence of formal entryways. Because Lamanai’s Ottawa Structure N10-77 opened directly onto the courtyard floor (i.e. it was not elevated on a terraced platform), Graham (2004:236) commented that it reminded her of “the buildings straddling the wide platform stair of one of the structures of the Nunnery Quadrangle at Uxmal” (Figure 5.23). Although the Nunnery at Uxmal is much larger than the Ottawa Group (in the Late to Terminal Classic form with six buildings standing together), the similarity is that they are both courtyard groups with a primary access passageway, and with buildings that sit at different levels; however, in contrast, the door openings and access to the buildings are very different. The uniformity of room layout in the Nunnery Quadrangle is remarkable.

In the Late Classic period, by A.D. 730, population densities in northern Yucatan reached their maximum. At that time there is evidence of trade in small quantities of polychromes from the central or southern lowlands, but the ceramic trade shifted to the Chenes and Rio Bec regions later in the Late Classic, with no further appearance of polychromes after A.D. 750 (Braswell 2012:16). Council houses, or *popol nah*, are found at several large sites. Structure 44 at Dzibilchaltun, the House of the Governor at Uxmal, and Edzna’s Nohochna are independently interpreted as council houses (Barrientos 2014:307;

Kowalski 2003:209, 211) although these buildings are different from one another. Structure 44 is a single long three-roomed building with multiple entryways resulting in a colonnaded appearance, as is Nohochna, but the latter has a central passage dividing the structure. Structure 44 likely served public administrative functions rather than private residential, and may have operated as a *popol nah*, as power-sharing arrangements probably existed with an advisory council to the *k'uhul ajaw* (Kowalski 2003:209). The House of Governors was a tripartite palace featuring multiple small rooms, as noted above.

Chichen Itza quickly grew to become the largest and most powerful city in west-central Yucatan during the Terminal Classic (Braswell 2012:19). Because there are examples of architectural traits from the northern Yucatan at Lamanai, and because of the prominence of Chichen Itza during the Late to Terminal Classic, the Monjas palace is included here. Of note are several parts of the buildings with rows of rooms that are three-deep, which rarely occurs in other the examples presented above. The Monjas (Nunnery) palace complex (Figure 5.24) at Chichen was the dominant focus during the late ninth century. The Monjas quadrangle had a more restricted audience than the great platform of the House of Governors at Uxmal (Ringle and Bey 2001:279). The palace consists of an eastern range structure that was partially encased by a large, high platform that supported second story rooms in A.D. 880, a date known from hieroglyphic lintels, which also allude to the ritual function of the building by associating it with dedication ceremonies (Kowalski 2003:232). Headrick (cited in Kowalski 2003:233–234) has argued based on the lattice motif on the wall—resembling a woven mat, which is a symbol of Maya rulership—and a jaguar motif, that the building

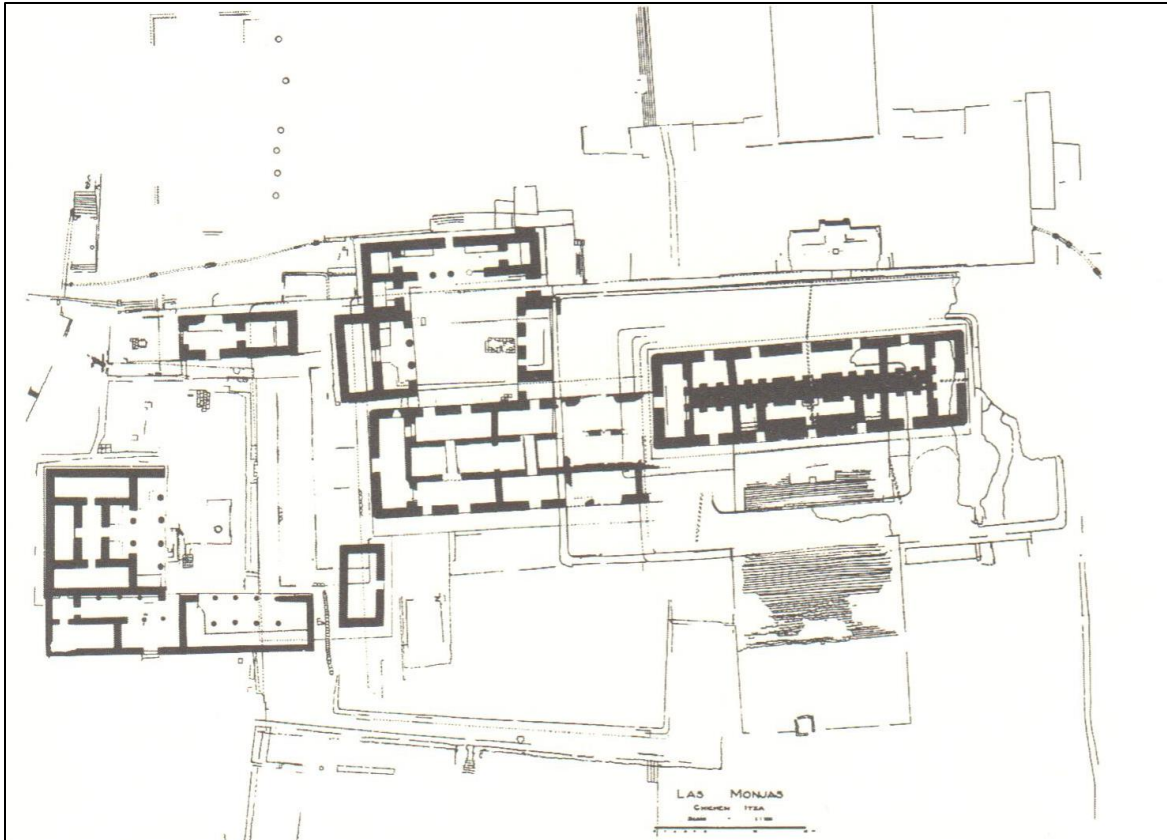


Figure 5.24. Plan of the Monjas and associated structures, Chichen Itza (Kowalski 2003:233, figure 8.17).

served as a founder’s house and was the living quarters of the king and the location of accession ceremonies. Kowalski (2003:233–234) argues that it functioned as a *popol nah* structure. In the latter scenario Monjas would be where the governmental equals of the conciliar *multepal* system at Chichen Itza would meet “under the direction of a principal lord or paramount ruler” (Kowalski 2003:234).

The examples and discussion of Maya architecture that have been presented above are combined with the theoretical approaches discussed in Chapter II to aid in building interpretations and explanations for the changes that took place in the Ottawa group during the Late to Terminal Classic period. Specifically, the building modifications that took place at Structure N10-15, and the caches associated with these different building phases, are presented in the following chapter.

CHAPTER VI

ANALYSIS

...many stories can be told about Maya buildings and why they were built, but we should not blur the distinction between multiple, ancient perceptions and tales of our own invention, whatever their usefulness in organizing data [Johnson 1994: 176] (cited in Houston 1998b:523–524).

This chapter begins with an analysis of floor plans and excavation data to determine the different architectural stages of Structure N10-15. Each stage is described and defined with a floor plan and the changes that took place in the architecture. With the architectural sequences established, I then turn to the known caches associated with Structure N10-15. In this analysis the caches are located on the floor plan and assigned to an architectural stage. Following this the caches are presented chronologically by architectural stage and the components and placement of each cache are enumerated, followed by a summary discussion of the caches and deposits associated with Structure N10-15. The next section in this chapter is devoted to a preliminary assessment of the architectural features—construction material and stylistic attributes—of Structure N10-15, and some general comparisons with the other structures in the Ottawa group to illuminate how Structure N10-15 was different. This concludes with a summary discussion of the architectural features. The chapter closes with a brief discussion regarding limitations pertaining to the analysis of some of the architectural features of N10-15 and explores the function of the building. The implications of the analyses presented in this chapter are summarized and discussed in Chapter VII.

The buildings that ring the perimeter Plaza N10-3, which is a private courtyard rather than an open plaza, have been variously referred to as the Ottawa Group, the Ottawa Plaza, and the Ottawa Courtyard Group, and have been labeled at times as an “elite-residential group” (Pendergast 1985:93), a “residential and administrative assemblage”

(Pendergast 1990a:172), “an elite-residential and administrative complex” (Pendergast 1992:74), and “The Ottawa Palace Courtyard Group” (Graham 2004:231). As discussed in Chapter V, the name designation and the functions proposed for buildings and building groups is highly variable among archaeologists. The important point here is that despite these different designations for Ottawa, we do not know the function of the structures in the Ottawa group, whether each building served the same or different purposes, or how the functions may have changed through time. A functional analysis of the structures based on the associated artifacts was impossible because the floors were swept clean when each new remodeling was undertaken. However, the literature review undertaken in Chapter V suggests that Structure N10-15 (Figure 6.1) could have served both a residential (sleeping) and an administrative function (reception) for the building, but without any of the interpretative contributions used in other cases, it is unlikely that we will ever know with certainty.

The Ottawa group underwent a massive transformation during the Late to Terminal Classic period. As discussed in Chapter II, a number of factors may have contributed to the delegitimization of dynastic authority, where the institution of divine kingship transformed into another type of governance. At Lamanai there is no evidence of foreign invasion or warfare, but foreign *influence* could have occurred through trade contacts and migration, ultimately playing a role in ideological change at Lamanai. One proposed model for change focuses on the spread of a new religion—the cult of Quetzalcoatl, which is seen as emanating from Chichen Itza in northern Yucatan. But the northern Lowlands was also a hub of international activity during the Terminal Classic, so certainly many ideas were

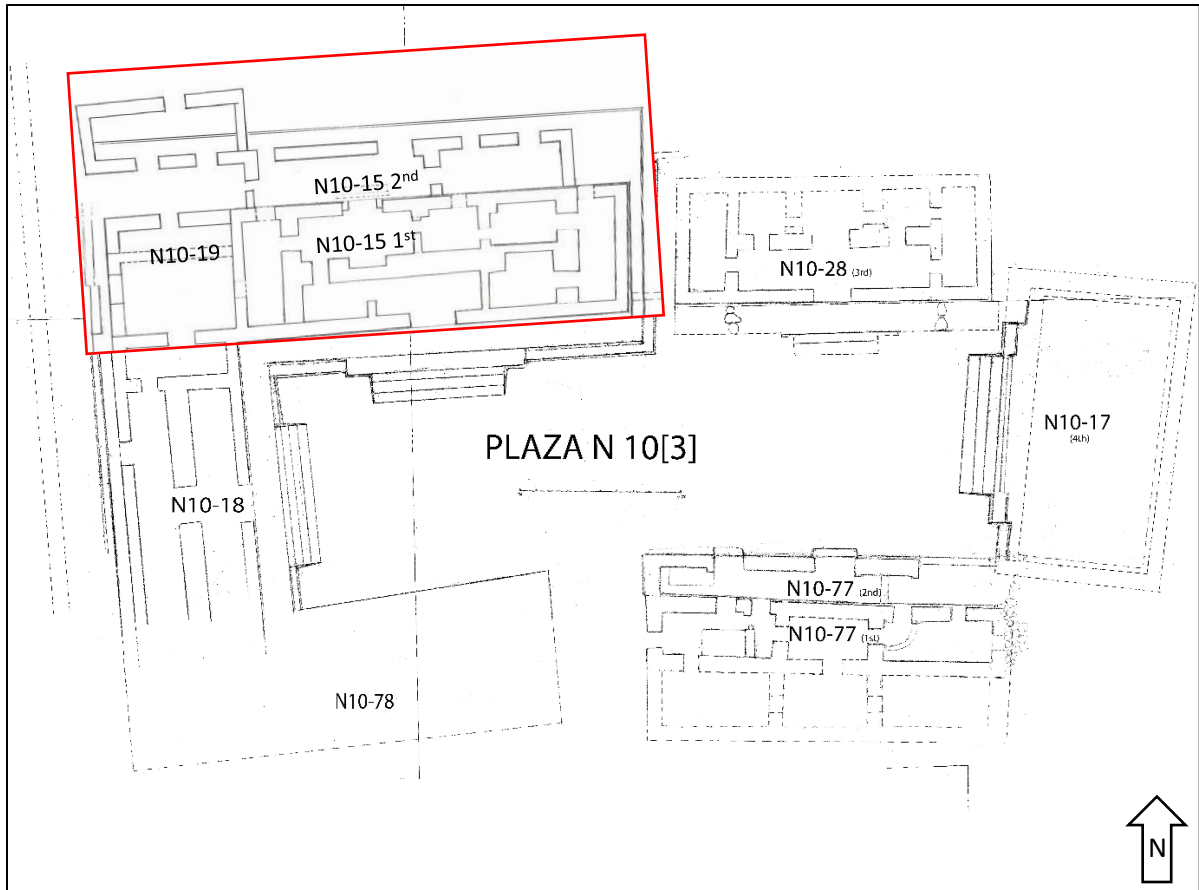


Figure 6.1. The Ottawa Group, Plaza N10[3], highlighting Structures N10-15 and N10-19 (red area).

exchanged, both within the Maya area and between the Maya area and more distant regions.

At Lamanai during the Terminal Classic period there is evidence of architectural and ceramic traits that are believed to originate from the northern Yucatan, but these examples are not great in number and we do not know how Lamanai was influenced by this new religion. However, not all change need originate from external influence. Changes in the architecture and caching patterns at Structure N10-15 may shed light on ideological change at Lamanai.

Analysis of Structure N10-15 Floor Plans

Research at Structure N10-15 (Figure 6.2) has identified six major architectural stages that took place *after* the initial building was constructed (the initial building is presented



Figure 6.2. The south side of Structure N10-15 as seen from across the courtyard indicating some of the architectural features to be discussed in this chapter (photo by Karen Pierce, 2014).

herein as architectural Stage 1). In reality it is highly likely that there are other unknown stages of Structure N10-15 that are not presented in the architectural sequence that follows. Furthermore, evidence from the excavation in 2015, and other data (David Pendergast, personal communication 2015) suggests that there is at least one previous structure buried in/under the main two-terrace substructure that Structure N10-15 sits upon.

The key findings of the 2014 and 2015 excavations at Structure N10-15 in the Ottawa Group are presented in the analysis below. The excavation Sub-Op numbers are indicated on the plan in Figure 6.3. The architectural stages are reported in chronological order and the summarized excavation findings are included within the appropriate chronological stage. More detailed information on these excavations can be found in the *Preliminary Field*

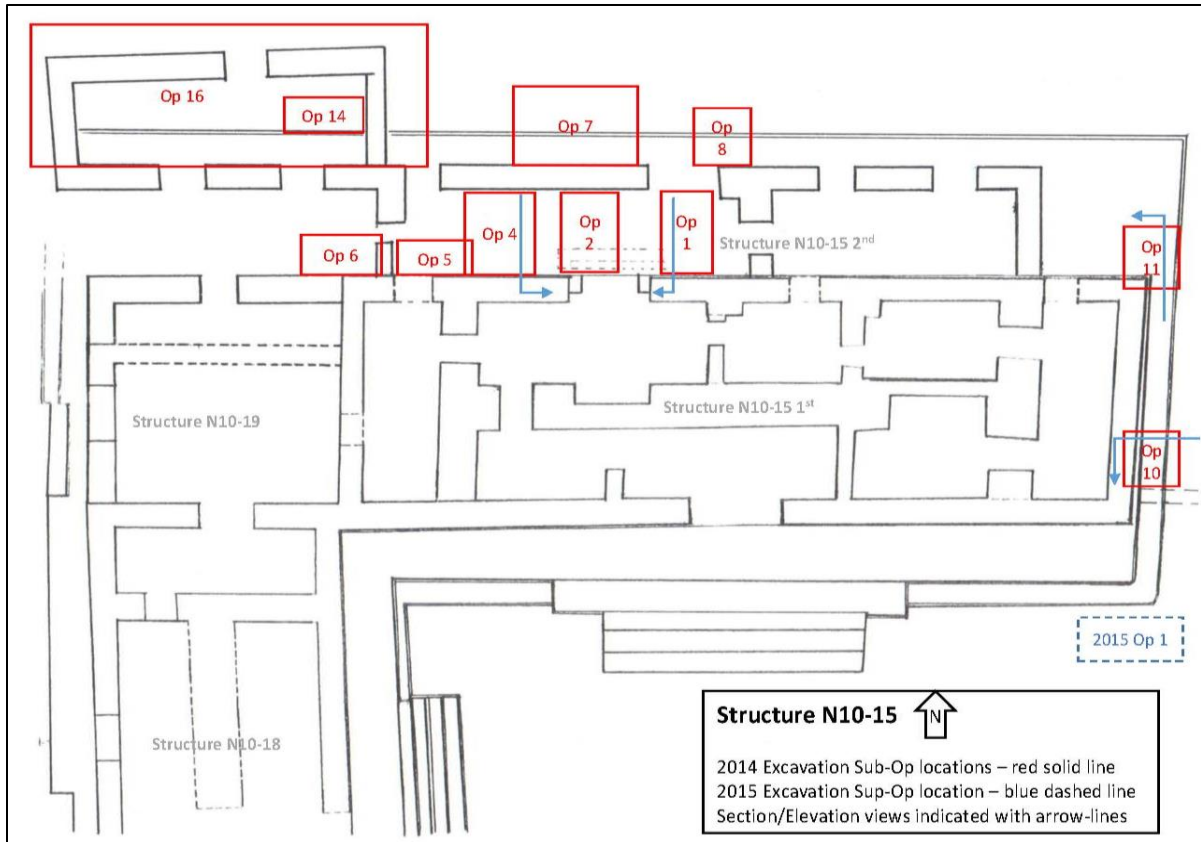


Figure 6.3. Plan of Structure N10-15 indicating the location of 2014 excavation (sub)operations that are incorporated into this analysis.

Season Report 2014, Lamanai Archaeological Project, Lamanai Op14-3 (Pierce 2014) and the *2015 Lamanai Field Season Report* (Graham et al. 2016).

Although this analysis uses seven stages—the initial building and the following six stages—to explain the changes that occurred in Structure N10-15, it is more realistic to view the changes as a continuum of building and remodeling efforts, with uncertainties about the precise timing, especially those of discontinuous features. In this analysis I have designated the floors that were in use during each stage, but there are difficulties with this, as there is only one direct correlation between floors in N10-15 1st and N10-15 2nd because the floor sequences begin at different levels. Not only are the floors of the different additions on different levels, this also occurs in some cases with the room-floors within N10-15 1st having

different levels. Because of the complexity of the features and floors encountered during excavation, coupled with the problem of not knowing the order in which they occurred, features were given different names by Loten (1984) and team, which were neutral with no relative order implied or conveyed (see Tables A.1–A.4 and Figure 6.17 for feature names). Because of this, the floors of each room have a different series of names and it is sometimes difficult to compare the sequences between the rooms. In this analysis the floors (and their names) presented are generally those that are located in the rooms that fall on the north-south axis of the structures. This is where many of the caches were placed and where 1980s excavations penetrated the series of floors that are shown in an axial section of the building.

Structure N10-15 is a great example of a palimpsest of construction stages and despite all the efforts to understand how the construction sequence unfolded over a three hundred year period, it can never be fully understood. This is an important lesson for archaeologists, for all we have are the non-perishable material remains at best, and we use them to recreate a history of what once was, but the story is our own interpretation, and at that, only partial. As David Pendergast (personal communication 2015) reflected,

There are several matters in N10-15 that are incapable of resolution, no matter how questions are framed or how the data are manipulated. That can be said of many structures that are essentially residential in plan features, whatever their actual patterns of use may have been; frequent modifications are characteristic, and many can be expected to have wiped out antecedent structural elements, and generally made the sequence of construction events difficult to determine in many cases and impossible in others.

This discussion of the architectural sequence uses Stan Loten (1984) and his team's monikers for the names of floors, walls, and other features. These names appear in the field notes that accompany the 1980s excavation floor plans and sections for all of Ottawa, so in the future anyone who might continue research at Ottawa can follow this discussion. Because

no all-encompassing site report with architectural sequence information has been published for Lamanai (for example, the three-volume *Excavations at Altun Ha* report by Pendergast 1979, 1982c, 1983), there is no set precedence for naming structures, floors, and other features. Rather than inventing a system for this thesis, I have elected to retain the names assigned during excavations, since this analysis is intended to be integrated with the other Ottawa data for a complete report on the entire complex in the near future, at which time the nomenclature system for Lamanai architectural reporting can be defined by Graham, Pendergast, and Belanger.

When speaking in general about the whole of Structure N10-15 in its entirety, I refer to it as N10-15, but when speaking about a specific building addition I use the designated N10-15 1st or N10-15 2nd. A few new names from the 2014 excavations will also be introduced. Only the obvious changes to the interior of the building that were noted by Loten (1984), such as room divisions and door changes (blocking and opening), will be highlighted for each stage.

As for the construction of Structure N10-15, it saw numerous remodelings and additions during its lifespan, many of which apparently involved the ripping out and rebuilding of the same features in the same places (Pendergast 1982b:2). Some scholars have suggested this may be attributable to termination rituals in which things, or buildings, had to be deactivated and subsequently re-animated, often rebuilding in the same spot (Lucero 2010:142), but others disagree with this interpretation (Elizabeth Graham, personal communication 2015). Internal remodeling appears to have been continuous through all stages. Many of these changes are minor, or replaced the exact same feature, so are difficult to correlate with the designated stages. For example, Pendergast (1985:95) noted that the

benches appear to have been torn down and rebuilt in the same spot a significant number of times. The same happened with doorway closures, walls, and other features, which Pendergast suggests may be due to ceremonial considerations rather than practical needs, but he cautioned that this is too easily used as a catch-all explanation for things that are difficult to understand. Because this destroy-rebuild pattern occurred so frequently in Structure N10-15 it is difficult to attribute it to practical needs, and it seems ceremonial practice intensified and became more internalized in the transition years of the Terminal Classic (Pendergast 1985:95).

Architectural Sequence of Structure N10-15

The following discussion presents the architectural stages of Structure N10-15 (Table 6.1) and introduces the names of many of the floors and other prominent features of this structure, which are delineated in a north-south section through the structure (Figure 6.4). The architectural stages are based on vertical and horizontal expansions of the primary building, Structure N10-15. These stages are defined by changes in the floor sequence within Structure N10-15 in conjunction with feature and building additions that were being made around the perimeter of Structure N10-15, mostly on the north side—it is a moment when various architectural modifications can be grouped. Table 6.1 highlights the features associated with each architectural stage.

There are seven stages of architectural change in which the floor plan of Structure N10-15 was expanded and changed in layout. They are briefly summarized here. The first stage begins with the primary structure, N10-15 1st; Stage 2 was the addition of a ramp or stairs at the north side of this building; Stage 3 was the construction of a platform feature that

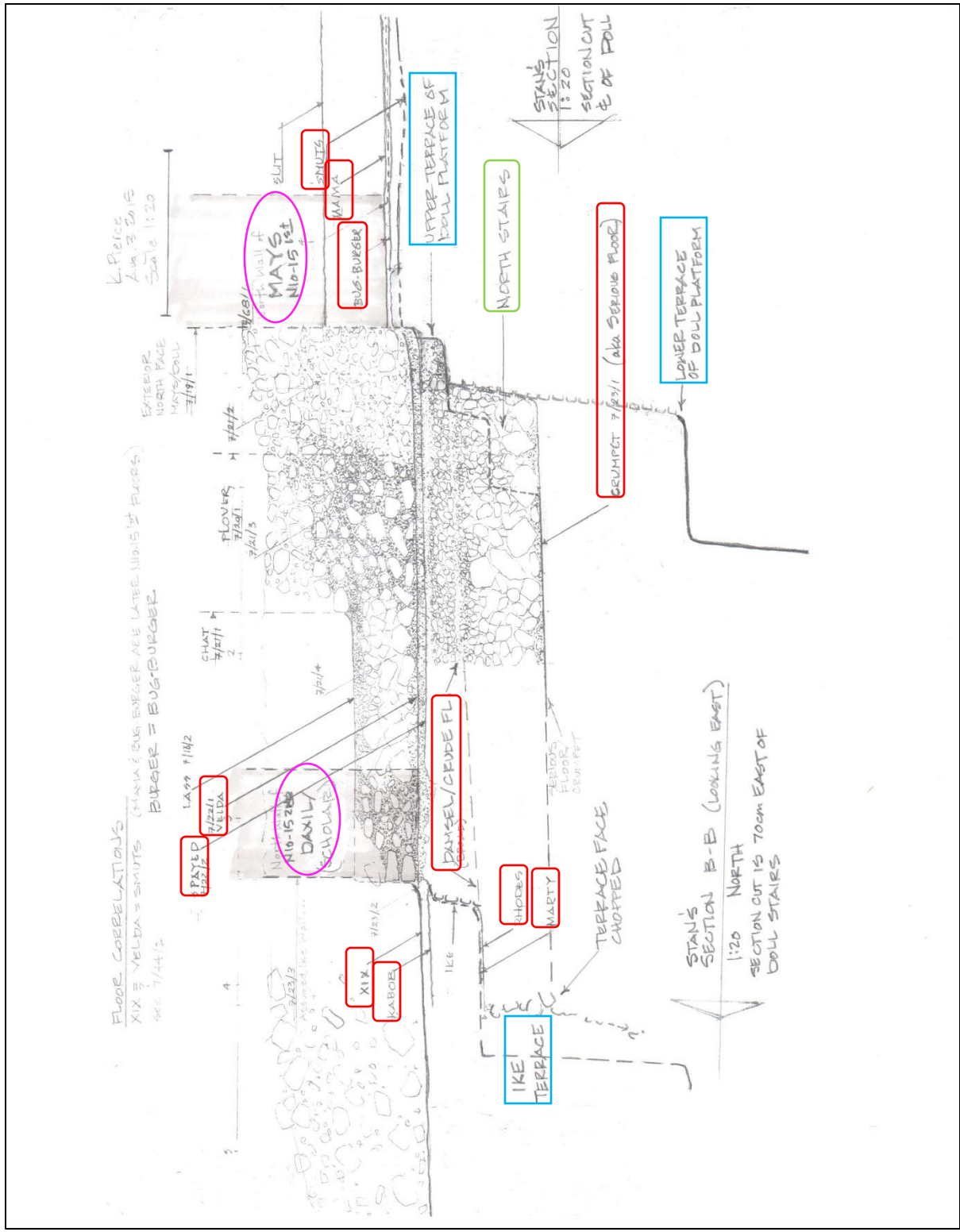


Figure 6.4. Modified north-south axial section of Structure N10-15 1st and 2nd, showing locations of floors and other features (adapted from Stan Loten’s 1984 original sections BB and CC).

Table 6.1. Chart indicating the construction stages of Structure N10-15, with associated features and floor that were present during each stage.

Architectural Stages of Structure N10-15						
Architectural Stage	Numerical designation of structure	Floor in use at primary axis	Associated substructures	Nickname for walled structures	Potentially significant changes	Ceramic phase
Stage 7	N10-19 3 rd				In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 7	N10-15 2 nd	Velda	Ike (now buried)		In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 7	N10-15 1 st	Mama	Doll (now buried)		In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 6	N10-19 3 rd				Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 6	N10-15 2 nd	Velda interior Xix exterior	Ike (now buried)	Scholar with Daxil north perimeter wall	Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 6	N10-15 1 st	Mama interior Xix exterior	Doll (now buried)	Mays	Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 5	N10-19 3 rd		Ike western addition		Terrace addition on west side of N10-18 & N10-19	Terclerp/ Late Tzunun
Stage 5	N10-15 2 nd	Velda	Ike	Scholar with Daxil north perimeter wall		Terclerp/ Late Tzunun
Stage 5	N10-15 1 st	Smuts & Bug-Burger Floors	Doll	Mays		Terclerp/ Late Tzunun

Stage 4	N10-19 3 rd		Ike western addition		New Ike western substructure. Ike terrace covered Doll platform.	Terclerp/ Late Tzunun
Stage 4	N10-15 2 nd	Damsel or Spayed	Ike eastern substructure	unnamed structure atop Ike	New Ike eastern substructure. Ike terrace covered Doll platform	Terclerp/ Late Tzunun
Stage 4	N10-15 1 st	Smuts	Doll	Mays		Terclerp/ Late Tzunun
Stage 3	N10-15 1 st	Smuts, Crumpet (aka Serious)	Doll	Mays	Box, stela?	Terclerp/ Late Tzunun
Stage 2	N10-15 1 st	Smuts	Doll	Mays	Ramp	Terclerp/ Late Tzunun
Stage 1	N10-15 1 st	Smuts	Doll	Mays	Primary building	Terclerp/ Late Tzunun

Table 6.1. continued.

covered over the ramp or stairs; Stage 4 was the construction of a new northern substructure—perhaps built in two different construction episodes, east then west—built 3.5 m further north, parallel to the substructure of the primary building with walls built then later demolished; Stage 5 saw new walls and rooms built atop the northern substructure addition, called N10-15 2nd; Stage 6 raised the level of the floor outside Structure N10-15 2nd by as much as 3.5 meters in height to bring the new floor level with Structure N10-15. At the beginning of Stage 7 Structure N10-15 was still standing, but at present it is not known for how long. It was eventually demolished as small masonry platforms supporting perishable structures were built across the exterior floor that was laid in Stage 6, and over the area where Structure N10-15 once stood.

As discussed previously in Chapter III, it is now apparent that Structure N10-19 should actually be considered a part of Structure N10-15, but this was not known when

excavations commenced in that area in the 1980s, so it was assigned a separate structure designation. Because it was considered a separate structure it was not incorporated into my research at the outset, which focused specifically on the architectural changes at Structure N10-15. As this research progressed though, it became increasingly obvious that N10-15 and N10-19 should be considered as one structure and in fact Pendergast noted that many years ago. However, since this was not clear at the outset, and because the note from Pendergast about this change in Structure designation lay forgotten and was unknown to me until recently, little analysis of the architectural changes and floor sequences of Structure N10-19 were undertaken in this thesis. It too, has a complicated sequence of changes, but they are not included in this analysis beyond the sequence of northward expansion with wall changes noted by Claude Belanger (personal communication 2014) that are indicated on the floor plans of the different stages.

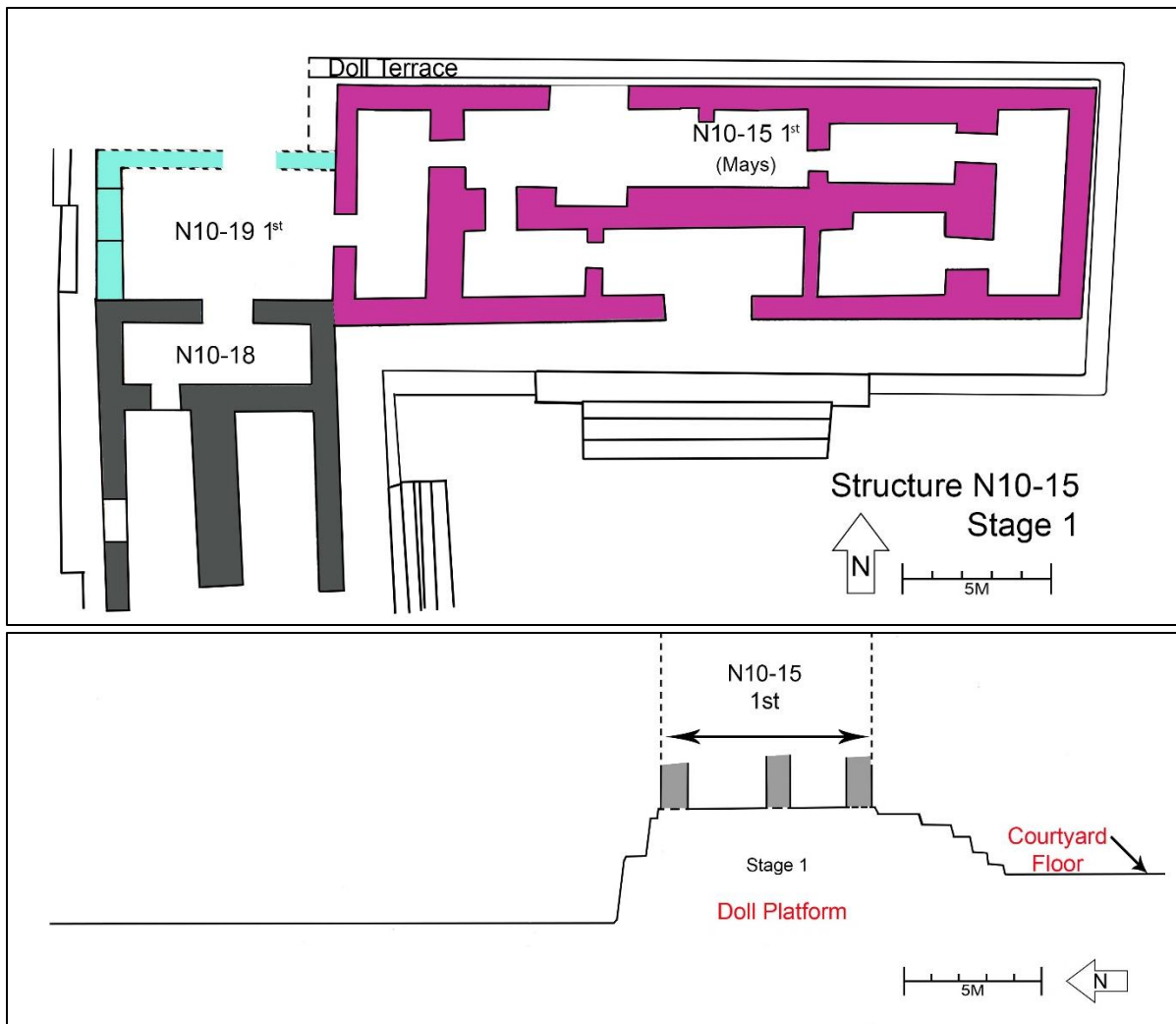


Figure 6.5. Top: Stage 1, plan of Structure N10-15 1st, indicating nomenclature for the building (Mays) and the terraced substructure (Doll). Bottom: Schematic section through N10-15 1st looking east, showing south courtyard stairs and north terraced substructure.

Architectural Sequence Stage 1 (Smuts Floor)

2014 Excavation Sub-Op 10: Southeast Corner of Substructure. Figure 6.5 depicts the floor plan of the building at this stage. At the south, courtyard side of Structure N10-15, the height of the two-terrace platform is 2.7 meters above the level of the courtyard floor. An excavation unit into the lower southeast terrace of N10-15 revealed that the southeast corner of N10-15 sits atop a buried lower terrace associated with Structure N10-28, indicating that the plaza floor was once lower than it is presently (Figure 6.6). Excavation exposed a portion

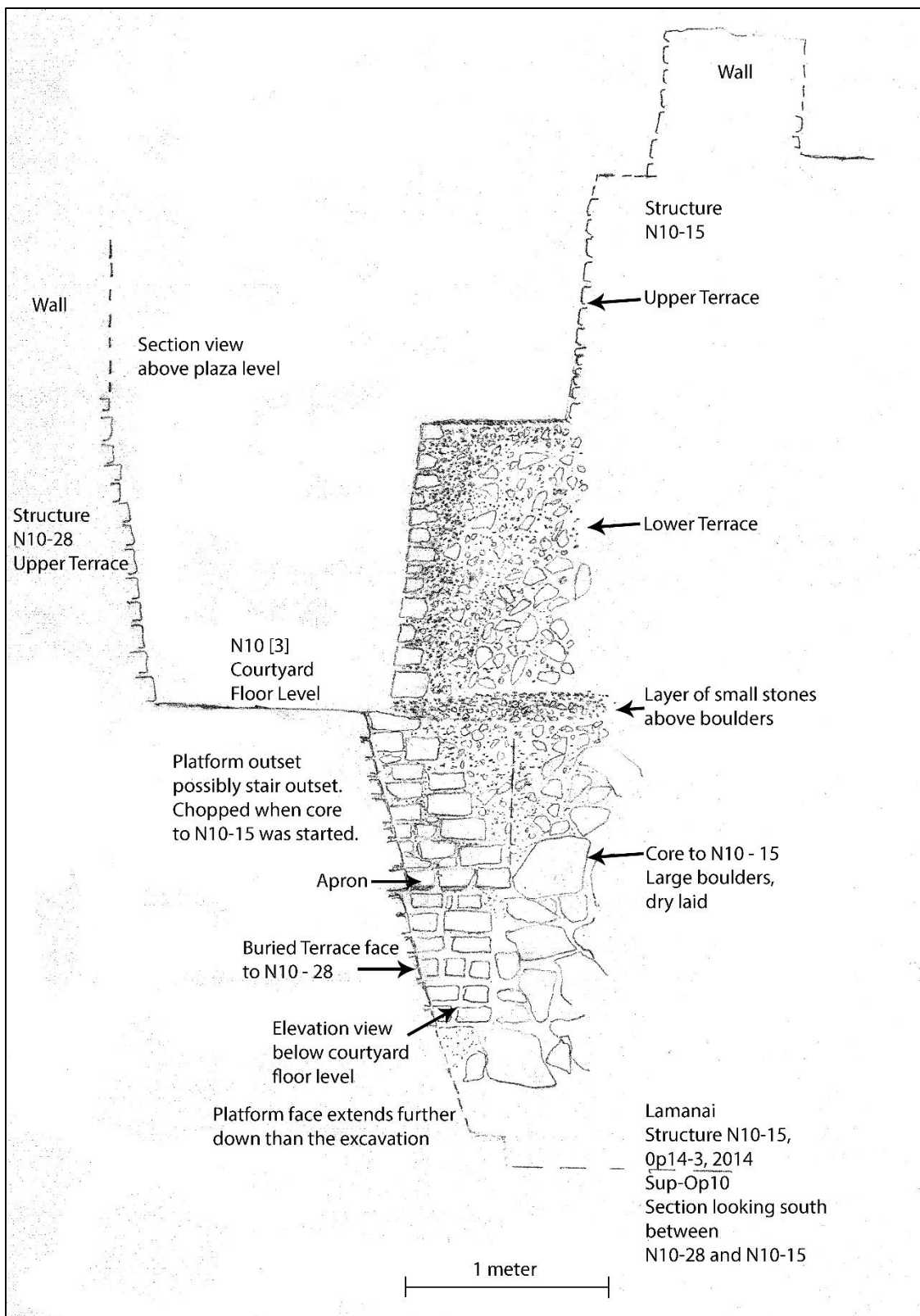


Figure 6.6. Sub-Op 10 Section looking south between Structures N10-15 and N10-28, showing the overlap of the east end of the Structure N10-15 terrace over a west terrace under Structure N10-28 that was buried when the N10[3] courtyard floor was raised.

of the lower (and buried) substructure of Structure N10-28, which has an apron style terrace that is stylistically different from the subsequent upper terrace face of Structure N10-28. Both the raising of the Ottawa courtyard floor and the burying of a substructure exhibiting a different architectural style than what followed mark a change in the Ottawa complex that sets the stage for the erection of Structure N10-15 and the architectural stages that are presented in this chapter.

2015 Excavation Sub-Op 2: South Side Courtyard Floor. Excavations exposed the lower portion of an intentionally dismantled north-south oriented masonry wall (not a face, as poking through it revealed facing stones on the other side) with basal molding, resting upon the surface of a terrace—indicating an earlier demolished and subsequently buried structure (Figure 6.7). Ceramic sherds in the fill covering what was left of this structure are primarily Late Classic, with no examples of pottery from the Terminal Classic—the implication being that this underlying structure was razed in the Late Classic when the level of the Ottawa courtyard floor level was raised. Cross-dating with another structure that has associated radiocarbon dates suggests this took place sometime in the early 8th century or possibly late A.D. 600s (Elizabeth Graham, personal communication 2015).

2014 Excavation Sub-Ops 4 & 11 Northeast Corner of Substructure and the Plaza Floor on North Side. Clearing the boulders at the northeast corner of N10-15 down to the floor at the bottom of the second terrace revealed a height change at the northeast corner where the floor level of the area between Structures N10-15 and N10-28, which was the same as the courtyard floor level, changed from 2.7 m to a 3.5 meter-high two-terrace configuration across the north side. On the west side of Structures N10-15/19/18 over two meters of the substructure is presently exposed, but it has not been excavated down to a floor



Figure 6.7. Left: Excavation view of partially demolished wall of a structure under the N10[3] plaza floor, with the scale resting on basal molding. Right: Claude Belanger stands upon the terrace that this wall stands on. The stones removed from excavation are sitting (above his head) on the N10[3] plaza floor (photos by Karen Pierce, 2015).

surface. Both the north and west side terraces were completely buried during the later ‘*Boulders*’ phase (Graham 2004:224) of Ottawa, when boulders were placed to raise the floor level of both the courtyard to the south and the plaza to the north to be equal to the level of the top terrace of Structure N10-15 (Architectural Stage 6). Because of this boulder fill, illustrated in the section in Figure 6.8, excavations below the upper floor surface are difficult. However, clearing of boulders in two separate areas on the north side of Structure N10-15 until a floor was encountered below, revealed that the same floor identified in Sub-Op 4 (discussed in more detail in Stage 3) was also present in Sub-Op 11 (Figure 6.8) at the northeast corner of N10-15. This indicates that where the north plaza floor met with the substructure of N10-15 the floor was uniform across the north side during architectural Stages 1, 2 and 3. No stairs leading up from the north plaza floor to Structure N10-15 have yet been found through excavation on the north side of the building. The visual appearance of the Ottawa north platform then, at least for some of the early architectural stages, may have

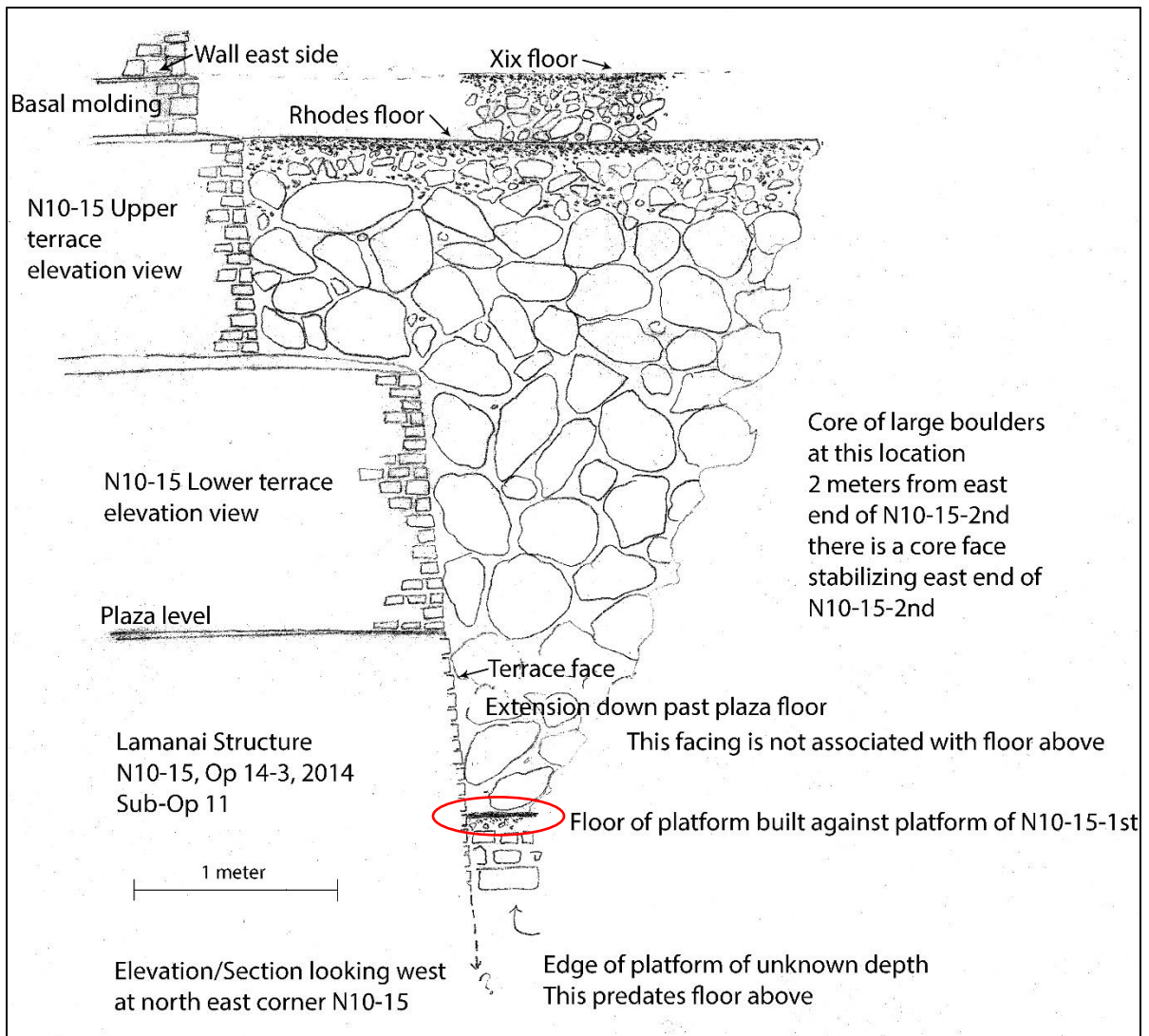


Figure 6.8. Sub-Op 11 Elevation/Section looking west at the face of the east terraces of N10-15 and the overlying boulders on the north side of the structure, showing a floor at the lower part of the platform.

been somewhat wall-like and foreboding, as can be seen today on the west side of the Ottawa platform.

Architectural Stage 1 Summary. This stage begins with the primary building, Structure N10-15 1st (aka Mays), which is a masonry superstructure built atop a two-terrace masonry substructure (aka Doll). Structure N10-15 1st is a building with tandem rooms oriented on an east-west axis, flanked by transverse rooms—“a variant of a standard kind of upper-class residence” (Pendergast 1982b:2). This building may have been vaulted with a

masonry room, although it is possible that the masonry walls once supported a beam and mortar wooden roof; however, there is no conclusive evidence (Pendergast 1986a:233). It is also possible that only the lower portions of the walls were masonry, with wood and thatch used to construct the upper part of the building (Pendergast 1982b:2). This building, of which only partial height fragments of the original walls remain (referred to as wall stubs), is 25 meters long by 8 meters wide. If the measurement for the length of Structure N10-19, located directly to the east, is added to the length dimension of Structure N10-15, it brings the total building length to 33 meters, by 8 meters wide.

The masonry substructure of Structure N10-15 is constructed of cut-stones installed in a similar fashion as the superstructure, although some areas of the substructure masonry face incorporates larger cut stones than are seen on the walls of the superstructure, and which are oriented both vertically and horizontally. Whether this represents any temporal difference in the construction period is not known. The stylistic qualities of the terraces are discussed in more detail later in this chapter. Access stairs to the building are located on the south side, which provided access from the semi-private courtyard. Whether the stairs that are exposed today were the first stairs associated with Structure N10-15 in this architectural stage, or any of the succeeding stages 2–5, is unknown, as no excavation has taken place at these stairs. However, an axial excavation and section through the stairs on the adjacent Structure N10-28 exposed an earlier stair, so it is quite possible the south stairs at Structure N10-15 were also modified during one of the architectural stages. The masonry style, a variant of vertical slab risers, used on the stair is a Terminal Classic feature and is discussed in more detail in the Analysis of Architectural Features section in this chapter.

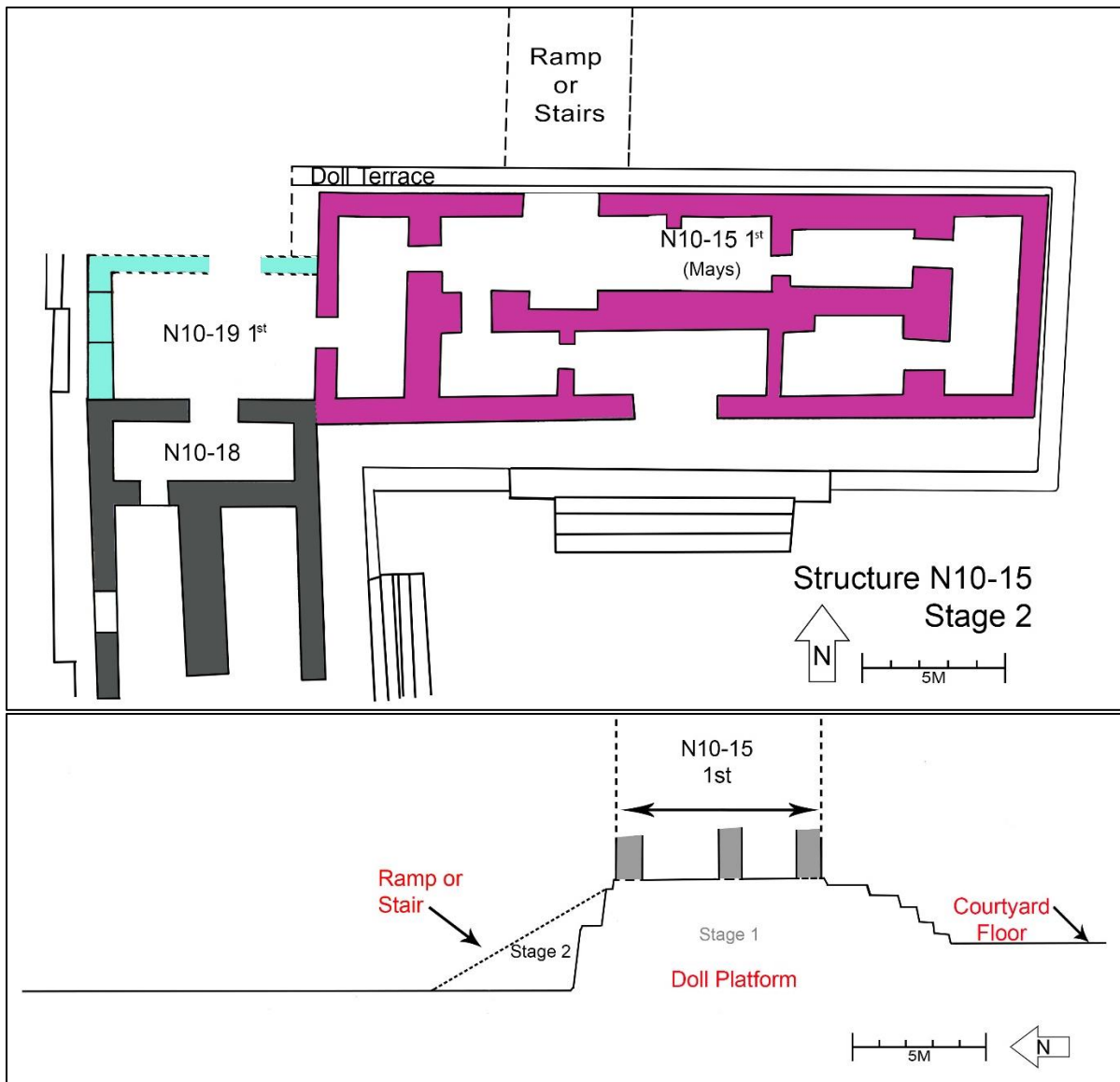


Figure 6.9. Top: Stage 2, plan of Structure N10-15 with ramp or stair feature added. Bottom: Schematic section through N10-15 1st looking east with ramp or stair feature on the north side.

Architectural Sequence Stage 2 (Smuts Floor)

2014 Excavation Sub-Op 1: Ramp or Stair Feature. An excavation unit at the east side of the north stairs exposed a masonry face aligned with the stair edge and oriented perpendicular to the substructure of N10-15 1st, as indicated in Figure 6.9. This masonry face represents the sides of a feature that may have been a ramp or stair, and is shown on the profile and section drawing in Figure 6.10. It was partially dismantled in ancient times.

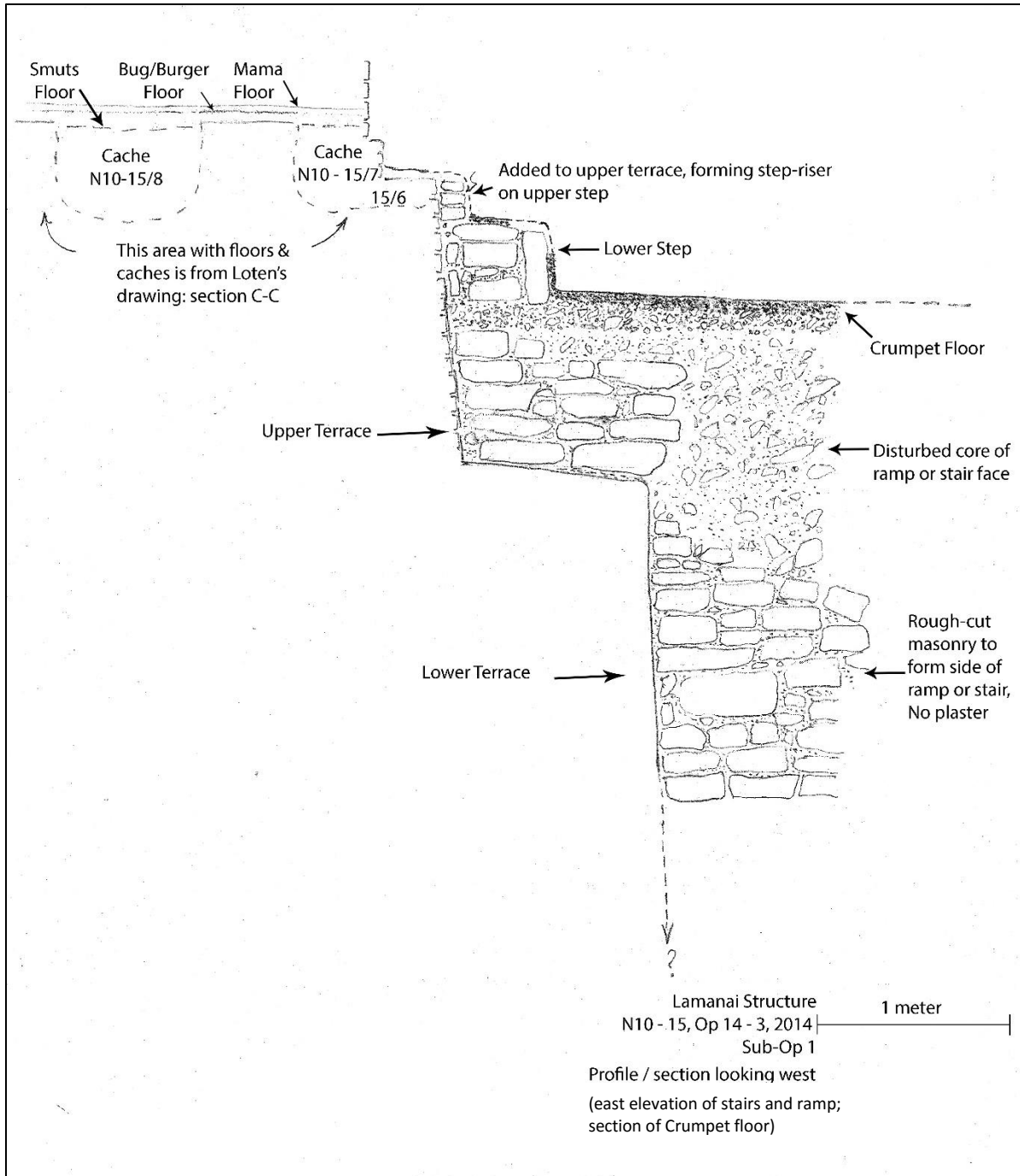


Figure 6.10. Sub-Op 1 Profile and Section drawing showing the method of construction of the north stairs of Structure N10-15 (Stage 3) and the masonry face that formed the sides of a feature that may have been a ramp or stair.

Architectural Stage 2 Summary. The second stage involved the addition of a ramp or stair feature that overlaid the second terrace to abut with the Mays building. If one accepts the notion that a terrace surface would not have been plastered unless it was an exposed

architectural feature, we know this was an added feature because the terrace walls that it covers are plastered. There is a rough masonry face at the sides of this feature, but no treads or risers remain, leaving us to guess this feature's purpose. If it was once plastered, no plaster remains. It could have been a temporary ramp used for construction of the building, or, a stair for access to the north side of the building, which was subsequently partially dismantled during a later construction stage, probably for reuse of its cut-stones and other material. The scale of this feature is odd for a stair, but we do not know if a midpoint stair-landing or other stair-side features might have existed, as this area is presently buried beneath boulders. Ramps are not uncommon at Maya sites, and are present at the sites of Ek Balam and Chac II. Smyth (2006:144) notes two ramps enclosing a pentagonal plaza and double-column central altar at the Great Pyramid plaza at the site of Chac II, located in the Puuc area of northwest Yucatan. Both ramps are Early Puuc phase (A.D. 620–700), one early and the other late in that phase. Ramps have been observed as connection points between *sacbeob* (white roads) and temples and palaces. It has been postulated by some Maya scholars that *sacbeob* are considered conduits reinforcing social relationships with sacred power flowing between points that were part of complex ritual stations (Shaw 2001:266).

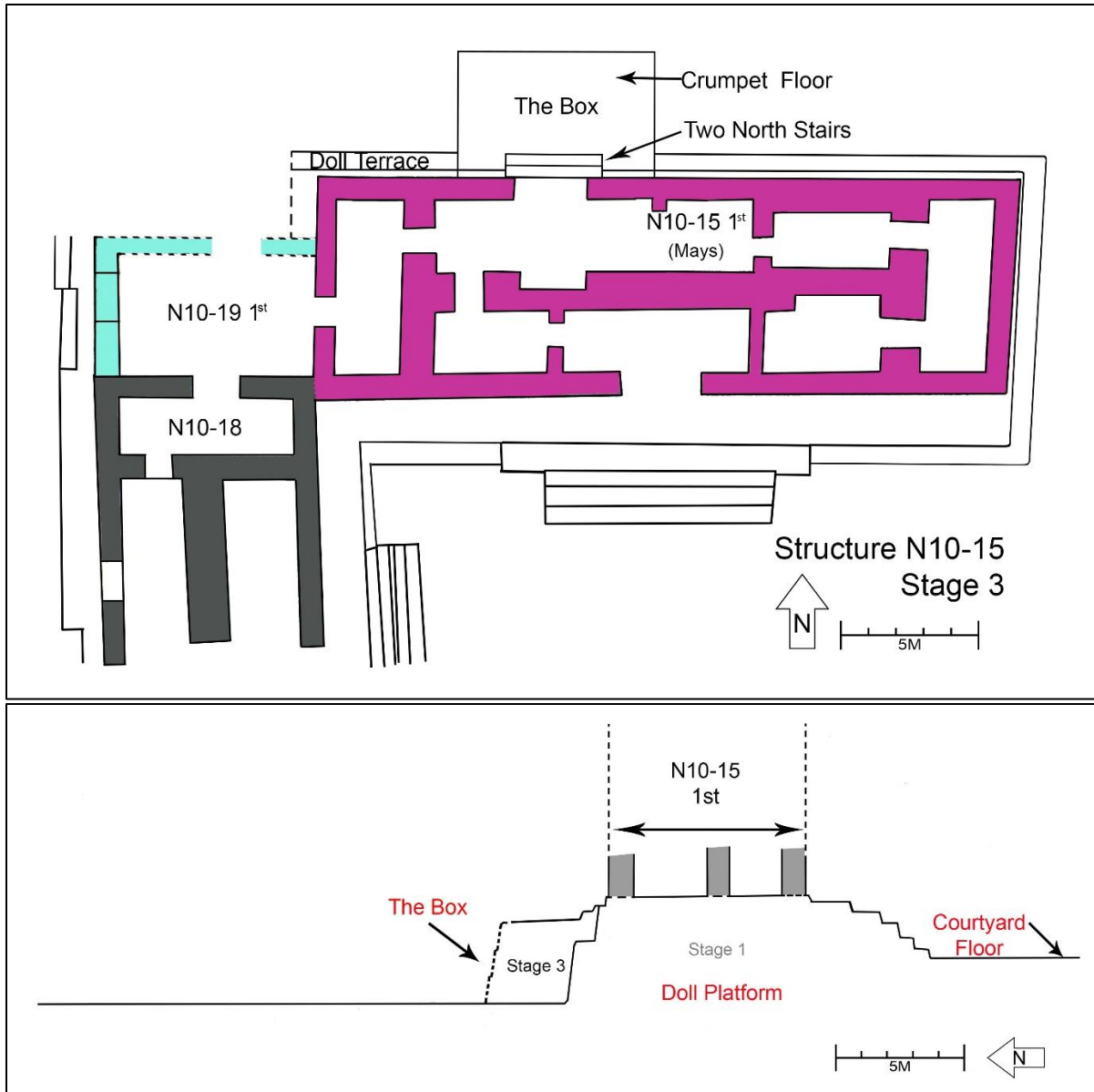


Figure 6.11. Top: Stage 3, plan of Structure N10-15 with the Box feature and two north steps added on the north side over the ramp or stair feature. Bottom: Schematic Section through N10-15 1st looking east with the Box feature on the north side.

Architectural Sequence Stage 3 (Crumpet Floor in use with Smuts Floor)

2014 Excavation Sub-Op 4 & 8: The Box Platform Feature. In this sub-op we identified two north-south oriented architectural faces on the north side of N10-15 that are parallel to each other and perpendicular to the substructure of N10-15 1st, and which combine together to form a box-like platform, nicknamed the Box (Figure 6.11). This added feature is

symmetrically placed with the central north door of N10-15 1st at the primary axis. Exposure of a small area of the floor (Crumpet Floor) of this feature at its north side shows that it was chopped in ancient times (see Figure 6.14). Although we found no evidence for stairs at this chopped edge, this platform feature could have been an architectural component of some other feature, such as a stair, with the Box functioning as a stair landing or stair block.

With the addition of this box-like feature, two steps were added at that doorway to join the feature to Structure N10-15 1st. A floor of very high quality capped the feature and judging by the apparent absence of walls, it was unroofed and exposed to the elements, although wood posts could have supported a non-masonry roof. Under the 6 cm plaster floor the core consisted of a layer of pillowy-looking stones of different shapes and sizes that were laid horizontally in something of a semi-circular pattern. Below this two caches were incorporated into the construction of this feature, which ceramics date to the Terminal Classic period (Elizabeth Graham, personal communication 2014), or at least the uppermost construction level of the feature is dated to the Terminal Classic, as it is possible that it sits on earlier construction.

A combined section and elevation drawing of the Box feature is shown in Figure 6.12. This feature sits upon what is presumed to be a plaza floor located 3.5 meters below the upper platform surface, which was discussed above in Stage 1, Sub-Ops 4 and 11. Due to the instability of the dry laid boulder core at this area it was challenging to explore this to any great extent; however, a small area of this floor surface was exposed through excavation. Penetrating this floor at the edge of the Box demonstrates that this Box feature continues down below that floor level to an unknown depth.

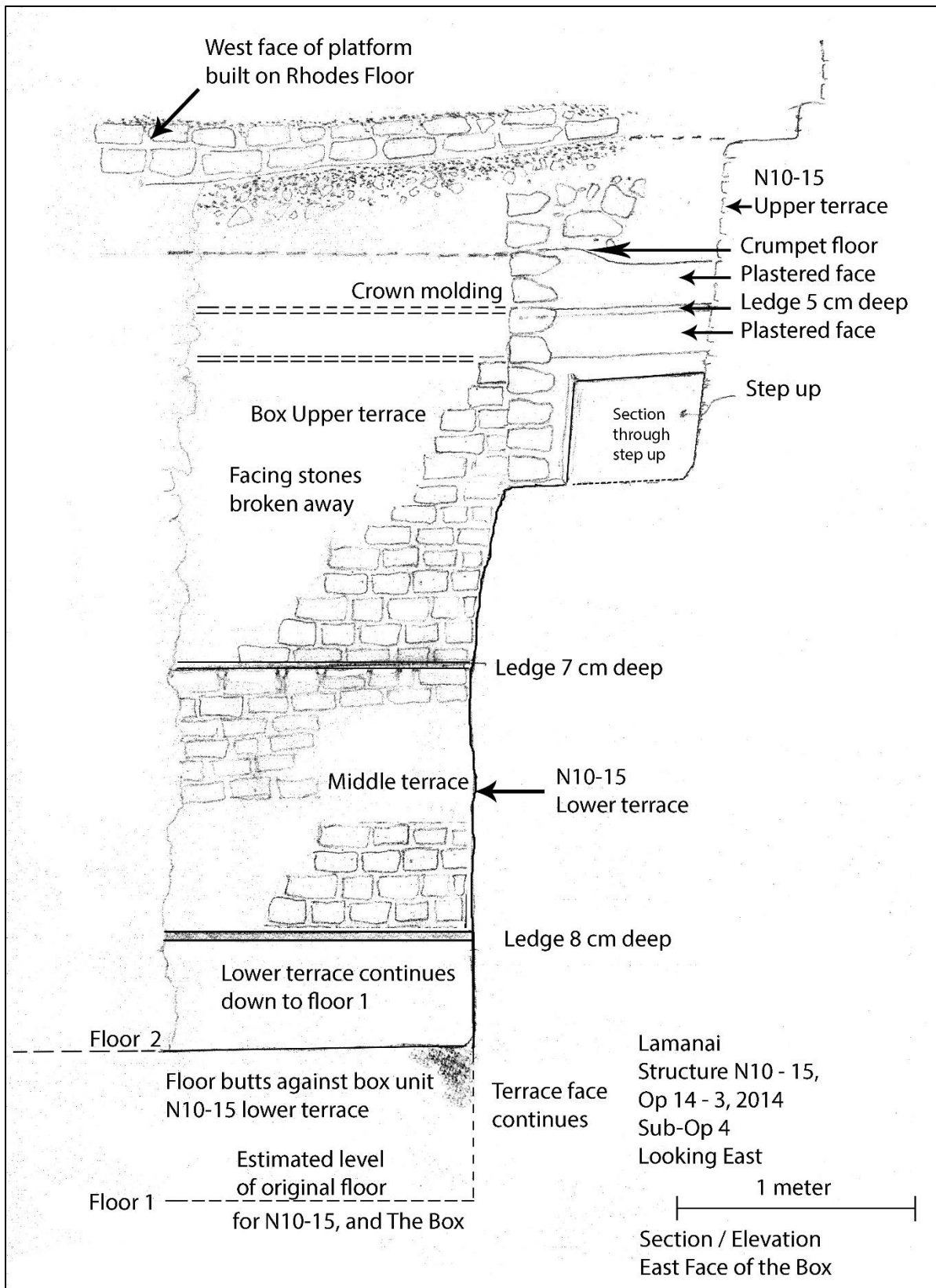


Figure 6.12. Sub-Op 4 Section and Elevation looking east at the face of the Box feature.

Architectural Stage 3 Summary. The addition of this platform feature, the Box, incorporated and covered the ramp/stair feature to create a larger eight meter wide box-like platform. The sides of this feature are three-terraces high, plastered, with very shallow delineations between each terrace outset, creating a near vertical architectural face. It is interesting to note here how different the style of the terracing is on the face of the Box feature vs. the terraces on the N10-15 substructure—there is quite a contrast. First, the Box face has three “terrace” delineations, although they are so shallow the term terrace may not be the appropriate description as they are more like shallow ledges in which each of the three layers gets slightly larger as it goes from top to bottom (see Figure 6.12). In contrast the substructure of N10-15 1st has clearly delineated terraces that are much deeper, and there are only two known terrace insets, not three. Both the Box and the substructure of N10-15 had plastered surfaces, but here again there appears to be a difference in quality, with the surface of the Box being more undulating; however, the facing stones of the Box are missing in many areas, so comparison may be unfair. The plastered surface of the N10-15 substructure that was exposed through excavations is much smoother. What this contrast between the terrace faces means is uncertain, but they appear very different. Perhaps it was simply a stylistic choice.

The top of the Box is capped with a floor, which because of its very high quality construction, we dubbed Serious Floor, but later realized this floor had also been identified by Loten (1984) as Crumpet Floor. A floor turn-up (an area where the plaster of the floor surface meets the base of a wall or face and has a slight turn-up with the implication that the wall was present before the floor was laid) near the edge of the Box suggests there was a parapet at the perimeter edges. Two steps were built as part of this feature to connect it to the

central north door of Structure N10-15 1st (the Mays building). Two caches with charcoal (to be discussed in more detail later) were placed in this feature, and all indications are that they were cached in the Box as it was being constructed and not later cut into it through the floor. This is supported by the smooth unpatched floor surface and inclusions in the floor ballast of small areas of “spilled” charcoal, and a possible sherd of the Cache N10-15/9 fragmented Achote vessel (LA3108/1). It may be that some changes were made to the exterior doorways at the west side of N10-15 1st during this stage, perhaps indicating that modifications to the adjacent Structure N10-19 were coinciding with the construction of the Box, but it is difficult to correlate.

The functional and symbolic implications of this platform should be considered, as it may have served as a theatrical stage for ritual performance and political interaction associated with this building (Inomata 2001:342; Inomata and Coben 2006:21). This platform would have been a prominent feature visible to an audience gathered on the presumed north plaza floor that was 3.5 meters below the surface of this feature. North of the Ottawa platform lies an unexplored connection to the plaza where Structure N10-43 is located in close proximity and to the northeast is the temple Structure N10-28. Because part of this area is presently covered with boulders, we do not know what architectural features or buildings might have been present just north of Structure N10-15, but if it was an open plaza the area could have been a place of public gathering. Several platforms that supported (uncarved) *stelae* were located in this vicinity, either to the west (Pendergast 1985:98–99) or the north (Pendergast 1982b:3) of Ottawa. One *stela* was stratigraphically earlier than the other two, but no date was determined. Two are thought to be of a later date, as at least one platform contained Postclassic Mayapan-type censer fragments, but this is a very late date for *stelae* to

be erected. Their presence at this location suggests that the practice of stelae erection had moved away from the main temples (Pendergast 1982a:3). Although the precise location of the *stelae* is not clear in the publications, their presence near the Ottawa platforms suggests a political function for the Ottawa group, reinforces the importance of this group, and can be seen as an indicator of social change.

The two steps of the north stairs that led from the Box into Structure N10-15 1st combine two different masonry styles, but the stairs appear to have been built together as one unit (see Figure 6.10 above). The upper stair is constructed by adding a row of small cut stones at the face of the upper platform to make a deeper tread, while the lower stair uses a variant of vertical slab risers, a Terminal Classic feature discussed in more detail in the Analysis of Architectural Features section in this chapter.

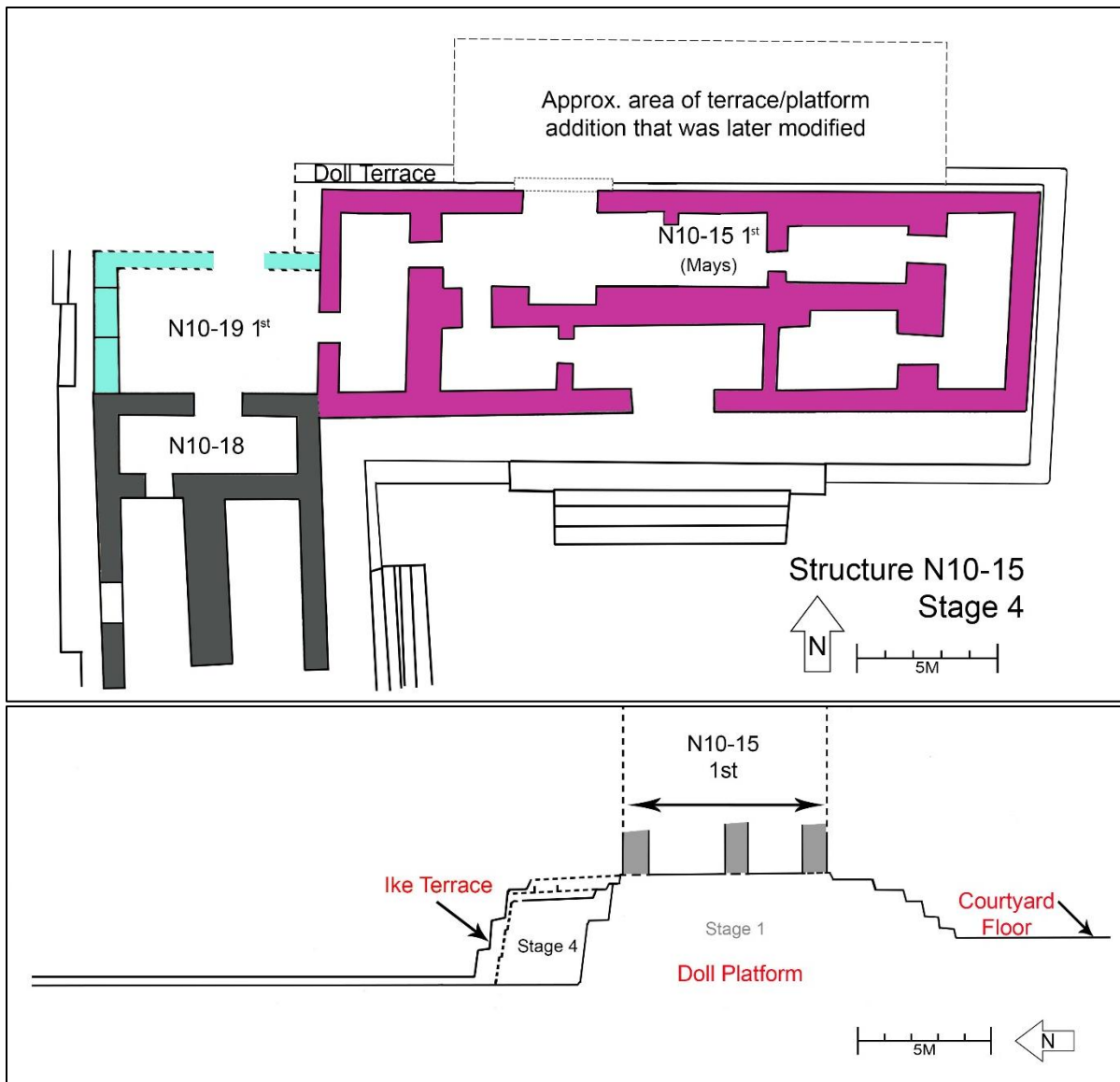


Figure 6.13. Top: Stage 4, plan showing Ike platform/terrace addition covering the Box feature. Bottom: Schematic section through N10-15 1st looking east with the Ike platform on the north side.

Architectural Sequence Stage 4 (Rhodes Floor and/or Spayed Floor in use with Smuts Floor)

2014 Excavation Sub-Op 4 and 7: Stages of N10-15 and N10-19 Expansion. A new substructure, nicknamed Ike, was constructed parallel to the former terrace face (a face is the surface of an architectural feature such as a terrace or a wall) of Structure N10-15 1st to allow for a building addition to the north (Figures 6.13). The new Ike terrace completely covered

the Box feature (Figure 6.14). Rhodes Floor was the surface of the terrace, which extended south to meet the face of Structure N10-15 1st.

Several features discovered in association with the Box feature are difficult to interpret. These features were added after the Box was built but before the Ike Terrace was completely constructed across the western side of Structure N10-15/19, so we do not know if they are a part of a two-stage substructure construction effort or some other intermediate feature. One feature is an architectural face (partially dismantled in ancient times) approximately one meter to the west of the Box that runs north-south and parallel to the Box feature. This could be evidence of a southward ninety-degree turn of the eastern Ike terrace face that covered the Box feature when the Ike Terrace was initially built (Figure 6.15). If this is indeed the case, it suggests that the Ike expansion occurred in two separate stages—first with an addition at the east across the northern side of N10-15, and later extending this addition across to the west edge of N10-19. There is also an architectural face, built on top of and aligned with the verge (the top edge of a terrace) of the upper terrace of Structure N10-15 1st. Another feature is a stair (dubbed a hop-up during 2014 excavations) unit resting on that same terrace, which is just a single step joining the lower terrace to the floor of the Box. An east-west oriented face, and perhaps core placed behind it, was built after the stair. If the face represents a thin wall it would have hidden this step from view; however, this could have been the face of a solid feature that covered the step in a subsequent stage of construction. We do not fully understand what these architectural features represented, but they were built after the Box, and were dismantled sometime before this area was incorporated into the westward addition of the Ike terrace. The covering of the Box could be



Figure 6.14. Sub-Op7, excavation view of perimeter wall of N10-15 2nd looking southwest, showing the floor of the Box (Crumpet), the subsequent Ike terrace expansion (Rhodes floor), and the Xix floor that later covered it (photo by Karen Pierce, 2014).

seen as important in relation to a changing ideology, but it may also represent the basic need for more space, with the north side being the most practical area to build.

2014 Excavation Sub-Ops 5 & 6: Buttress Feature. We also identified what may be a stabilizing buttress feature in Sub-Op 6 that was added to the NW corner of N10-15 to shore up apparent structural damage suggested by the lack of facing stones on the lower terrace face in Sub-Op 5, and an area of possibly irregular stone work on the north wall of N10-15 1st at this location. We were not certain about this irregularity in the wall because we do not know if the present wall represented the reconstruction efforts for tourism development—i.e. was it original or modern?

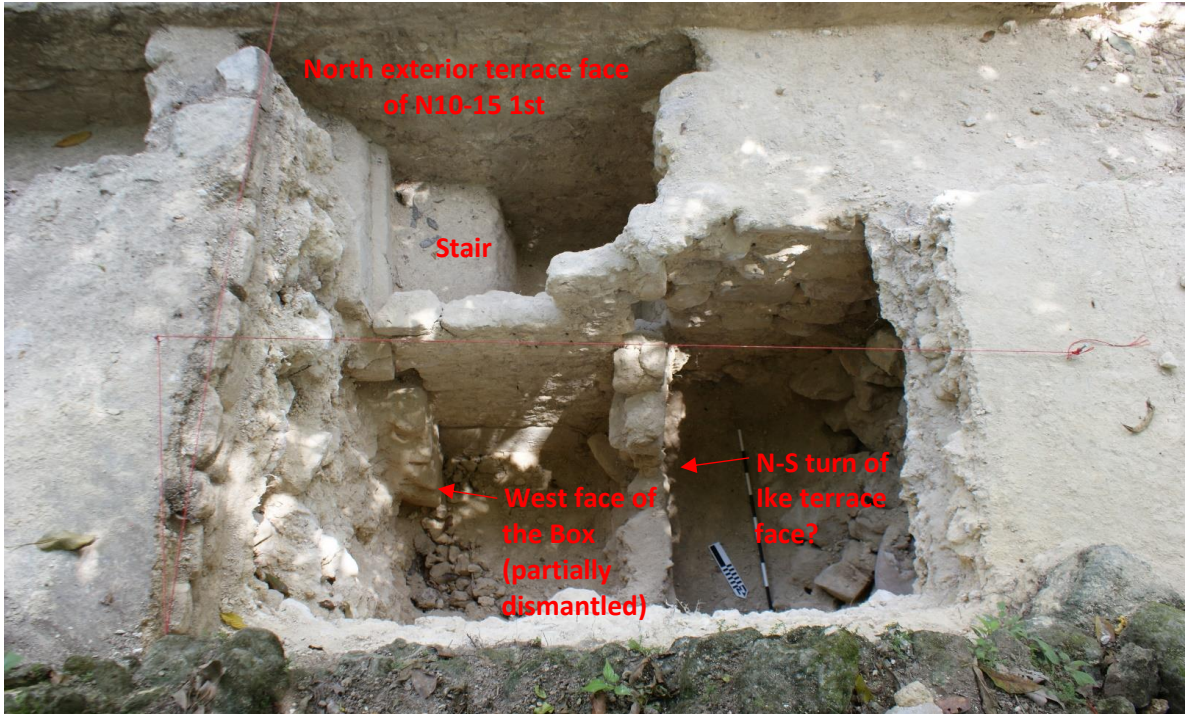


Figure 6.15. Sub-Op 4, excavation view of N10-15 2nd with the west face of the Box feature (missing most of its facing stones at the upper level), the single stair unit, and the possible face of an Ike terrace turn to south (photo by Karen Pierce, 2014).

Under the plaster floor surface of this buttress feature were large unshaped flat-ish stones with rounded edges (pillowy stones) (Figure 6.16) similar to those found under the floor of the Box feature. Although it seems unlikely that these two features are contemporaneous, this suggests that the same construction techniques were present in both stages. This buttress feature sits at the level of the second terrace (Figure 6.16). What is presumed to be damage could be the result of a number of problems, but we cannot discount the possibility that this resulted from intentional dismantling. Differential settlement may have contributed to instability and collapse of this area of the N10-15 substructure (which at the time may have been the northwest corner of the N10-15 1st substructure) if the construction of the uppermost building took place atop a combination of an earlier more solid building, and an adjacent area of looser core. It is also possible that there was a feature removed in this area, leaving behind part of its sub-structure. There is also the possibility that



Figure 6.16. Sub-Op 6, excavation view of the buttress unit from inside N10-15 2nd looking south (photo by Karen Pierce, 2014).

water damage caused the terrace to erode and partially collapse, or even earthquake damage, which has also been observed on one of the structures at Xunantunich near the end of the Classic period (Sharer 2006:516), but there is no way to know the cause. Having experienced an earthquake tremor at Lamanai in 1999 (July 11, 1999), I realize this is indeed a possibility. This is not the only structural engineering problem with N10-15, as the Lamanai 1999 Field Season report mentions “a structural stability problem in the original northern perimeter wall [of Structure N10-15] that confronted the Maya builders” (Graham and Pendergast 1999), so it appears there were other structural problems here, but it is unclear from the report exactly what they were. Photographs from the 1980s ROM excavations also reveal an area where the stonework was displaced on the south side of Structure N10-15 to the east of the center stairs (see Pierce 2014: Sub-Op 17 Details), but tree roots were at work here after abandonment. If there was indeed structural damage to the building and substructure it may have prompted

subsequent remodeling, which is likely to have begun in this stage of the architectural sequence.

Architectural Stage 4 Summary. This stage was a fairly big construction undertaking involving the construction of a building on a substructure addition on the north side of Structure N10-15 1st at the east end, but the addition is poorly understood. This new substructure, Ike, was built parallel to the substructure that supports N10-15 1st (Doll Terrace), and essentially at the same height as the upper-terrace of N10-15, but it extends 3.5 meters further north, allowing for the construction of another linear set of rooms across the north side of Structure N10-15 1st. The construction of the Ike substructure required about 370 cubic meters of new stone core. Rhodes Floor is the upper surface of Ike, which is equal to the floor variously referred to as Damsel, Broad, and Crude to the south, inside N10-15 2nd (see section drawing in Figure 6.4). Rhodes Floor was higher than the Box's Crumpet Floor, so we know that the Box platform was covered over by the end of this stage. The Rhodes floor is disintegrated in some areas and it is unclear if Rhodes Floor is the Ike platform construction or sub-floor for the superstructure, or if it, or a portion of it, was the building floor surface at some point. Loten (1984) suggested the possibility that the Ike Platform area north of the N10-15 north steps may have been that of an un-roofed platform at one time, in which case the floor was exposed to the elements. Alternatively, Rhodes Floor could have been the primary floor of the first building that sat on the Ike terrace. If Rhodes Floor was the subfloor of the Ike Terrace, then Spayed is the first floor associated with Ike. Unfortunately our lack of understanding of the floor surface for this stage effects our understanding of the cache floor associations, because if Rhodes was a floor during this stage the upper step was still exposed, but if Spayed was the floor, the upper step was completely covered over.

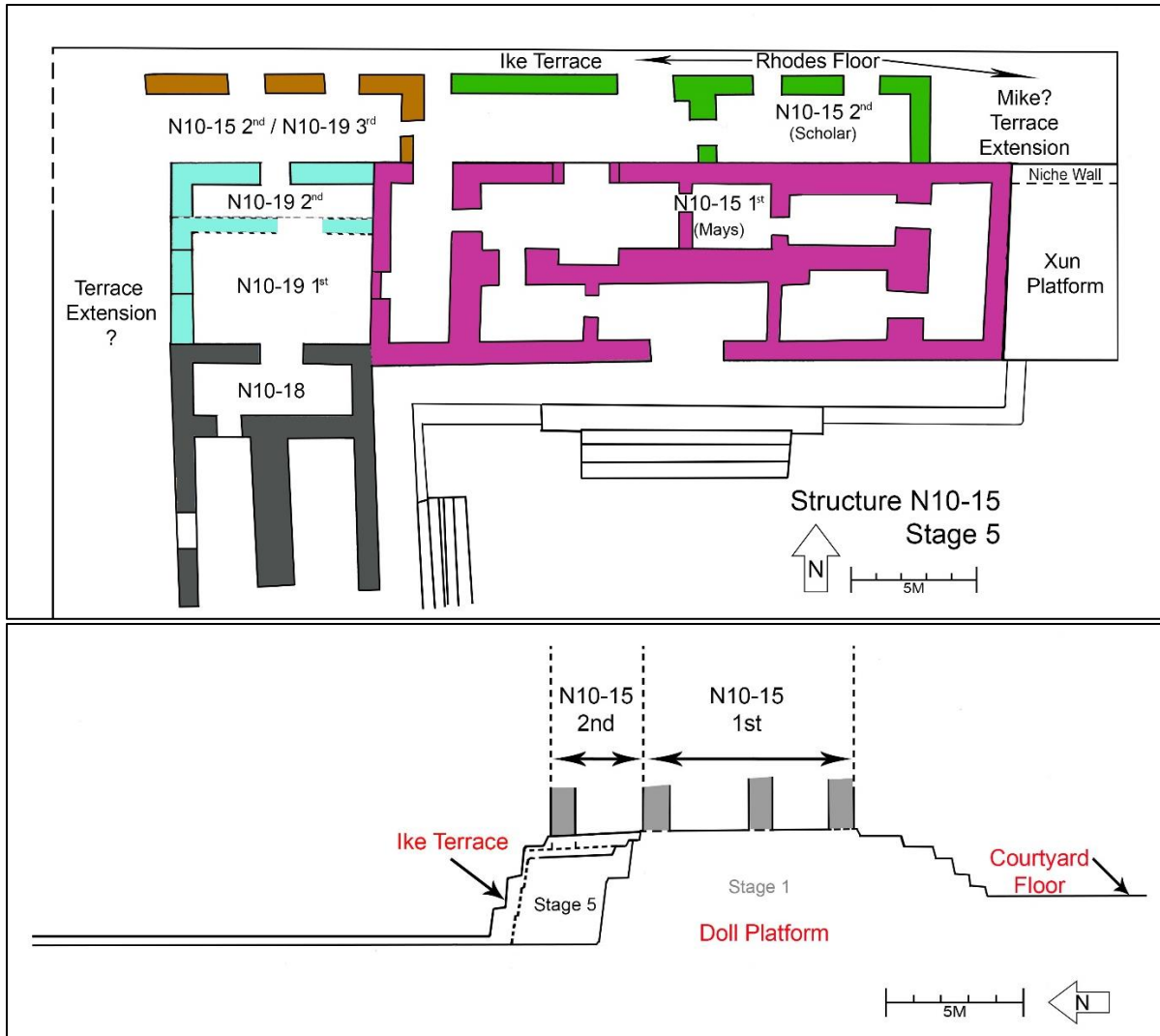


Figure 6.17. Top: Stage 5, plan of Structure N10-15 with the N10-15 2nd addition, and the addition of the Ike terrace to east and west, and construction of the Xun platform. **Bottom:** Schematic section through N10-15 1st looking east with the Ike platform on the north side and the N10-15 2nd (Scholar) addition built on top of Velda floor.

Architectural Sequence Stage 5 (Velda Floor in use with Smuts and Bug-Burger Floors)

2014 Excavation Sub-Op 14: Stages of N10-15 and N10-19 Expansion. Excavations confirmed that this new Ike terrace extended in an east-west orientation across the entire north side of the Structures N10-15/19, but as discussed in Stage 4, this may have taken place in two steps, with the eastern side of Ike constructed before the western side was added in this stage.

2014 Excavation Sub-Op 11: Northeast Corner of Substructure. This excavation further clarified the floor of the terrace addition on the east side of Structure N10-15 2nd, with the installation of the Rhodes floor over boulder core extending outside the east perimeter of Structure N10-15 2nd (Figure 6.17 above). This may be the area that Loten (1984) referred to as the Mike terrace, but it is not clear in his notes. A section drawing showing the Rhodes Floor here can be referenced above in Stage 1, Figure 6.8.

Architectural Stage 5 Summary. This stage represents a substantial remodeling, with both interior and exterior changes to N10-15 1st. During this stage the building that Loten (1984) speculated was built on the Ike terrace in Stage 4 was torn-down and followed by the construction of another structure built on the Ike Terrace following the same wall lines as the former building. This new building, N10-15 2nd (aka Scholar) had walls (Daxil was the north perimeter wall) atop a new floor called Velda, that was 23 cm higher than the previous floor, and which now covered the upper stair of the previous two stairs into N10-15 1st, if they had not both already been covered in Stage 4.

Loten's (1984) field notes and the 2014 excavations indicate the Ike Terrace was extended to both the east—the Mike addition—and to the west, across the area of Structure N10-19 (Figure 6.17), which may have happened in two separate stages, or more, but this is not clearly understood. This was discussed in Stage 4 where there may have been evidence of the Ike terrace face turning to the south (ending) just to the west of the Box feature. The addition of the Ike Terrace to the west in this Stage 5 is supported by the opening of a door associated with the Bug-Burger floor in N10-15 1st into this area, which is assumed previously to have only the Doll substructure north of where the door is located—meaning it would have been a steep drop-off outside this door. The door opening at the north primary

axis was narrowed and the door in between N10-15 1st and N10-19 1st was blocked. Figure 6.18 shows the room names for Structure N10-15, where other interior modifications include the addition of a wall with a door opening that divided the once long northern central axis room into two rooms (Coat Room and Tap Room) (see Figure 6.22 below), and possibly the addition of a bench in the room to the west of Foyer, at the southern central door. Loten has also noted that a change in masonry on the north exterior walls of N10-15 1st (which became interior walls with the new addition) suggests they were torn down and rebuilt along the same lines, or refaced, when the new rooms were constructed for N10-15 2nd.

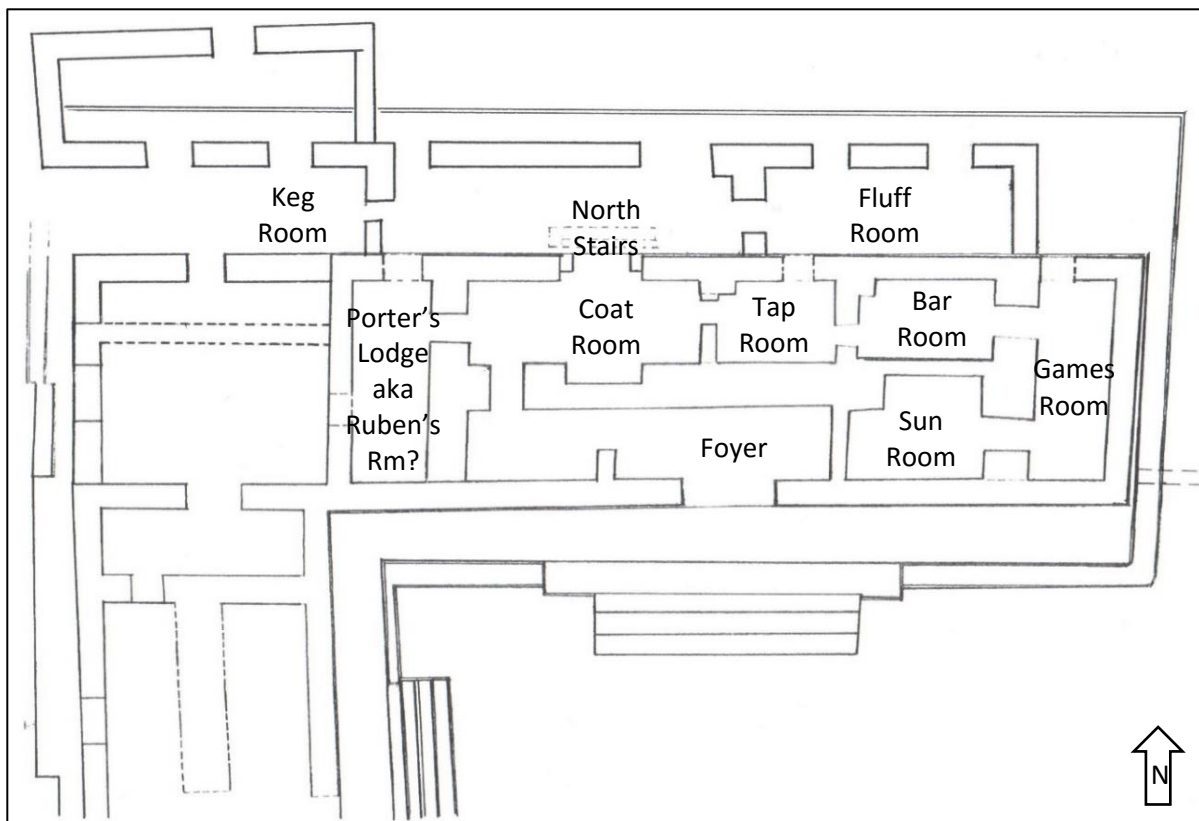


Figure 6.18. Plan of Structure N10-15 1st and N10-15 2nd indicating room names used in Loten's (1984) field notes.

Stage 4 had provided at least part of the underlying substructure core for this stage on the east side of N10-15 1st. At the building's north exterior side the Rhodes floor—essentially the surface of the upper terrace—was resurfaced with a new plaster layer called Marty, and

on the interior of N10-15 2nd the new floor level, Velda, completely covered the two steps that led up into N10-15 1st at the south: the steps were no longer visible.

At this point there are several conflicting pieces of evidence, or at least the evidence is not totally clear regarding the correlation of floors between N10-15 1st and N10-15 2nd. Velda appears to be the floor that transitioned into the Smuts floor inside N10-15 1st, covering the two steps that had led south from N10-15 2nd into N10-15 1st. This is understood only from a single unlabeled photo found in the files, which I believe to be the only documented instance where the floors of N10-15 1st (Smuts) and N10-15 2nd (Velda) can be correlated, because during other stages they sit at different levels from one another (Figure 6.19). This is an important find because it helps place the Box in chronological sequence. What is conflicting here is that some of the changes described in the field notes seem to occur when related features on Velda and Bug-Burger Floors were built at the same time, and this calls into question the Velda-Smuts association; however, much of the data comes from excavations at the section-cuts and that may not be applicable throughout. Regardless, the outcome was ultimately the same at the end of this architectural stage.

Another curious thing about this floor sequence is that the Smuts floor, which is considered the primary floor of Structure N10-15 1st, appears to have remained the active floor surface for the period of time that a series of floors were constructed in the area of the Box and Structure N10-15 2nd. This begs the question, was Smuts indeed the primary floor of Structure N10-15 1st, or was there a prior floor surface that left no trace in the areas that were sectioned during excavation? We will never know, but the implications of a prior floor are that N10-15 1st may have seen previous stages of construction that were earlier torn down or substantially remodeled.

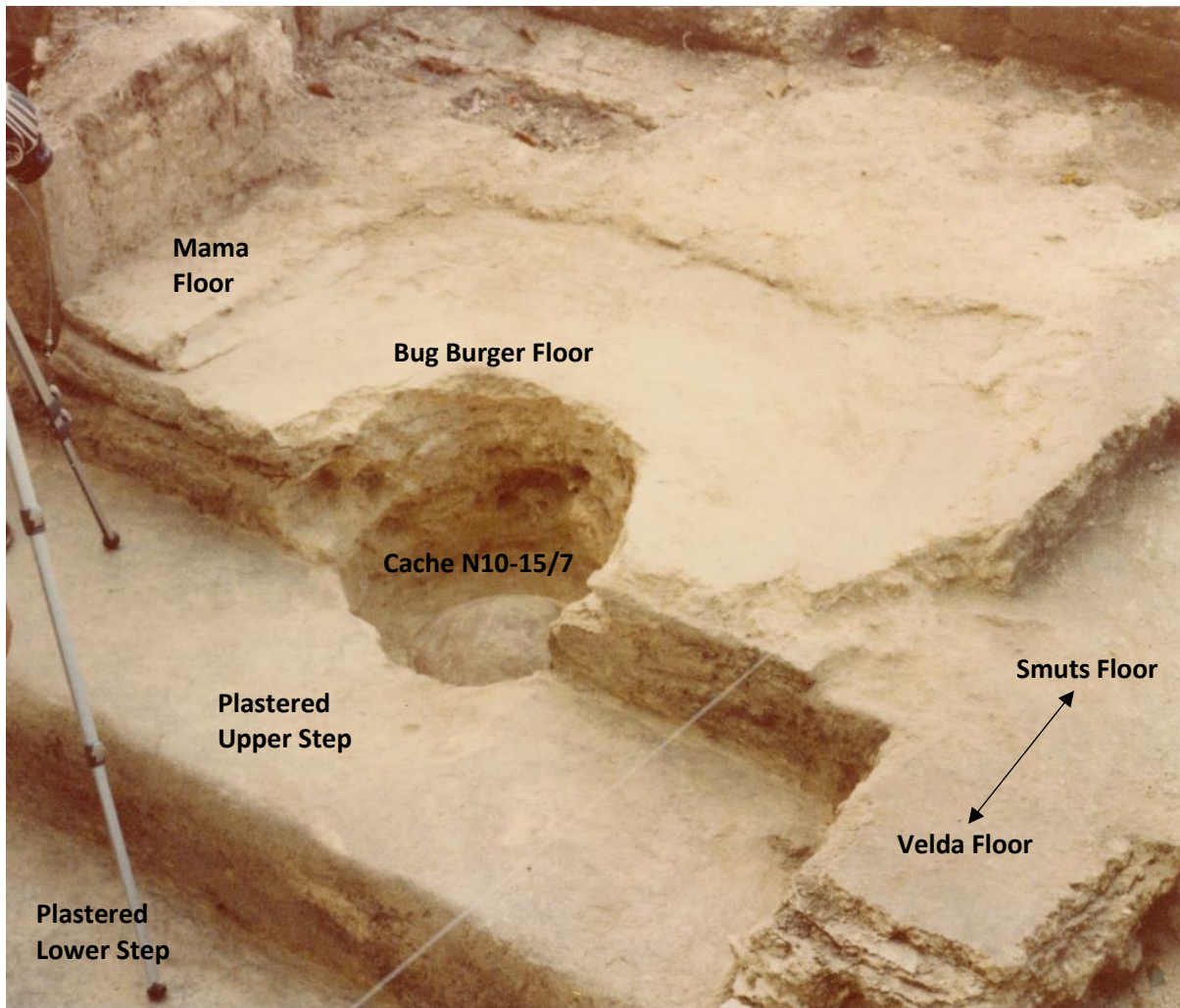


Figure 6.19. Looking south at the two north steps of N10-15, with an area of the Velda floor on the upper step—not yet removed by excavation—where it runs south into the Smuts floor (photo by Stan Loten, 1982).

It is possible that it was during this stage the western terraces of Ottawa were extended 3 meters to the west of Structure N10-18 and N10-19, where this north-south terrace would have intersected with the east-west Ike terrace addition, but the evidence is unclear as there has been minimal excavation below the boulders in this area.

It is likely that it was during this stage, which involved the eastward addition of the Ike substructure (Mike), that an initial modification was made in-between Structure N10-15 1st and Structure N10-28, however the evidence cannot confirm this. This modification

involved the construction of a platform, Xun, which was constructed over debris from the demolition Structure N10-28 (Figure 6.20).

The Xun platform supported a structure called Nan, which was subsequently modified with a wall, Niche, overlapping the basal molding of Nan. These structures and placement in the construction sequence are not well understood, but because the Xun platform stands on a level equal to Rhodes (Loten note 6.97.1), which is the surface of the Ike upper terrace, it is probable that it was first built during this stage. The area just north of the Xun platform is still partially covered by boulders, and there is also a huge strangler fig tree that stands at the east side of this area and hampered excavation here. There was stucco debris from Structure N10-28 under the Xun platform. If Xun was built as part of this Stage 5 addition to Structure N10-15, then the demolition of Structure N10-28 took place before or at the beginning of this stage, when the Xun platform extended from N10-15 1st to the east over the western edge of the former Structure N10-28.

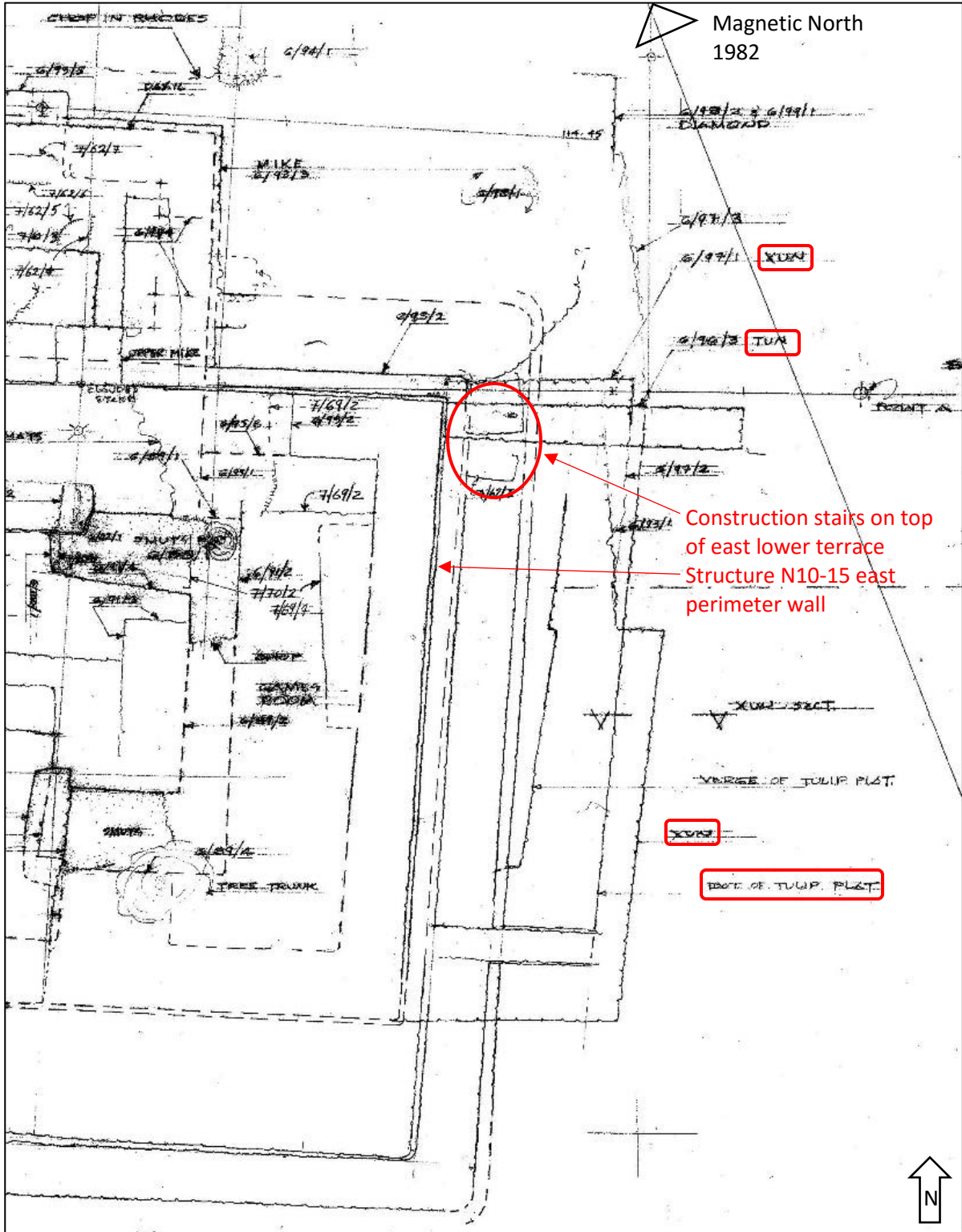


Figure 6.20. Plan of east end of N10-15 showing the location of the Xun platform, Tun wall, and the base of Structure N10-28 platform (Tulip Plat) (adapted from Loten 1984).

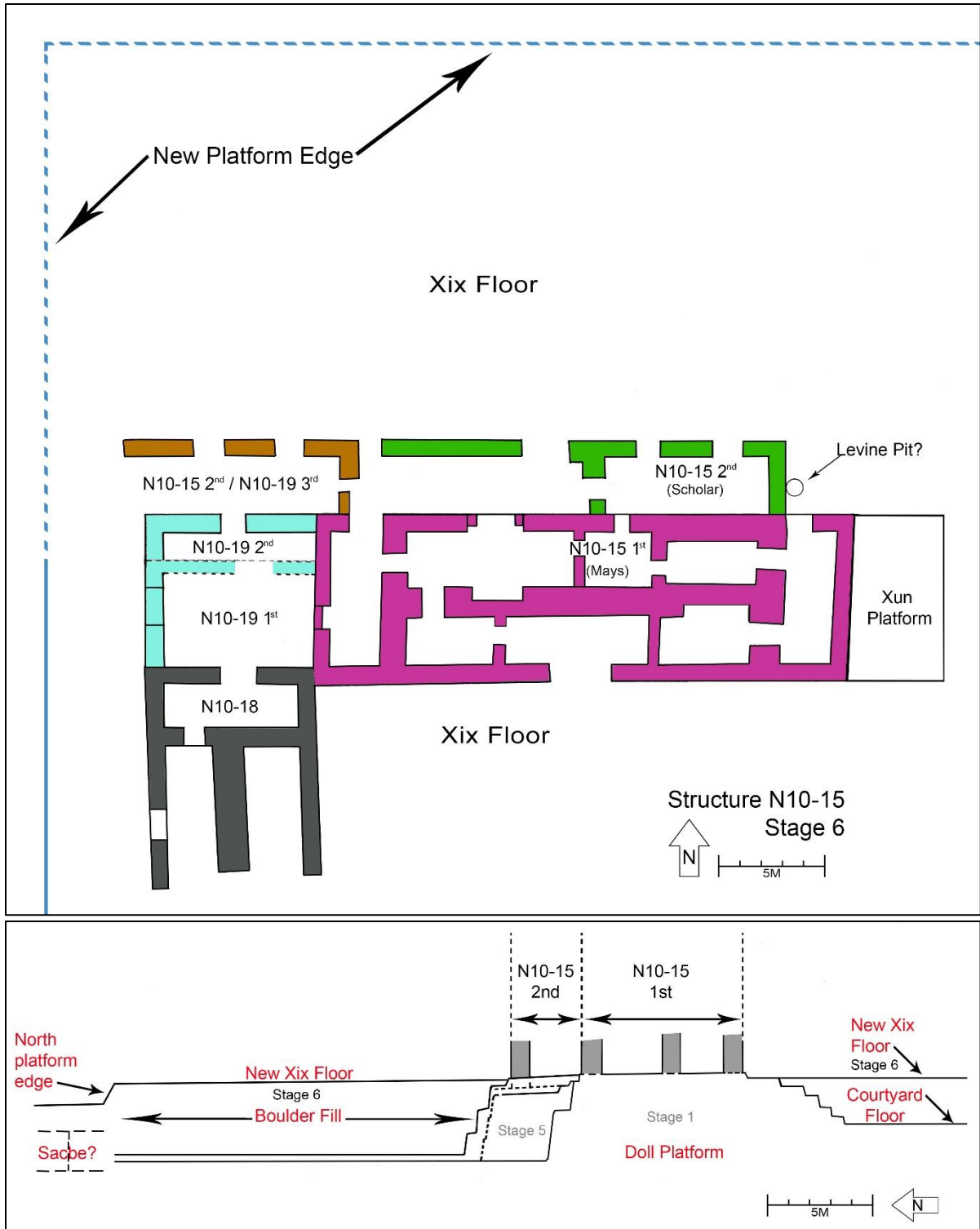


Figure 6.21. Top: Stage 6 plan, the level of the north plaza floor has been raised to the level of the floors inside N10-15 1st and 2nd. Bottom: Schematic section through N10-15 looking east, showing boulder-filled area at the north and at the south courtyard.

Architectural Sequence Stage 6 (Velda Floor in use with Mama Floor)

2014 Excavation Sub-Op 7: North Platform Features. Clearing the bush approximately 20 meters north of Structure N10-15 at the area where the ground surface drops down substantially—presumed to be the north edge of the expanded Ottawa platform—revealed what may be a north-south oriented *sacbe* coming into the platform near the centerline of N10-15, but the platform edge and possible *sacbe* remain unexcavated. Figure 6.21 above, shows the floor plan for architectural Stage 6, when a plaza expansion took place on the north side of Structure N10-15.

Architectural Stage 6 Summary. This was a monumental construction effort, with the filling of the entire plaza area to the north of Structure N10-15 with an estimated 4,800 cubic meters (depending on what was under there initially) of boulders to bring it up to the level of the interior floor surfaces of N10-15 2nd and N10-15 1st (Figure 6.20). This is the stage referred to as “Boulders,” which is the name that describes both the stage and the stones that were used in this huge architectural transformation when Classic period buildings were razed and the courtyard was filled (Graham 2004:232). Although it is unclear at present how the sequence of the boulders infill progressed across the Ottawa Group, it may have started as early as architectural Stage 4, when at least the western part of Structure N10-28 was razed and its stucco frieze was destroyed. It is worth considering that this process may have made some areas of Ottawa quite inaccessible for a period of time.

In preparation for the boulder infilling and subsequent installation of a floor atop the boulder core, the Ike terrace was chopped (in Maya architectural terms, a chop is the partial demolition of a structure in ancient times, usually in preparation for subsequent construction) at the terrace verge (the top edge of a terrace). Exterior facing stones were removed,

presumably for the collection of dressed building stones from the terrace face. Interestingly this chopping stands in sharp contrast to the way the former terrace was treated when the expansion took place—its stones and plaster surface were left intact. This could be attributed to a variety of reasons and may suggest changing access to labor or materials as architectural Stage 6 construction began, or may represent new ideas, or the termination of the former building. In contrast to the chopping of the Ike terrace face in most places, the Sub-Op 7 excavation unit exposed a portion of the Ike terrace face and the Rhodes floor surface that had remained intact, although the plaster has disintegrated (see Figure 6.14 above). Without full exposure of the Ike terrace across all of Structure N10-15/19 we cannot be sure how much was chopped vs. left intact.

The size of this newly extended north platform—perhaps functioning as a plaza area—is approximately 20 meters north-south by about 60 meters east-west, and it was roughly 4 meters high. If it had not taken place in a previous stage, there was also a boulder filling to the west of N10-15/19/18, which extended the plaza about 3 meters to the west. Not only did this plaza-floor-raising-event extend across the whole north side of the Ottawa Group, it also entailed the demolition of the three buildings on the east side of the Ottawa complex and the filling of the courtyard, all capped by a new floor, Xix, that extended across all of Ottawa; however, further discussion of these changes are beyond the scope of this thesis. The buildings on the western side of Ottawa—Structure N10-15, Structure N10-19, and probably Structure N10-18 (which has only been partially excavated) now sat level with this new Xix floor surface, but for how long they can still be considered the same buildings we do not know.

Interior changes also took place at Structure N10-15 during this stage, with a new floor, Mama, installed atop the Bug-Burger floor. The door opening at the north central axis, where the two steps had been, was reconfigured slightly, with a step-back on the interior wall at both sides of the door, and there were modifications that enlarged a feature (named Deb) in the central room (Coat Room), which Loten's (1984) notes refer to as a bench, a floor, and a platform. This underscores the difficulties in interpreting some of the features in this building. Loten indicates this as the stage that two other doors were opened on the north wall of N10-15 1st: one in between a room (Fluff Room) in the new northern addition of N10-15 2nd and a room (Tap Room) in N10-15 1st and the other opened from the east room of N10-15 1st (Games Room) to the exterior on the east end.

In addition to the opening of doors in this stage, there are other interior modifications, which include adding, or rebuilding (it is not clear what was there before), what may have been a bench in the central room (Coat Room). Walls may have been modified in several rooms and Loten (1984) suggests that the central spine was ripped out and replaced. Changes in the central spine wall and the previously existing exterior walls have implications for a change in the roof too, especially if these center load-bearing walls were being dismantled and rebuilt. The masonry characteristics of the face in at least one of these recessed areas is a marked contrast to the adjacent wall masonry, which may imply that this recessed portion of the wall was entirely rebuilt, although we do not know if the adjacent wall masonry was the preexisting masonry before the modification. Or, as Loten (1984) speculated, the walls were built as different task units. The masonry in the recessed area of the wall uses large and irregularly shaped stones, while the adjacent masonry uses smaller and somewhat better cut stones. A 1980s photo shows the contrasting stonework, the modified wall, and also serves as

a good example of the excavations here (Figure 6.22).

A second round of modifications may have taken place during this stage. The bench enlargement mentioned above may actually be part of a floor-raising in several areas in both N10-15 1st and 2nd where Loten (1984) notes floors located approximately 38cm above the Mama floor. This occurs in the two north rooms on the north central axis (North Stair Room and Coat Room) and the east room (Fluff Room) of N10-15 2nd. Although it is not clear in Loten's (1984) notes, the plans, sections, and notes hint at the presence of a floor overlaying the Velda and Mama floors at the area above the two north stairs, but there is no longer any way that this can ever be known. The floors that occur at this higher level are called Lass in N10-15 2nd, and Slit in N10-15 1st, which aligns with the bench/platform/floor feature, named Deb, in the north room of Structure N10-15 1st.



Figure 6.22. 1980s excavation at Structure N10-15. View to north, showing masonry differences at adjacent wall areas and the dividing wall added in Stage 5 (photo by David Pendergast, 1980s).

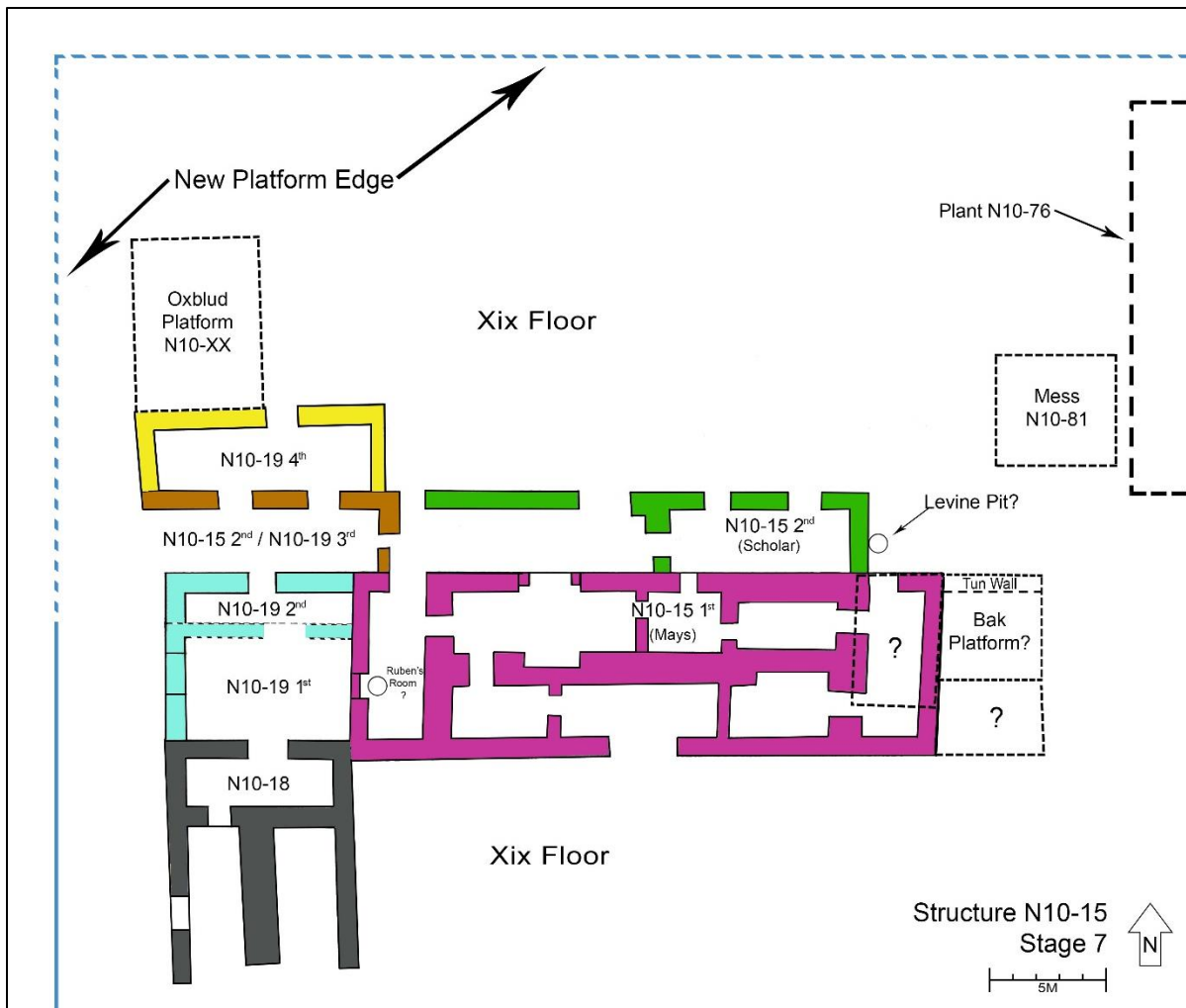


Figure 6.23. Stage 7 plan. After the new Xix plaza floor was installed across Ottawa, there is evidence of yet a further expansion to the north at N10-19, and other platforms were constructed, but the time interval between the Xix floor and subsequent new construction is unknown. N10-15 was eventually demolished, at least in part, when the Bak platform was built over the east end.

Architectural Sequence Stage 7 (Post-Mama Floor)

2014 Excavation Sub-Op 16: Architectural Clearing. Excavation involved horizontal clearing of post abandonment accumulation on the north side of the N10-15 2nd and N10-19 4th to expose architectural features that were constructed on the surface of the Xix floor, portions of which had already been exposed in the 1980s. Although some additional masonry wall or masonry platform was exposed at Structure N10-19 4th (Figure 6.23 above), this area is understood to have been the location of excavation backdirt in the 1980s, so it is disturbed.

Architectural Stage 7 Summary. After the expansion of the north plaza area, there is evidence of additional construction to the north of N10-19, atop the Xix floor (Figure 6.23). Just north of N10-19 4th addition, a mound suggests another Structure N10-XX, called Oxblud, was also built atop the new Xix floor, which possibly joined the walls of Structure N10-19 4th. Loten (1984) preliminarily investigated this building platform and although there were attempts to define this feature it was never excavated, and today it has been obscured by subsequent activity. Loten (1984, note 10.20.1) did observe that “the presence of Kabob [floor] under Xix [floor] in west part of Ottawa, united with Oxblud (Structure N10-XX) suggests Boulders was finished and occupied at the west end before it was finished at east (Plant, Structure N10-76)” (see Figure 6.4 and Figure 6.23).

Sometime after the Boulders stage and the Xix floor installation, N10-15 was also expanded to the east, across to the western side of the now-demolished Structure N10-28, although it was never clear how the erratically-shaped footprint was to be interpreted, and this feature no longer exists. Here Loten’s (1984) floor plans (Figure 6.20 above) locate a wall, Tun, in the area of the Xun platform discussed in Stage 5, which according to Pendergast’s field notes was built on the line of the Niche wall, but stands above the Xix floor. A poorly defined feature called Bak, which has been identified as a platform, was built at the corner of Tun wall and Nan platform, where a significant deposit of ceramics, perhaps a cache, was placed, but this platform extends over the eastern end of Structure N10-15, so the building was drastically reconfigured and at least partially razed by the time this occurred, probably in the late Terminal Classic or early Postclassic period (which likely puts these Bak platform ceramics in the Terclerp or Buk ceramic stage, but this information is not presently available). According to Pendergast’s (1982) field notes, a rock assemblage north

and east of Bak (which may be the structure identified as N10-80, Mess, but this is not clear) presumably represents the final construction in the series at this east side of N10-15.

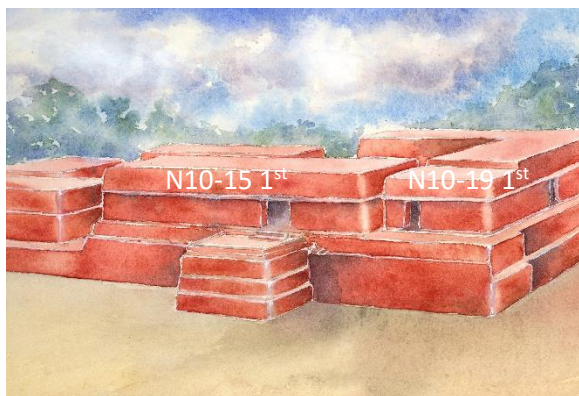
In this final stage of the Ottawa group, other low platforms were erected across the new Xix floor and at least for a time, a new version of Structure N10-15 was likely still in use concurrent with new perishable structures built on these low platforms, but this last stage is poorly understood due to the perishable nature of structures built on low platforms with little cut stone masonry—and with life at Lamanai continuing for hundreds of years beyond this, a number of things could have affected what remained at the surface. A probable 16th century platform, Structure N10-81, indicates “the intensity of use of this zone during a period when many other sites were experiencing collapse” (Graham 2004:234). Several of these platforms, N10-76 and N10-12, were investigated by Graham, and Andres in 2001 (Graham 2004; Andres 2005). But in the end, Structure N10-15 was razed too, to become a platform supporting a thatched building (Pendergast 1982a), although at the onset of Ottawa excavations, the evidence for this was elusive. Again, we should point out that we do not know if any of the stages of Structure N10-15 had a masonry roof, and any given stage could have had partial height masonry walls with some combination of wood or wattle and daub completing them, so there may have been a time when there was a similar appearance between all the structures in this latter stage. As for access, there were probably stairs at the northern edge of the new Ottawa platform, and evidence suggests a *sacbe* led to the platform at the axis of Structure N10-15, but this has yet to be excavated. Figure 6.24 provides an overview of the architectural sequence of Structure N10-15 with watercolor illustrations of the building through its various (masonry) stages, which were prepared by Louise Belanger, the Lamanai project illustrator, and Claude Belanger, one of the Lamanai project’s architects.



Stage 1 is Mays, the structure atop the Doll Platform, aka Structure N10-15 1st—a building with tandem rooms oriented on an east-west axis, flanked by transverse rooms. All illustrations show the view from the north looking south.

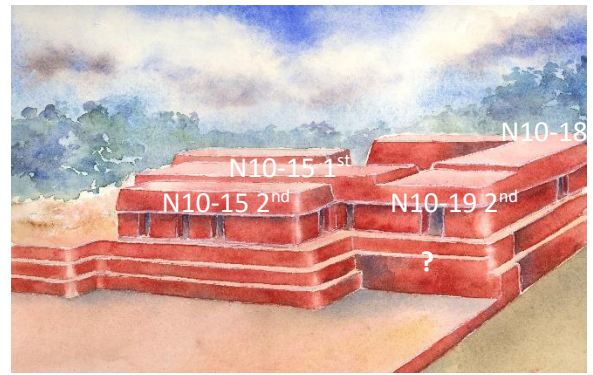


Stage 2 was the addition of a ramp or stair feature that overlaid the second terrace to abut with the Mays building.



Stage 3 is the addition of a platform feature that seems to have been of primary importance, which we have nick-named the Box.

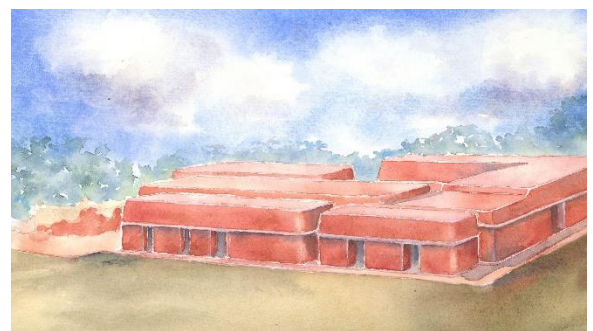
Figure 6.24. Artist conception of Structure N10-15 architectural stages (illustrations by Louise and Claude Belanger).



Stage 4 was a fairly big construction undertaking—although it may have happened in two separate stages—with a northward building addition across all of N10-15 and N10-19, requiring a new terrace. Walls were built, but then later torn down in a remodeling, so we don't know what the initial Ike Terrace addition floor-plan looked like.



Stage 5 saw the construction of new rooms of an addition called Scholar—aka N10-15 2nd—built across the Ike Terrace with walls atop a new floor.



Stage 6 entailed filling of the entire plaza area to the north of N10-15 with boulders and installing Xix floor on top of the boulders to bring it up to the level of the interior floor surfaces of N10-15—generally aligning all the floor surfaces inside and outside the buildings.

Analysis of Caches

Caches are frequently placed on the central axis of a building, as the central axis is an important aspect of Maya worldview; however, caches are also placed in other non-axis associated architectural-features, such as niches or benches (Pendergast 2006:61). In an overview of Lamanai caches Pendergast remarked that it is “abundantly clear from the record that the primary axis was the principal determinant of cache position in communally built structures.” But what happens when there are two potential primary axes for a building? Depending on orientation, Structure N10-15 could have two primary axes, as the building centerline seen from the north does not align with the center as seen from the south-side, since Structure N10-19 is not visible from this position. The north side of the building looks towards the temple Structure N10-27 while the south side faces the courtyard, so the caches here may also reflect the focus of public vs. private ritual depending on their location.

The known caches of Structure N10-15 do occur most frequently centered in the door areas on the primary axis (Figure 6.25); however, this could reflect excavation bias. They occur in other locations as well as the doors. The vertical location of caches is shown in a section (Figure 6.26). With the placement of the last known axial cache in the series—Cache N10-5/3—the northern axis of the building shifted more than 2 meters to the east, so Structure N10-15 may have then been considered an entirely different building, or perhaps its function changed with the onset of that architectural stage. It is possible that this marks an ideological shift at Lamanai. The Chases (1998:311) argue that in some cases ritual activity can be used to define architectural function, but their examples include iconography and textual information located on or within the building associated with the caches and burials. Unfortunately, this type of evidence is absent from Structure N10-15 and it is not my

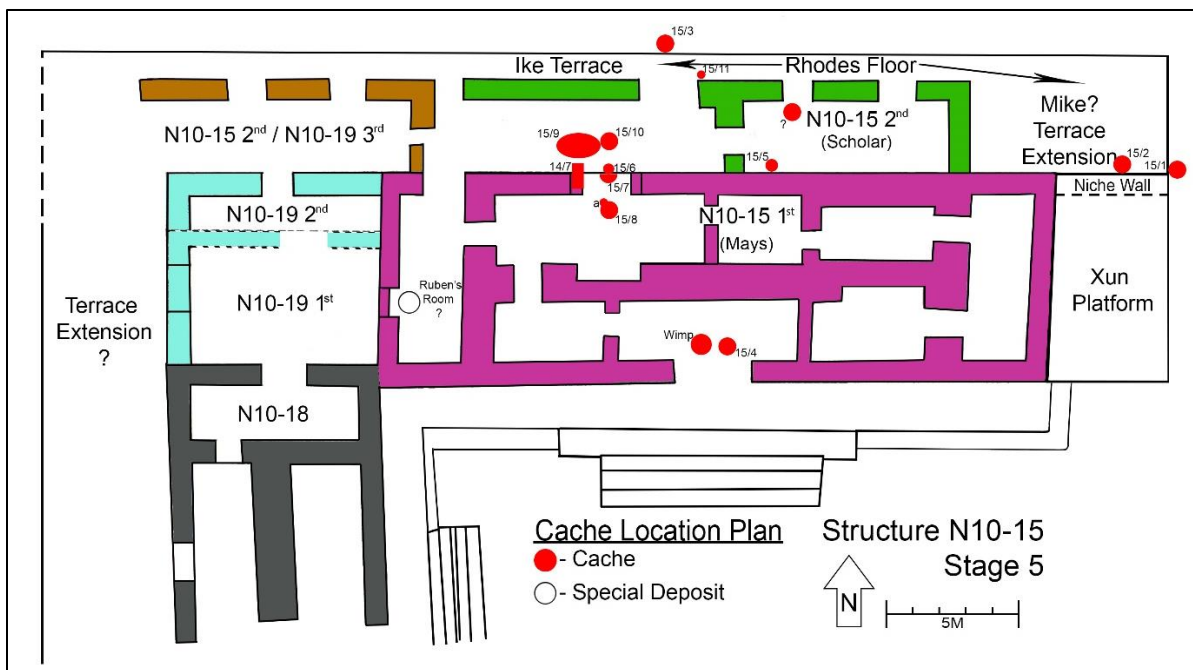


Figure 6.25. Cache location plan showing all known caches for Structure N10-15 on the floor plan of Stage 5 of the architectural sequence.

intention to make a determination as to the nature of the placement of the caches in Structure N10-15, although by their very nature some of the caches are suggestive of certain rituals.

Caches at Structure N10-15 and Their Associated Building Stages

There are a total of 11 known caches associated with Structure N10-15, which are numbered in sequence in the order of their discovery. There are several additional deposits, which may be considered caches but were not recorded as such when they were first excavated. A summary of the caches, their components, and the building stage with which they are associated is presented in Table 6.2. Additional details on the cache locations, contents, and illustrations are presented in Appendix A. In the Lamanai system, all caches are given a number designation that starts with a prefix indicating the structure number where the cache was found followed by a slash and a number. For example, Cache N10-15/1 is the first cache found in Structure N10-15. In the interests of having a clean discussion, the caches will

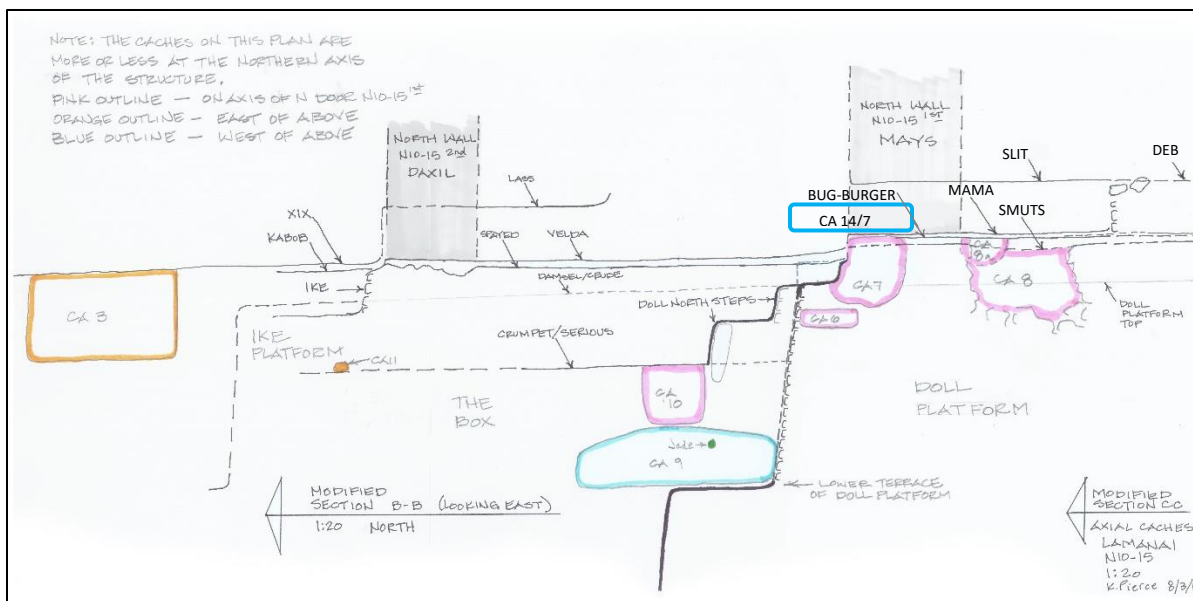


Figure 6.26. Section showing location of caches at the northern doorway of N10-15 1st and in N10-15 2nd. This section is offset to incorporate the northern-most cache, N10-15/3.

be referred to only by their number, with the exception of Cache N10-14/7, since there is also a Cache N10-15/7.

Although several of the caches of Structure N10-15 are easily associated with a specific building stage, this is not the case for all the caches. All of the caches associated with Structure N10-15 are placed in some type of floor core. There were no wall, niche, or lintel caches, because the wall stubs that remained post-abandonment were only approximately 1.3 meters high, or less. Caches that were cut into a floor—intentionally intruded—and covered over by the next floor have a definite floor association, but not all caches were placed in Structure N10-15 in this manner, so there is some guess work involved. Some of the caches were placed in an architectural unit as it was being constructed, or modified. In this case a new floor was laid over the cache with no floor cut to identify the cache below. In some cases this means that the cache was placed as a part of the addition in which it is enclosed, but it may also be that an old feature was partially ripped out and a new one built on top of an area that had a previous underlying cache that was never disturbed as

the new overlying feature was constructed. A difficulty encountered in correlating cache temporal placement between the caches placed inside the primary N10-15 1st structure with those placed in later building additions is that the floor sequences between the different building components do not necessarily align. In only one instance—the Velda = Smuts floor—is there actual evidence of these two floors joining as one between N10-15 1st, and N10-15 2nd. Logic and stratigraphy therefore, guide my choice for placing caches in sequence; however, I acknowledge that my judgements could be wrong.

Table 6.2. Caches in N10-15 and associated attributes and architectural stage.

Cache Number (all have the prefix N10-15/, except as noted)														
ATTRIBUTES	8	Wimp	4	6	9	10	11	7	1	2	5	8a	3	14/7
Context														
Building Core	•	•	•	•	•	•	•	•			•	•		?
Boulder Core									•	•			•	
Offerings														
# of vessels	7	0	2	0	1	2	0	2	1	6	0	2	3	8
Lip-to-Lip	•		•			•		•				•	•	•
Polychrome	•					•							•	
Charcoal	•		•		•	•					•			
Worked Jade	•			•	•									
Obsidian Lancet/Blade	•		•	•		•	•						•	•
Obsidian Other				•				•			•	•		
Chert Eccentric	•			•										
Chert Flakes or Blades	•			•										
Other Stone	•				•	•								
Pearl				•										
Faunal or Human Bone	•			•										
Organic Material	•			•										
Ashy Deposit		•			•						•			
Condition														
Pre-Internment Breakage										•				•
Architectural Stage	1	1	1	2, 3, or 4	3	3	4	5	5 or 6	5 or 6	6	6	6	6 or 7

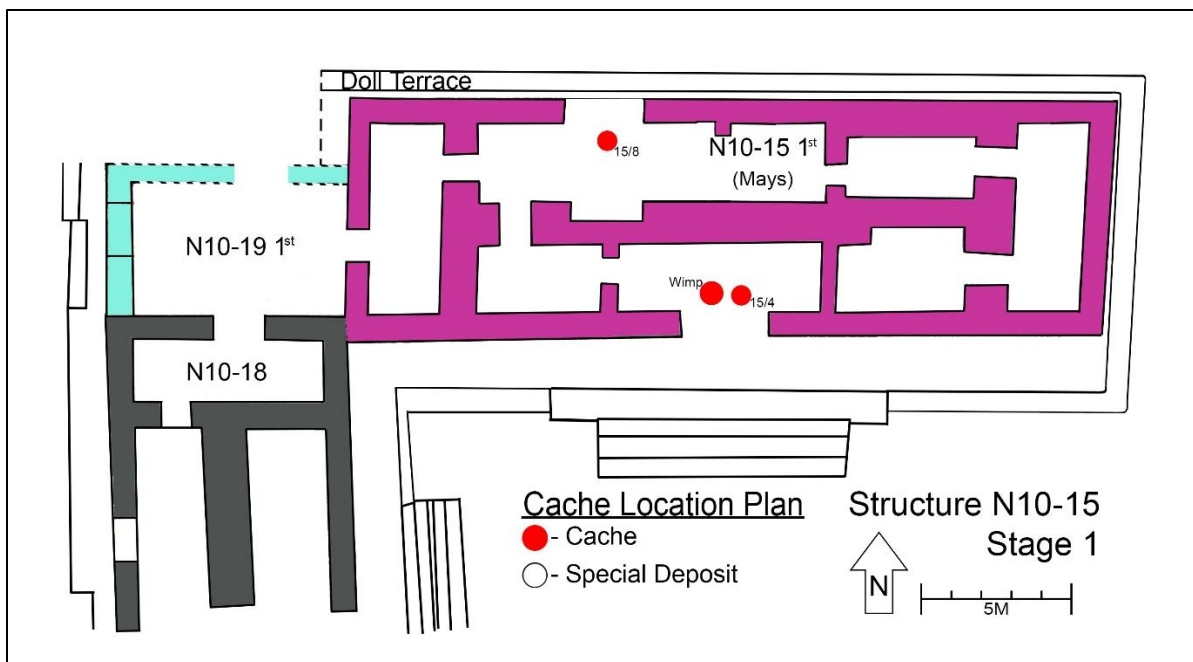


Figure 6.27. Caches in Architectural Stage 1.

Caches in Architectural Stage 1. The locations of caches placed in this stage are indicated on the plan in Figure 6.27. If caches in structures are understood to be dedicatory caches for new construction, it would be assumed that only one primary cache is associated with each new construction effort. This marks Cache 8, at the *north* central axis, as the primary cache for Structure N10-15 1st, which was cut into the building platform with its base 40–50 cm below the level of Smuts floor. It is the most elaborate known cache associated with any stages of Structure N10-15 1st. It contained a total of seven ceramic vessels, 22 eccentric flints (also called flaked stone symbols), a number of other flint-flake objects, obsidian flakes and blades, 3 worked jade objects, a bone pin, and a hammerstone.

One of the vessels in Cache 8 was a polychrome dish featuring a spotted jaguar image in the center with an outer rim band displaying crocodilian reptile heads alternating with scroll and dotted cross motifs (Figure 6.28). One interpretation of this vessel is that the jaguar

represents the sun surrounded by a cosmic band, which in association with the other objects in this cache is symbolically tied to the layers of the world, the setting sun, and lunar cycles (John 2008:121–125). The jaguar is also associated with bloodletting, which, judging by the obsidian blades in this cache, was a part of the ritual ceremony associated with the placement of this cache. This is the only vessel of all the caches in Structure N10-15 that has jaguar imagery and it is worth noting here that jaguars and jaguar imagery are strongly associated with divine kingship and elite rulership. The jaguar god of the underworld is a Maya deity who embodies the sun at night when it makes its journey through the underworld, which John has alluded to in her interpretation of this cache, but the jaguar god is also the Maya god of war and fire, associated with Maya rulers and battle (Miller 1999:113–114). The presence of the jaguar imagery in conjunction with the other elite paraphernalia in this cache associates this building with Maya rulership.



Figure 6.28. View of the interior surface of the polychrome round-sided dish from Cache N10-15/8: LA 694/7, Dia: 32.3cm.

Of the other five vessels in Cache 8, two pairs were placed lip-to-lip, with the jaguar vessel inverted and positioned in between these two pairs, and the remaining vessels placed on edge. The lip-to-lip vessels are round-sided dishes, a form and pairing that occurs in over half of the Structure N10-15 caches. The placement of the paired vessels in relation to the jaguar vessel could have cosmological or directional symbolism, with the jaguar (the ruler) symbolically centered as the world tree.

The eccentric flints represent a variety of forms including crescents (nine or more) anthropomorphic forms (three or more), disk, bipoint, and others. Figure 6.29 (left) shows a flaked stone symbol (LA 694/25) that has been interpreted by Meadows (2001:635) as an anthropomorphic form with the perforated area representing an eye, but I propose that it could be interpreted as a *k'awil* form with smoke emerging, as for example on Stela 12 at Machaquila (Ian Graham drawing in Boot 2013). In Maya religion the *k'awil* character is associated with lightening and maize and was important to elite lineages, rulers and in royal accession ceremonies (Miller and Martin 2004:293). Another of the anthropomorphic forms in this cache, LA694/9, is interpreted by Meadows (2001:314) as a depiction of sacrifice with a subtle yet detailed upturned facial profile (Figure 6.29 right). One serrated disc was hooked with a serrated crescent in the cache. As noted in Chapter III, flaked stone symbols appear in Late and Terminal Classic caches at Lamanai along the axis of monumental structures—including (or possibly limited to) Structure N10-9 at the south end of the large open plaza which the Ottawa group adjoins on the north—in Ottawa Structures N10-15 and N10-18, and in association with an altar in Plaza N10[2] (Meadows 2001:271). This provides a strong link between the Ottawa Group and the adjacent plaza and temple-pyramid and symbolically connects them. At the time of its discovery, the largest eccentric flint known in the Maya



Figure 6.29. Cache 8 flaked stone symbols LA 694/25 (left) and LA694/9 (right) (Meadows 2001:315, 635).

lowlands was found in an axial cache in Structure N10-18, which is adjacent to, and possibly a continuation of Structure N10-15.

Two additional caches were placed during Architectural Stage 1: Cache 4, and a deposit designated as Wimp, which were located just off of the primary axis for the *south* side of the building and presumed to be primary caches atop the Doll platform construction surface, 25cm below Mama Floor. While Wimp was a deposit consisting only of burned organic material and sherds, which presumably did not form a complete vessel as this would have been recorded in the cache notes, it may represent the remains of a semi-public ceremonial fire ritual. Cache 4 contained two vessels placed lip to lip, with a small amount of charcoal and three obsidian blades placed in the lower vessel. One additional obsidian blade was placed underneath the vessels, suggesting a bloodletting ritual. Because of their proximity to one another they could actually constitute a single cache, and bloodletting and burning go hand-in-hand.

The above caches are all located on the primary axis of the structure, but as noted earlier, this central axis is different on the north side vs. the south side because the visual center of the building differs on each side. On the north side the central doorway is centered only if Structure N10-19 is considered to be a part of Structure N10-15. In this case the Maya penchant for bi-lateral symmetry supports Structure N10-19, or some open terrace at that end, as actually being a part of Structure N10-15. The elaborateness of Cache 8 vs. Cache 4 may suggest that either the room in which the former was placed, or the center of the north side of the building, is of primary importance and is the side associated with rulership and more elaborate ritual ceremony. Perhaps the bench in that room was where the ruler sat to receive guests, or captives, or tribute. Although other rooms in Structure N10-15 have benches, the large bench that faces the northern axial door in this room, may have served royalty as a reception area, and this room opened directly to the Box platform when it was exposed—a location consistent with public appearances and a waving platform for the ruling elite. The one contradiction here, and a big one at that, is that if this was a public reception area, how was it accessed from the north? Without access this argues for a more private purpose for this room of many caches. At present this remains a conundrum, as no access from the north has yet been located. If it is there it is buried beneath the boulders.

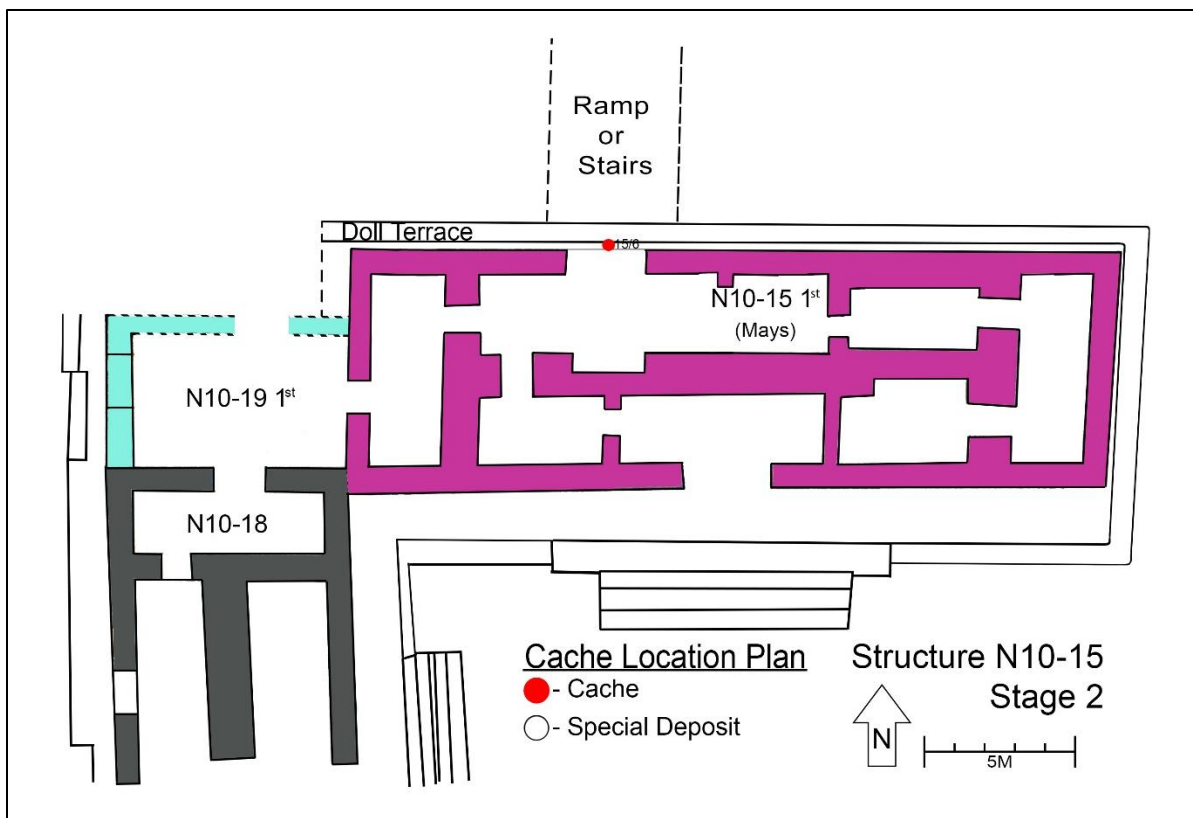


Figure 6.30. Caches in Architectural Stage 2.

Caches in Architectural Stage 2. Cache 6 is located at the north stairs (Figure 6.30). Like Cache 8 it also contains a variety of different elite status objects including a pearl, two jade laminas (often a component of a mosaic object), one jade bead, fish bones, chert flake blades, obsidian flakes, blade and core, and six eccentric flints, but in contrast Cache 8, this cache contained no ceramic vessels. One of the eccentric flints (LA 682/12) (Figure 6.31 left) has been interpreted as a staff end which would have been hafted onto a pole of some sort, and another is a two-pronged crescent, a form that appears as if it could also be hafted. There is another form that Meadows identified as avimorphic (Figure 6.31 right), although Pendergast made mention of an axe form in this cache, which is an alternate interpretation of this zoomorphic (Meadows 2001:358, 431, 604; Pendergast 1982f). Axe forms are associated with the *k'awil* character. If one of these objects (or more) is indeed a staff end (Meadows

noted polish in an area that could be associated with hafting), then again we have clear associations with divine kingship and elite rulership, as kings holding staffs are a prominent iconographic motif on Maya stelae and in art—for example Tikal stelae 9, 11, 13, and 20 (Coe drawings in Boot 2013).



Figure 6.31. Cache 6 flaked stone symbols LA 682/12 (left) and LA682/11 (right) (Meadows 2001:358, 604).

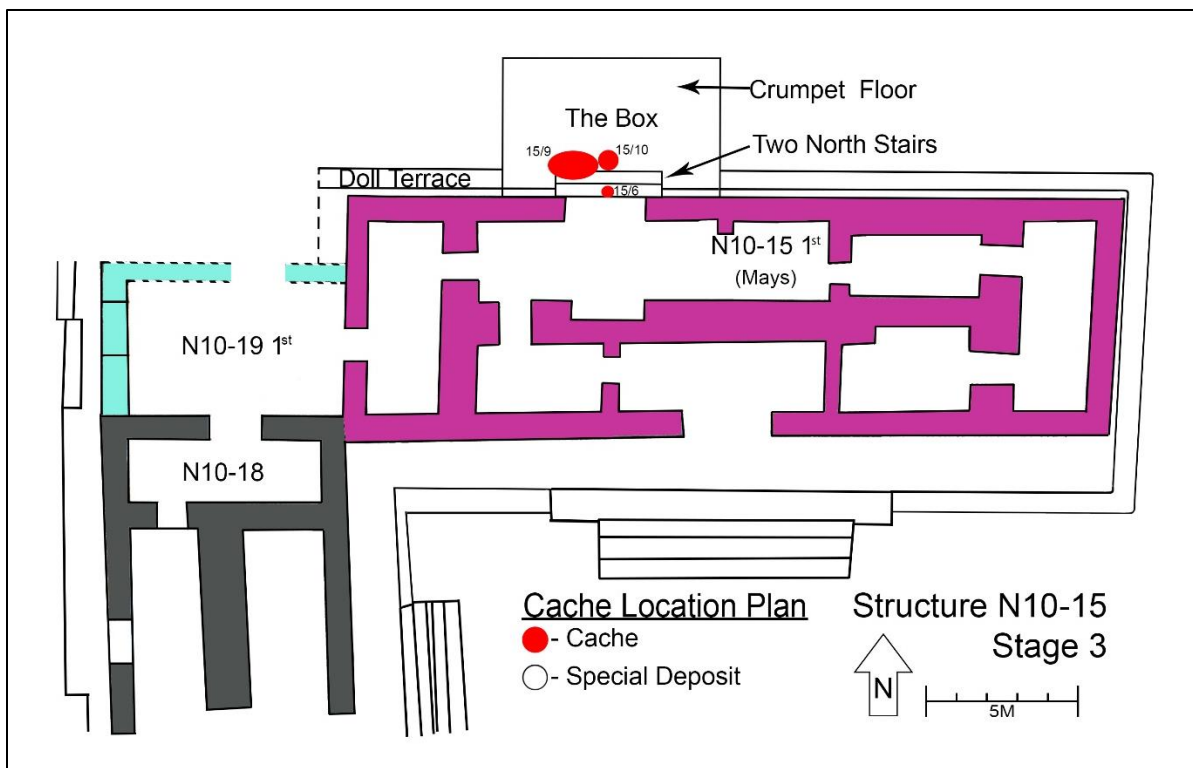


Figure 6.32. Caches in Architectural Stage 3.

Caches in Architectural Stage 3. Cache 9 and Cache 10 were placed in the Box feature (Figure 6.32). Cache 10 featured two polychrome dish-form ceramic vessels (LA3107/1 and LA3107/2) that were placed lip-to-lip enclosing a volume of large charcoal fragments that nearly filled the space created within the vessels. These were whole vessels, broken in situ. Distributed within the charcoal fragments were nine unremarkable white stones placed above five obsidian lancets. Biosilicate analysis showed a very high frequency of arboreal phytoliths (54.1 percent) and suggests that they [leaves] were part of the ceremony, and the presence of 0.6 percent hat-shaped palm phytoliths (*Bactris*-type), suggests that palm fruit, wine, and/or oil have been placed in the vessel (Steven Bozarth, personal communication 2015). The carbonized wood in placed inside the cache vessels has been identified as *Pinus caribaea* (Phil Austin, personal communication, 2015). This variant of a “cosmological map” type cache and the associated fire and bloodletting ritual ceremony

served to establish a link between the building and supernatural and ancestral spirits. The design on the polychrome vessel (Figure 6.33) has a very different motif than the jaguar vessel in Cache 8.

Located slightly west and below the level of the first cache, Cache 9 contained the intact base of a highly fragmented Achote black vase (LA3108/1) (Debra Walker, personal communication 2014) with sherds scattered around it, but no rim sherds were present.

Although there has been no comparative ceramic analysis, this vase, of which we have only the intact 5 cms of the base, has some similarities to a vase from Burial N10-66/3—a black vase with an incised groove around the circumference at the base (personal observation).

Petrographic analysis of the burial N10-66/3 vase (from a building located on the outskirts of the Central Precinct west of the Ottawa Group) indicated it is of non-local origin (Howie et al. 2010:387). The base of the vessel in Cache 9 was placed on top of three intentionally

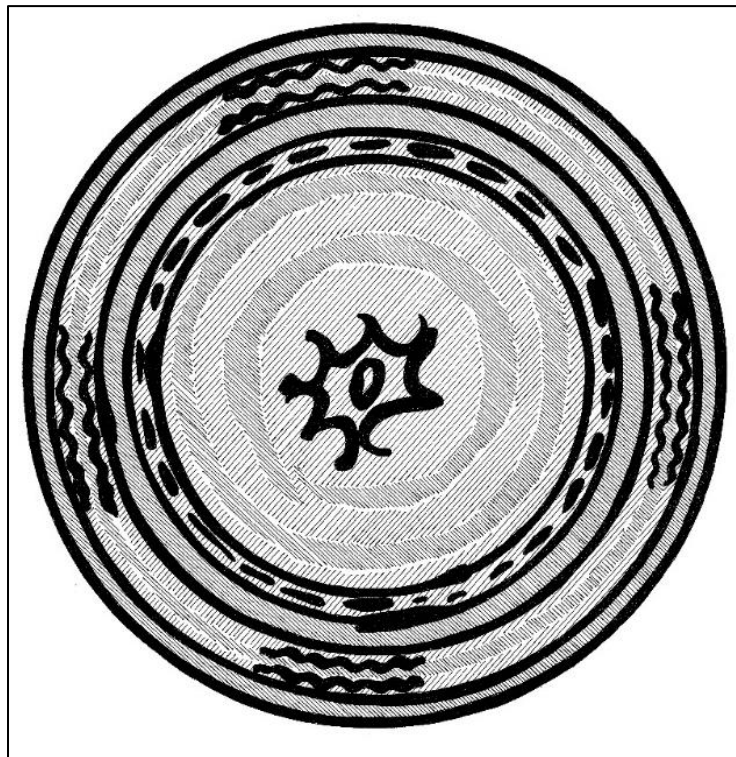


Figure 6.33. View of the interior surface of the polychrome round-sided dish that was the upper vessel LA3107/1 from Cache N10-15/10, 9.2 cm high x 30.5 cm diameter.

placed burnt stones, which could symbolically represent a three-stone hearth, although their placement was linear. In Maya worldview the hearth is an axis mundi or place of creation (Taube 1998:432–446).

Biosilicate analysis of residue in the Cache 9 vase showed a culturally elevated frequency (15.3 percent) of palm spinulose spheres indicating that oil extracted from *Attalea cohune/Roystonea regia* was placed in the vessel, along with native grass and maize (Steven Bozarth, personal communication 2015). The palm pollen signal is high at Lamanai which could indicate either cultivation or land clearance (Rushton et al. 2013:491).

The carbonized wood in this cache has been identified as *Pinus caribaea* (Phil Austin, personal communication, 2015). The ritual burning of pine was a symbolic act associated with the offering of "food" sacrifices to deities (Morehart et al. 2005). Palaeoecological studies indicate that *pinus* was completely absent from the record during the period of (A.D. 600–980), interpreted as a period of heightened construction activity at Lamanai (Rushton et al. 2013:490). Although we do not know how the elite of Lamanai may have controlled pine during this period, Lentz et al. (2005:582) have noted that this commodity was subject to political control and that access to pine was variable, with pine products circulated as a component of socio-political strategies.

Near the bottom of the mass of charcoal was a large jade "bead" (LA3108/2)—seemingly too big, at 6.65 cm diameter and weighing 288 grams, to be a wearable object—situated in with the charcoal. Because the plaster surface of the substructure and the matrix around the charcoal deposit did not appear to be burnt, we concluded that the charcoal deposit appears to have been burned elsewhere and subsequently placed here upon the lower terrace of the N10-15 1st substructure during construction of the Box (Phil Austin, personal

communication 2014, during excavation of this cache). However, there was a soft matrix just above the charcoal, which may have been ash, suggesting at least some burning occurred during the placement of the deposit. Stuart (1998:403) has remarked that ceremonial burning is a form of ritual that is tied to ceremonies associated with “dedication, sacrificial rites, and important Maya calendrical positions” and this cache may well represent the remains of such a ritual that was performed here as the Box feature was nearing the completion of its construction.

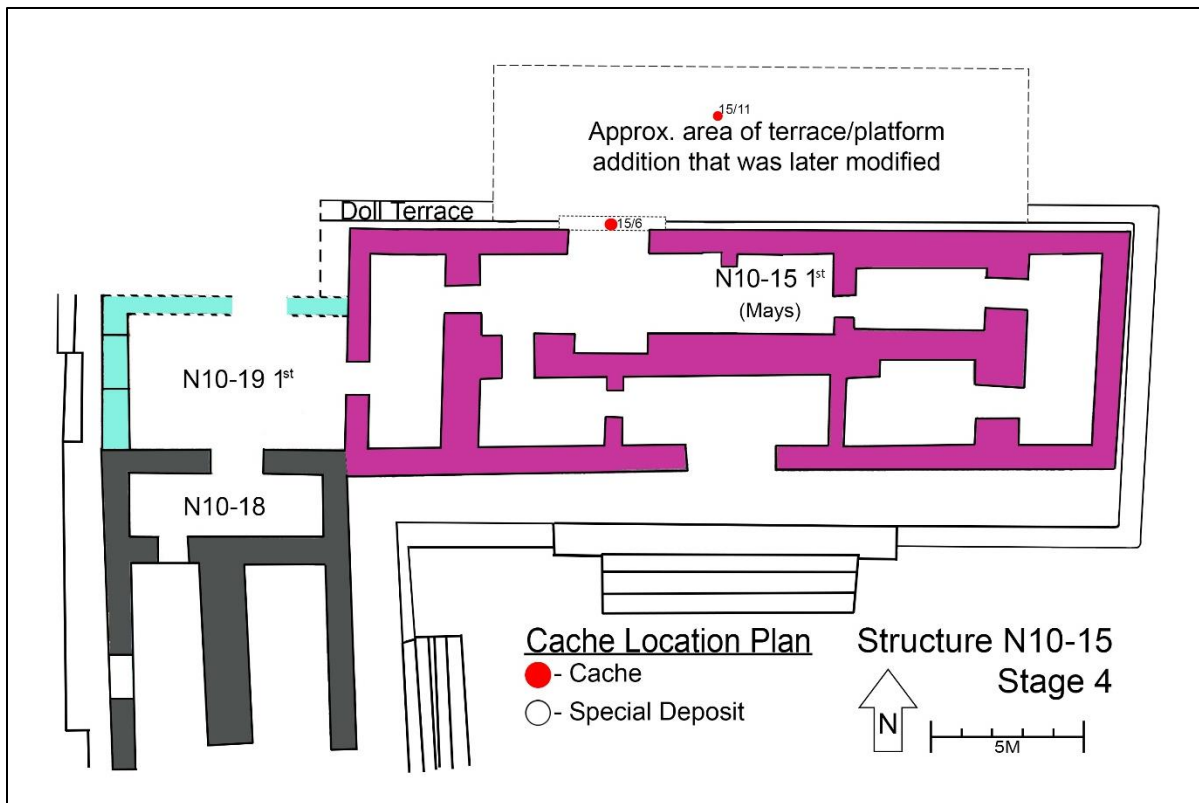


Figure 6.34. Caches in Architectural Stage 4.

Caches in Architectural Stage 4. This stage is poorly understood. There was a platform/building addition that was added on top of and to the east of the Box, and the Damsel/Crude floor was likely a part of this. This feature was subsequently revamped, as described in Stage 5. Only one simple cache, Cache 11, appears to be associated with this stage (Figure 6.34); however, it is possible that Cache 6 was placed during this stage, as noted above. This is the latest stage possible for Cache 6, as its location was covered by a new floor in the next stage and there was no evidence of a cut in the floor for cache placement. Cache 11 consisted of a containerless cache of two obsidian blades in an area of slightly reddish matrix, placed in the core of Ike terrace outside of the perimeter wall of N10-15 2nd, slightly above the level of Serious Floor at the chopped northeast corner of the Box. Of note, this general area, both inside and outside the north perimeter wall of N10-15 2nd, had patches of a reddish matrix where excavation exposed areas below the upper floor.

Pendergast (1982f) also noted a sandier red stratum at the east end of the Ike terrace at the bottom of the Levine pit deposit. Pendergast attributed this to the product of disintegration of limestone boulders in surrounding core, but my observation was that the matrix in some areas had an almost chalky appearance, perhaps some pigment resulting from the disintegration of red-painted plaster or an intentional sprinkling of pigment. The obsidian blades are indicative of bloodletting.

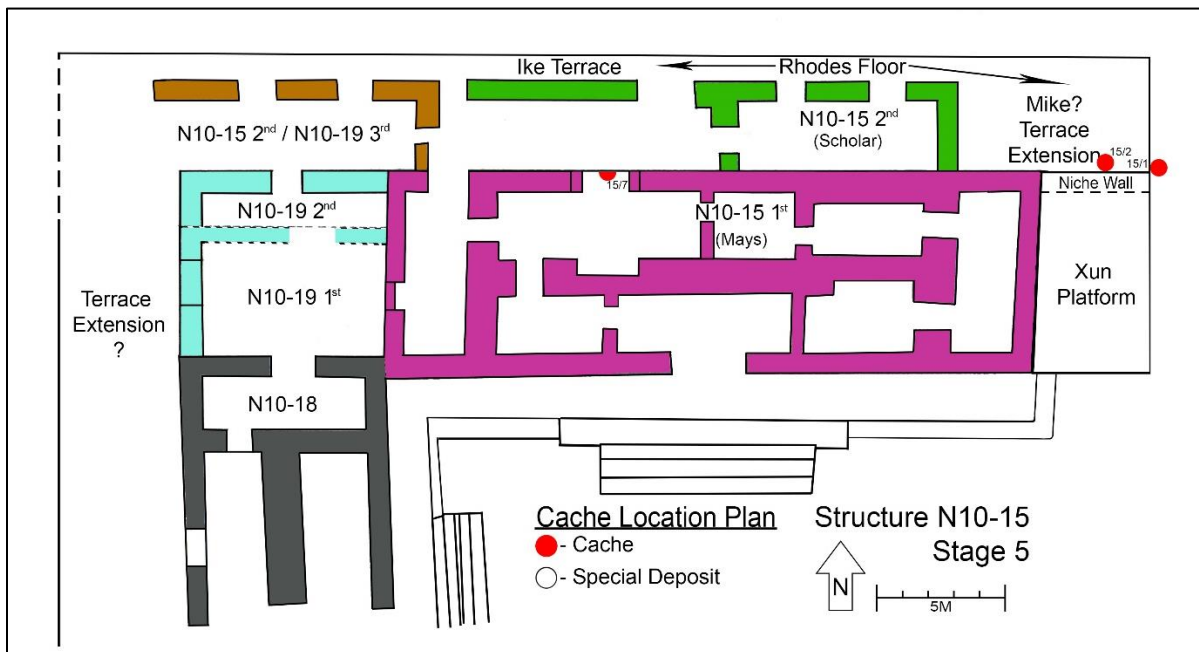


Figure 6.35. Caches in Architectural Stage 5.

Caches in Architectural Stage 5. In this stage caches were located within and outside of N10-15 (Figure 6.35). Cache 7 was sealed by the Bug-Burger floor and a patched area which Pendergast says suggests continuing use of this floor and it is clearly a post-Smuts association. So, there is little doubt that Cache 7 was placed during this stage when the new N10-15 2nd addition was built to the north of this room. This cache was placed in a pit at the north edge of the floor in the center room of N10-15 1st. It contained two round-sided dishes (LA 693/1 and LA 693/2)—similar in form to the others presented above—placed lip-to-lip with nine obsidian flake blades in the bottom of the lower dish placed under a quantity of

large charcoal fragments. Although similar to Cache 10, this cache does not appear to be a cosmological map type of cache, but is certainly associated with bloodletting and fire.

Cache 1 (LA639/1) was a single dish with no contents. Cache 2 contained six vessels, four of which exhibited evidence of pre-interment breakage. The six vessel forms found in Cache 2 are different forms than those previously encountered in caches. The use of new forms and the pre-interment breakage marks a distinct change from the previous caches of Structure N10-15. Both Cache 1 and Cache 2 were placed *outside* the main masonry structure of N10-15 in boulder core which may very well be linked to the beginnings of the greater Boulders stage of filling in the courtyard.

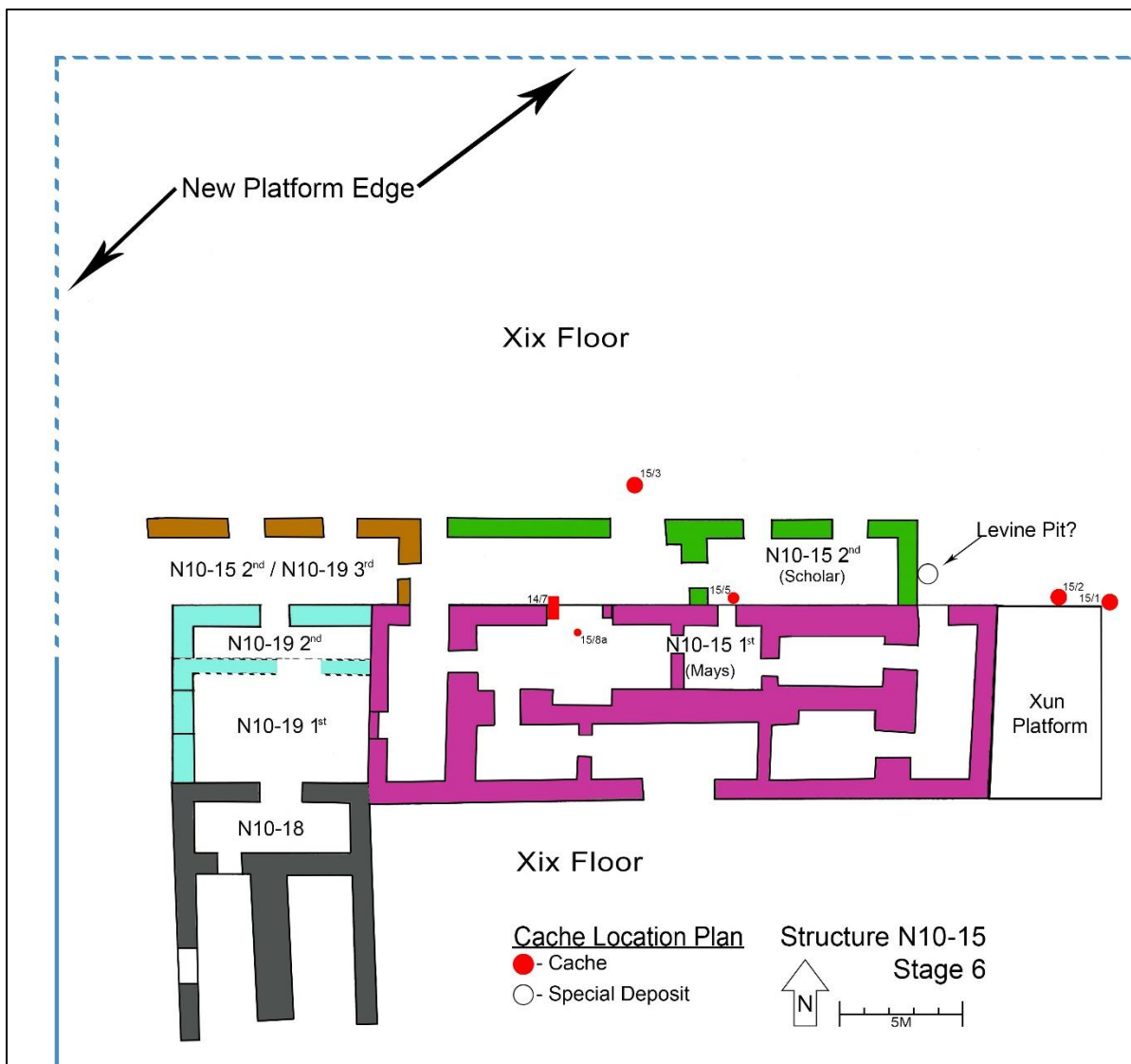


Figure 6.36. Caches in Architectural Stage 6.

Caches in Architectural Stage 6. Caches 3, 5, and 8a. If Caches 1 and 2 were not placed in Stage 5, they were placed in this stage. Cache N10-14/7 was likely placed late in this stage, or in Stage 7. See Figure 6.36 for locations.

Cache 3 featured a pit approximately one meter in diameter that was placed in the boulder core associated with the Xix floor *outside* and north of the center door of N10-15 2nd. The cache had two round-sided dish form vessels placed lip-to-lip and a third vessel—a polychrome dish—contained an obsidian blade. All vessels were broken in situ and because

they were placed within porous boulder core the vessel contents, if there were any, were lost. Pendergast (1982f) noted the presence of a pit cap, which contained an obsidian blade, although he did not define what a pit cap is, the cache was filled to the level of the floor, so it would appear to be a plaster patch used to cap the pit. Inside N10-15 2nd under a floor (called Moll), in the room just east of the center room, Cache 5 was a pit filled with ashy soil, a few bits of charcoal, with one obsidian blade at the bottom. Loten's (1984) notes indicate that there is potentially another (unrecorded) cache of a single vessel in the floor in the room east of this.

Cache 8a is the cache that intruded into Cache 8 discussed above in Stage 1. It contained two vessels placed lip-to-lip, with 17 obsidian flake blades placed inside the lower vessel. This intrusion may indicate social memory in the consistency of placement, suggesting some continuity with the people placing the earlier cache; however, it could be coincidental.

Cache N10-14/7 was placed late in Stage 6 and all vessels in Cache N10-14/7 were broken, most *in situ*, but there were fragments of a vessel that exhibited pre-interment breakage placed inside one of the upright vessels. This cache contained eight ceramic vessels positioned with at least two sets of lip-to-lip vessel pairs, with 5 obsidian lancets placed within one pair and a single lancet in the other pair. The lip-to-lip vessel arrangement also argues for its association with Structure N10-15. As discussed in Chapter III, the pattern of caching at Lamanai changes by the late Terminal Classic-to-Early Postclassic, in which lip-to-lip vessels are no longer present and have been replaced by groups of different forms of pots or single vessels. By the end of the Terminal Classic period, pre-interment breakage of vessels becomes a feature of burials at Lamanai, where the broken vessel is placed in the

burial, but pieces of each vessel are missing (perhaps kept as a memento by participants of the ceremony or as a form of ancestral connection), which has been interpreted as a new form of ritual behavior (Howie et al. 2010:376). This cache represents continuity with earlier practices alongside new practices.

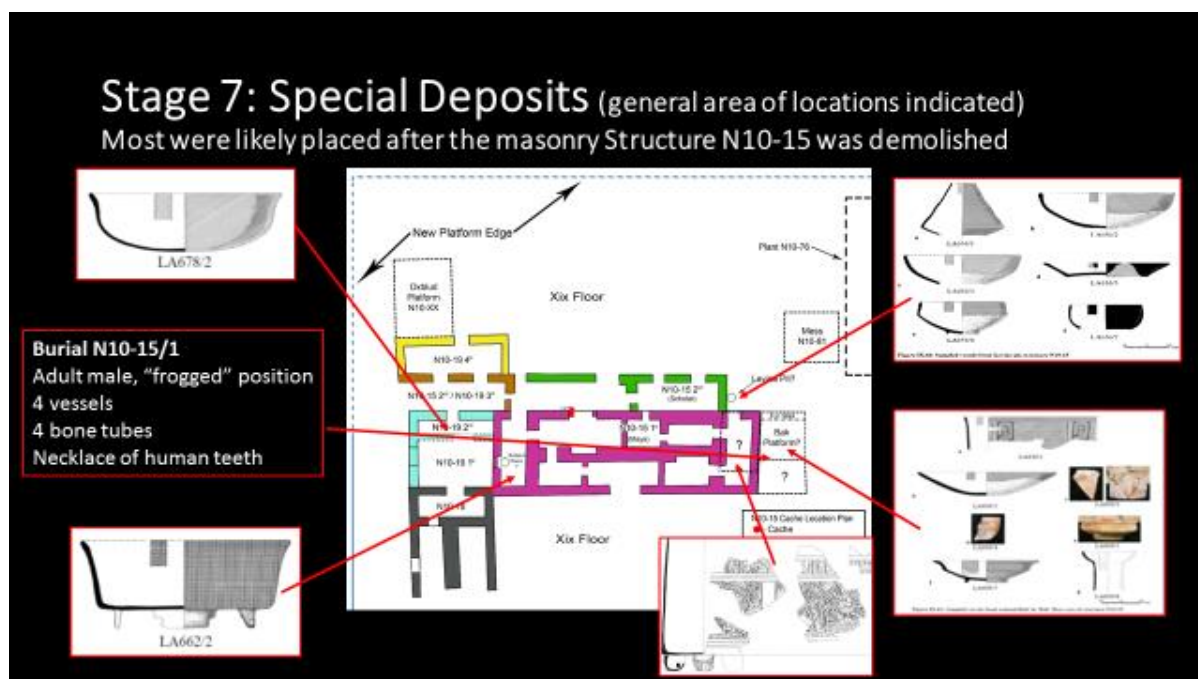


Figure 6.37. General locations of caches, special deposits, and isolated finds in architectural Stage 7.

Caches in Architectural Stage 7. By this stage, when the Xix floor covered the Boulder core, new perishable structures were erected on low platforms, and the fate of Structure N10-15 is not clearly understood, but there were a number of special deposits placed in and adjacent to the (probably former) building, and one burial. The exact location of these vessels is unknown, as areas were only described generally in field notes, but see Figure 6.37 for approximate locations. Although their precise placement in sequence is unclear, and it is not known what elements of Structure N10-15 still stood or were in use, many of these deposit/caches contain later vessel types—from the Terclerp phase at Lamanai—Terminal Classic to Early Postclassic (A.D. 770/850 – A.D. 1200/1250).

One of these vessels worth noting is a vessel of the molded-carved tradition, found in the southeast quadrant of Structure N10-15 in the topmost core. Some sherds were reported to have been found at the surface, and the remainder were mixed with Terclerp vessels in top 25 cm, more or less, of the core that filled the (demolished) rooms of Structure N10-15. There is precedent for these vessels being cached, and Elizabeth Graham (personal communication 2015) believes this molded-carved vessel was likely placed in a cache cut through a floor of a post-Structure N10-15 building that no longer exists; from the evidence it appears as if the building was of wood. This vessel, LA 661/1, (Figure 6.38) is a molded carved vessel, which is a Terminal Classic marker and is a clear reflection of foreign contact. They appear rather suddenly at Maya sites at the end of the Classic period (Sabloff et al. 1982:315–338). Ting et al. (2015:15) argue that they are produced and circulated from about ca. A.D. 800–950. Thought to originate from the Guatemalan highlands and/or the Gulf Coast region of modern day Campeche and Tabasco, there are also local copies made everywhere that are Fine Orange-like (Laura Kosakowsky, personal communication 2015). Pottery of the Fine Orange and Fine Grey traditions are a fine paste pottery (without temper) with origins that may date back to the Preclassic Gulf coastal tradition. Maya fine paste pottery development derives from Classic and non-Classic Maya traditions and also reflect influences from outside the Maya area (Sabloff et al. 1982:326). Fine paste ceramics were originally linked “to an hypothesized invasion of the southern Maya lowlands by non-Classic Maya peoples during the ninth century A.D.—and ultimately to the Collapse of Classic Maya civilization (Sabloff et al. 1982:338). More recently the emphasis on foreign invasion has lessened as archaeologists have realized that “the distribution of fine paste ceramics is related to broader economic and political changes throughout the Maya lowlands” (Sabloff et al. 1982:338).

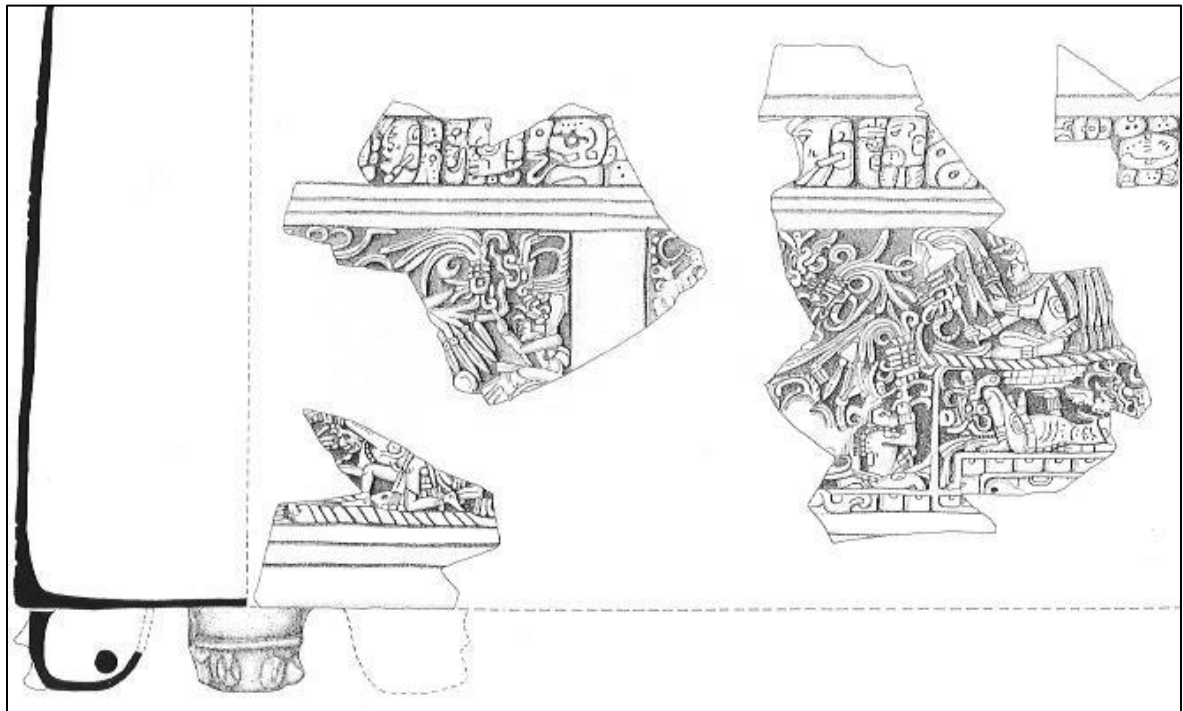


Figure 6.38. Roll-out illustration of Lamanai Terclerp phase molded-carved tripod vase, LA 661/1 (John 2008:119, Fig. 5.4).

Although this vessel, LA 661/1, may have first been classified as Pabellon Molded-carved ceramic type (Fine Orange ware) (John 2008:119), more recent research has distinguished another type of molded carved vessels, called Ahk'utu' (Helmke and Reents-Budet 2008:40–41), and this vessel from Structure N10-15 is clearly of this latter type. The name of this type derives from a glyph that is always featured on the vessels which, succinctly stated, means gift (Helmke and Reents-Budet 2008:38). The glyphs on these vessels tell us that a historical person, Lady Olom—who bore exalted, but not royal titles—is responsible for the incipience of this ceramic type as a gift-giving object. Characteristics of Ahk'utu' molded-carved vessels include hollow tripod feet with a ceramic rattle ball, readable glyphs, a cylindrical to barrel shaped form with a slightly constricting orifice, and registers of three horizontal moldings framing the glyphs and iconographic scene (Helmke

and Reents-Budet 2008:40–41). It has been suggested that these vessels have an architectural association in that the three stacked decorative moldings on the ceramic vessel replicate the ‘three-unit’ horizontal moldings commonly found on architectural facades at Terminal Classic sites in the Puuc area of Yucatan and coastal sites in Quintana Roo, however this association with architecture may be difficult to demonstrate. The Terminal Classic dating of both the Puuc architectural facades and the Ahk’utu’ molded-carved vessels are in accord (Helmke and Reents-Budet 2008:45–46). The iconography on the vessels however, reflects that of Terminal Classic sites in the Peten featuring themes also found on contemporaneous public monuments rendered in Classic period style. This demonstrates the circulation and overlap of a variety of influences in the Terminal Classic period, and reinforces it as a time of continuity and change.

In the Terminal Classic the Ahk’utu’ ceramics are an integral part of elite activities and their presence or absence at particular sites is seen as evidence of a restructuring of Maya society (Helmke and Reents-Budet 2008:45–46). According to Ting et al. (2015:15) “there is evidence that Ahk'utu' vases were produced and consumed by a newly affluent and ascending social stratum that was grappling to seize control in the ebbing of power of the royal households.” Although I am unfamiliar with how unusual it is that a female elite is somehow sponsoring the production of the type, this may suggest a change in cultural values. Depending on whether the manufacture was local or foreign, the vessel tradition can be seen respectively as evidence of consolidation of power by local elites or as alliance building by elites of different communities (Ting et al. 2015:25).

Burial N10-15/1 was located on the west side of Structure N10-15, but the precise placement is unclear, and at the time of its placement Structure N10-15 may no longer have

existed. The body of an adult male was placed on core, partly lined with unshaped stones with no cap, and was covered by possible post-abandonment accumulation. There were four ceramics vessels scattered in the grave—three exhibit pre-interment breakage and one was broken *in-situ*. According to Howie et al. (2010:388) these vessels are “stylistically typical of the Terminal Classic to Early Postclassic period” and are produced locally. There were also five bone tubes (not defined further in the burial notes) and a necklace of human teeth. What is notable is the position of the body—it was placed face down in a position termed “frogged,” as the feet were bent back to rest on the pelvis. Although there are other burial styles in the Postclassic at Lamanai, this “face-down, legs-bent-back burial position is, however, distinct from the Classic-period range and suggests an ‘intrusion’ into the Maya area of a new way of positioning oneself not just in burial but in the cosmos” and this suggests “the co-existence of a variety of worldviews” (Graham et al. 2013:176). Whether this particular burial is Terminal Classic or Postclassic has not been determined. The interpretation of isotopic analyses of bone and teeth for several burials in the Ottawa group is that the individuals lived locally all their lives (Howie et al. 2010:390).

Again, by this stage it is difficult to determine the associations between buildings and cache/burial placement because perishable structures were being built where masonry structures once stood. Other deposits/caches associated with Structure N10-15 that have new forms of vessels include the Levine Pit, which was cut into the Xix floor at the east side of Structure N10-15 2nd, Ruben’s Room (the center west room of Structure N10-15 1st), and the Bak platform constructed on the east side of N10-15 2nd, probably over a demolished east end of the building. Many of the illustrated vessels are clear departure from earlier cache vessels, but the combination of old and new ceramic types in these deposits again demonstrate this is

a period of cultural continuity combined with new innovations. The important thing seems to be though, that a second line of legitimate cache objects or symbolism has been *added* to the repertoire.

Discussion

In summary, the vessels and contents of each known cache associated with Structure N10-15 were each unique, although there are some similarities among the different caches (Table 6.2). The evidence provided by the ceramics found in the caches of Structure N10-15 places this building in the Late to Terminal Classic period, but at Lamanai this is a period of over 300 years (Late Classic A.D. 624–773, Terminal Classic A.D. 773–962). The fact that multiple caches were placed in the same general area of the north central axis of Structure N10-15 1st throughout its architectural sequence implies that there was continuity of local social memory and ritual knowledge associated with this building from the time it was first constructed until the last cache was placed here, presumably near the end of its lifetime. A similar situation where caches were placed over one another in the horizontal and vertical alignment over a period of 600 years was observed at the site of Minanha (Iannone 2005:32).

However, despite the continuity in placement, and perhaps in associated ritual ceremony, ideological change may be reflected by the change in cache contents, which began in the early architectural stages with more elaborate prestige objects considered to be associated with elite rulership or divine kingship, and ended with caches that no longer contain jade, eccentric flints and other rare objects. Obsidian blades and lancets, and stingray spines in caches are thought to be evidence of bloodletting, “necessary to appease the gods and conjure visions” (Miller and Martin 2004:291); however, I am unaware of any residue or DNA analysis that confirms the presence of human blood. While many of the caches

exhibited evidence of bloodletting by the presence of obsidian blades and lancets, the early ruler-associated caches contained a variety of other objects in addition, while the later cache contents only exhibit evidence of bloodletting. Eventually, as seen in Architectural Stage 7, with the latest caches/deposits associated with Structure N10-15, the pattern of caching had changed and evidence of bloodletting is absent. Although the practice of bloodletting as a form of sacrifice was undertaken by people in all levels of society, since Structure N10-15 was the domain of royal elite, the bloodletting that took place in ceremonies performed there was likely undertaken by elite in the course of fulfilling their duties. Although we do not know if the function of Ottawa had changed by Architectural Stage 7, or if elite rulers still used this complex for government, the absence of evidence for bloodletting in later caches suggests it was no longer a royal obligation and supports the notion that divine kingship had changed, or completely disappeared.

Although it is beyond the scope of this thesis to present all the caches in the Ottawa group, the regal-centric caches in Structure N10-15 may be symbolically linked to different buildings in the Ottawa Group, although it could merely reflect temporal similarities in caching practices and components, which could be one in the same. Additionally caches appear to link Structure N10-15 and the temple-pyramid across the plaza to the south, Structure N10-9, clearly marking the regal domain.

Although the sequence of caches in the architectural stages supports the presence of the ideology of kingship in the early period of Structure N10-15 1st later replaced by what can be seen as its absence, the nature of the ritual placement of the caches must be taken into consideration. The initial kingly-caches could have marked dedication of the building, while the later caches may have been associated with other types of ritual ceremonies such as those

associated with calendrical cycles. For a time, caches exhibited evidence of both continuity and change in the caching patterns and in the ceramic vessels—there were combinations of old and new. The caches/deposits described for Stage 7; however, do mark a clear change from earlier caches and it is at this point when there appears to be a distinct break in ideology. Both the architecture and the caches have changed.

Arlen and Diane Chase (2004:364) noted a pattern of status-linked ceramics at Caracol during the Terminal Classic, in contrast to the Late Classic where they suggested that the Caracol population shared a common identity through widespread access to almost all materials in the Late Classic. They also suggests that there was a change in the elite culture at Caracol in the Terminal Classic that tied into a broader non-local frame “linked to a new ideological reality” (Chase and Chase 2004c:365) and that these elites either witnessed or directed this new ideological order. A similar pattern may have been present at Lamanai.

Analysis of Architectural Features

There is a great deal of overlap in the following discussion that pertains to some of the architectural features—both construction and stylistic—associated with Structure N10-15. The discussion below is organized into the following categories: stairs, terraces, masonry, and benches. Within these categories, the characteristics of Structure N10-15 are described and also looked at in comparison to some of the other Ottawa structures, and in some cases a few other comparative examples are introduced.

Stairs

The only known stairs leading from ground level up to Structure N10-15 are the stairs from the south courtyard (Figure 6.39). On the north side, two steps join N10-15 1st to the Box during Stage 3 (Figure 6.40). While it is possible that stairs led from the lower ground level or plaza area on the north side up to the building, we have no evidence of any access to the structure from the north during its early stages, at which time the north ground level was more than three meters below the building platform. This north area is presently covered by several meters of boulders and although there have been excavation units penetrating into the boulders, no firm evidence of stairs has been uncovered.



Figure 6.39. Structure N10-15 south stairs (photo by Karen Pierce, 2014).



Figure 6.40. Structure N10-15 north stairs—originally plastered. Note that the upper step was created by adding a line of stones to the upper terrace. Structure N10-9 is the temple in the background to the south (photo by Karen Pierce, 2014).

Graham has noted the idiosyncratic nature of the stairs at Structure N10-15, but it is difficult to determine how much they deviate from the norm for several reasons. Due to the varied functions postulated for range structures and courtyard groups we cannot be sure of making apple to apple comparisons. Furthermore, when using building plans or photographs for comparison it is not always obvious which is the public side of a building and there can also be differences in the form of a public vs. private access stair. My preliminary overview of stairs at palaces finds many long and steeply pitched staircases leading to a structure that is perched on the summit of multi-terraced substructures. In some cases this reflects the access from the public side of the building, especially if a courtyard group stands atop the summit (for example the Caana structure at Caracol). As discussed, it is possible that Structure N10-15 had this type of grand staircase on the north side in its early stages, but the only known

access stairs to Structure N10-15 are the courtyard stairs, which are presumed to be those of more restricted access.

As discussed in Chapter V (Architecture), two stair-related features purported to reflect northern Yucatan influence during the Terminal Classic period are the use of balustrades (a ramp-like border or edge treatment at the sides of a stair) and vertical riser-stones. Although the use of vertical stones in stairs has been observed as a characteristic trait, it appears to be a construction rather than a design feature, as the stairs in Ottawa were plastered and the stones would not have been visible. One possibility for the use of these vertically placed large stones is functional, as the stair riser would likely be stronger than several courses of smaller cut-stone held together with mortar, especially on a stair that is continuously stepped upon. Interestingly though, the use of vertical slab riser stones occurs in conjunction with a variety of masonry styles on buildings, so it is a widespread feature while the uniformity of other masonry styles are not. A cursory review of palace structures reveals that many stairs leading up to elite-residential-administrative-palace buildings in the Late to Terminal Classic do incorporate balustrades into their design, but the south stairs of Structure N10-15 do not. However, vertical riser stones are present on these stairs, although the masonry characteristic at Structure N10-15 is a variant of this construction style in which couple of horizontal stones interspersed among the otherwise vertical riser stones. So here there is evidence both for and against Yucatecan influence in the stair style of Structure N10-15.

A comparison of the stairs of the different Ottawa courtyard group buildings during the early stages of the group—before the Boulders infilling—highlights the similarity of the courtyard stair style between Structures N10-15, N10-17, and N10-28, in that the stairs are

outset stairs and all have an intermediary feature—a stairside outset (a block-like feature set at a stair's sides and generally placed against a substructure)—that the lower two or three stairs abut. At Structure N10-15, three stairs abut this outset, with the outset serving as the fourth step, and the fifth step is the upper terrace. In contrast, N10-18 has no outset and the upper stair lands directly on the upper terrace. The masonry characteristics of the stairs at N10-15 and N10-18 are similar, but there is a substantial contrast in masonry technique and tread depth at Structure N10-17 (Figure 6.41), where the stair treads are more shallow and the masonry technique is that of smaller horizontally coursed cut-stones. The large horizontally bedded stone slab masonry on the stairs of Structure N10-28 contrasts with the other two masonry patterns of Ottawa stairs (Figure 6.42). And finally, Structure N10-77 is set apart from all the others because it opens directly to the plaza floor with just a low single step and Structure N10-78, although unexcavated, appears to have no courtyard stairs. These differing stair patterns could be attributed to a number of factors, such as buildings (or at least stairs) constructed at different times, different builders, different ethnic or social groups affiliated with each building, different access allowances, different statuses attributed to the buildings or occupants, or different building functions.



Figure 6.41. At the top of the photo the horizontally bedded facing stones of the stairs and terrace face of Structure N10-17 2nd are visible. The plastered stairs and terrace of Structure N10-28 are on the left. The yet unexcavated boulder fill of the courtyard is on the right (photo by David Pendergast, 1980s).



Figure 6.42. Structure N10-28 south stairs and stairside outsets (photo by Karen Pierce, 2014).

The courtyard stair feature of Structure N10-15 can contribute to a preliminary assessment of the function of that building. Stairs and terraces on Maya buildings may have symbolic as well as functional significance. The elevation of buildings (and people on thrones and benches in buildings) is considered to mark social status, as is reflected on “palace scenes” painted on ceramic vessels (Fash 1998:239). It has been observed that in some cases stairs may have been used for audience seating for rituals, dances, and other performances. Conversely, the stairs and adjacent terraces may have been the stages for performance in which various actors stood upon different levels. An example of this is seen in the famous Bonampak murals. The mural scenes in Room 1 depict the presentation of

tribute by various lords to the royal family, which is followed by a dance performance where the dancers stand upon different levels of a multi-tiered platform, flanked by musicians and regional governors (Looper 2016; Miller 1999:170–174). The stairs of Structure N10-15 could have served as such a stage for performance, and the building could have been a place where tribute was received. Musicians are often depicted in scenes with dancers (Looper 2016) and it is interesting to note that a Terminal Classic to Early Postclassic burial (Burial N10-28/1) on the north side of the adjacent Structure N10-28 contained a ceramic bell-chambered drum (Howie et al. 2010:388).

Substructures/Terraces

The number and style of terraces varies on buildings. There are both even and odd numbers of terraces found on a range of different structures, but odd numbers appear to occur more frequently. The numbers nine and thirteen are especially significant to the Maya because of their association with levels of the underworld and upperworld respectively. These numbers are often expressed in features of Maya architecture, such as number of levels of terraces, or the number of doorways in a building; however, we do not see the use of these odd numbers reflected in Structure N10-15. Of note for comparison, in the Terminal Classic at Seibal, Court A Group D (Smith 1982:182–189) is a small elite courtyard group that has structures that sit on substructures with different terrace configurations—one building on a one-level terrace, two buildings on an L-shaped two-terrace substructure, and another on a four-terrace substructure. Interestingly, one of the buildings in this group at Seibal was constructed of perishable materials, similar to Structure N10-17 in Ottawa during one of its architectural stages.

The terraces of N10-15 have no decoration and are fairly vertical, with a slight slant, referred to as batter. The exposed terrace faces have no plaster remaining, but portions of the terraces that were exposed in the 2014 excavations on the north side of the building do have a greyish color plaster. An apron molding, or superior molding, is seen on the lower (and no longer visible) terrace of structure N10-28 that was covered by the present courtyard floor, indicating a distinct change in the architectural style of one of the Ottawa group's buildings that changed to a new style that commenced after the plaza floor was raised. The N10-15 terraces have rounded corners, whereas the N10-28 terrace has squared corners. Many of terrace designs on Maya buildings are stylistically more complex than the terraces of N10-15.

Masonry Characteristics

Overall the masonry of Structure N10-15 would generally be characterized as reused cut facing stones of varying size and quality, installed primarily in uneven and partial horizontal courses, with areas that incorporate vertical or square stones randomly set in the horizontal courses. Pendergast (1986a:231) has remarked on the reuse of facing stones, attributed to the lack of suitable stones for facings in the Late Classic in Belize. In some areas stones are unshaped or very crudely cut. Small unshaped stones called spalls are used as chinking in the joints throughout (Loten and Pendergast 1984:9). There are areas where there is a slight difference in masonry and this may be evidence of task units—possibly different labor groups—which have been noted by Pendergast and by Hammond (1985b:199).

Loten and Pendergast (1984:9) have noted that “the form of coursing may have temporal significance, either for single sites or for larger areas”, and there is a difference in the face of the south walls of N10-15 vs. N10-28, with the later having more finely cut and evenly coursed stones, although there are areas of the walls where this is not the case (Figure

6.43). The substructure of N10-28 however, is much more crudely faced than is that of N10-15. We know that the southeast corner of the N10-15 terraces overlaps a buried terrace under N10-28, so at least part of the substructure of Structure N10-28 is an earlier structure than N10-15, although the super-structure whose walls are now visible on top of the N10-28 substructure need not be the walls originally built on that platform. However, it may be that there is stonework from several different stages of each building that forms portions of the walls and terraced substructures that are seen as one unit. It appears to be a common practice to partially dismantle walls—sometimes down to just a couple of courses of stone at the bottom, and then to rebuild on top of them (Loten 1984). This is also seen with benches, which are sometimes added to, increasing their height (Pendergast 1982f). If it is the case that stonework gets cruder in time, perhaps due to the reuse of stones acquired from many different demolished structures, a platform addition of a later date could account for the crude masonry on the south face of the N10-28 substructure. A section drawing from the 1980s excavations reveals that this terrace was extended to the south. Two important points here are that buildings can be composites of stages, which is certainly evident in Structure N10-15, and that it can be difficult to use stonework as a dating technique in the case of buildings that are frequently remodeled.



Figure 6.43. Terraces of Structure N10-15 on left (with rounded corners) and N10-28 on right (with squared corner) (photo by Karen Pierce, 2014).

The walls of N10-15 are presumed to have been plastered (David Pendergast, personal communication 2015). Cut-lines left in the plaster after the partial dismantling of a palace structure at Xunantunich indicated that plaster was scraped off to remove the cut stones (Jason Yeager, personal communication 2015), so removal of plaster did occur. A study of plaster at Lamanai has shown that plaster was recycled (Villasenor et al. 2011:330). There is no evidence of any painted, stucco, or stonework decoration either inside the building or outside on the building's façade—sculpture or iconography do not exist.

Vertical slab stones are used on the lower riser of the north steps of Structure N10-15, on the risers of the south steps of Structure N10-15, on a platform step riser in the adjacent Structure N10-19, and east of Structure N10-15 vertical slab stones are used on an enigmatic

feature between Structures N10-76 and N10-80. They also occur elsewhere at the Ottawa Group such as the south side facing Plaza N10[2] and at the courtyard floor level adjacent to Structure N10-77. Field notes indicate vertical riser stones on a low bench/platform face in the adjacent Structure N10-19 3rd (Loten 1984). The presence of this style of vertical slab stones on stair risers at the nearby site of Nohmul led Hammond (Hammond 1988:10; Hammond 1985b:190, 198) to conclude that this style of architectural feature, and therefore the associated construction units, derives from sites in the northern Yucatan Peninsula. He assigns this a Terminal Classic date. Pendergast (1981a:44; 1985:93; 1986a:232, 245) has also noted the connection to the northern Maya lowlands, but did not specifically discuss this architectural feature. The use of vertical stones on rises is seen at a number of other sites throughout the Maya lowlands, for example at Calakmul and at Seibal Court A Group D (Smith 1982:185), where in this feature is used in conjunction with a very different style of masonry veneer (squarish cut stones) than that of Structure N10-15. Vertical slab stones are also seen on stair risers and low platforms in several other areas of Ottawa. For instance at the east end of N10-12, on a platform or bench face in N10-19, and on the stairs at the south side of N10[3]. This may suggest contemporaneous constructions probably occurring in the Terminal Classic.

Benches

Many scholars believe benches are an important consideration in a functional analysis of Maya masonry buildings. Loten and Pendergast (1984:4) note that “the term ‘bench’ is simply a unit designator, and does not carry with it any implication of specific use; the variety in form, location, and core contents of benches suggests, in fact, that the feature saw a wide range of uses.” Regardless of their relevance, a thorough evaluation of the benches in

Structure N10-15 is made difficult because of the variable levels of floors throughout the rooms. Because of the accretion of horizontal surfaces throughout the architectural stages of the building, coupled with unknown excavation exposure of surfaces in each room, there are difficulties in designating some features in N10-15 as a bench, platform, floor, or other type of elevated area.

Only the bench (if it is indeed a bench) in the north room of Structure N10-15 1st is recorded on an excavation section drawing that also indicates its relationship to the floor. Some benches were removed during excavation. While Structure N10-15 appears to have benches (Figure 6.44), they do not seem to fall into a particular regal-related category (e.g. thrones with side arm rests) or C-shaped form, nor do they bear any niches or decorative elements. Measuring from the floor level present in 2014 to the top of the no-longer plastered “bench” surfaces showed a range in height from 17 cm to 75 cm. Several of the benches are room-filling, or nearly fill the entire room and several have an intermediary step up to them. Loten noted two room-filling benches that no longer exist. There is what could be interpreted

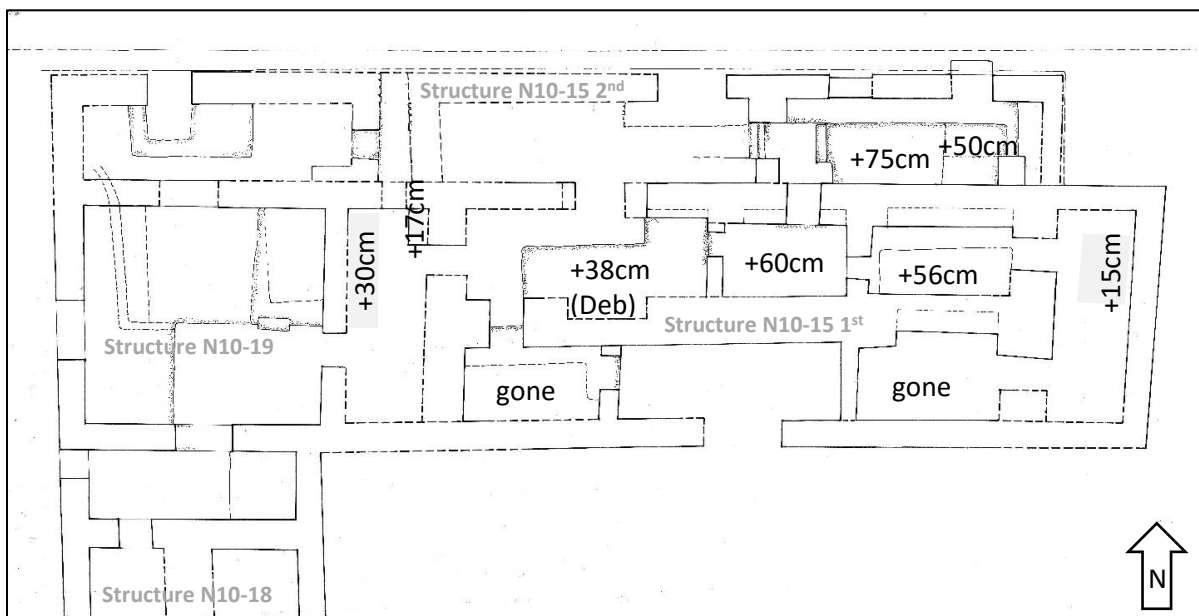


Figure 6.44. Plan of Structure N10-15 indicating differences in horizontal surface levels, bench locations, and heights from the present floor surface to top of bench.

as a large bench (named Deb) located in the central room where many of the axial offerings were made. It was expanded (Slit) in one of the later stages creating an L-shaped form that blocked direct access to the room east of it (see the drawings in Figures A.3 and A.4).

Problems Incorporating Reconstructed Structures into Current Architectural Research

It should be noted that much of the stonework on the standing “stub walls” (the lower portion of walls that remain after the building collapsed or was partially dismantled) of N10-15 is not original, but was reconstructed during the 2002–2003 Tourism Development Project (TDP) undertakings on the Ottawa Group. Therefore it is difficult to give accurate descriptions or make comparisons of stonework, masonry styles, and masonry joints to other structures. In some areas of Structure N10-15 there were no standing walls in existence prior to reconstruction and decisions had to be made by the TDP crew as to where walls had existed when the building was in use by its former occupants. Relying of course on the detailed excavation plans and notes recorded by Stan Loten (1984), those responsible for reconstruction had to use their best judgment in cases of missing or ill-defined architectural features. As in most architectural excavation and recording, elements of the structure are often missing and one has to “connect the dots”. During our work in 2014–2015 at N10-15 we did note that the central (and only) doorway on the south side of the structure presently stands as but a meter wide, which seems unusual in comparison to the doorway widths from other structures throughout the complex. There are some photographs of the excavated walls from the early 1980s and late 1990s for comparison to what stands now, an example of which is a bird’s-eye view of the south side of Structure N10-15 (Figure 6.45) where some portions of the walls were missing down to floor level compared to what stands now in the reconstructed Structure N10-15. See Appendix C for additional 1980s excavation photos.



Figure 6.45. 1980s excavation photo from the south side of N10-15, looking west at the intersection of the terraces of Structure N10-18 and N10-15 and beyond. Note that the face of the south wall is missing on the west side as it nears the intersection with N10-18 (photo C117-2 by David Pendergast).

Discussion

Architectural structures that share analogous forms and construction methods may arise through the diffusion of ideas and be indicative of shared ideological or functional concepts (Chase and Chase 1982:596). Regarding the u-shaped substructure that Structure N10-15 sits upon, Pendergast (1986a:232) remarked that “while masonry characteristics are

essentially those of the Classic, the enclosure of a courtyard with a single multipart platform is a marker of the late Terminal Classic and the Postclassic in parts of the Yucatan”, but where this is seen at other sites is unclear—perhaps the Nunnery complex at Uxmal, albeit on a much grander scale.

The masonry on Structure N10-15 mainly consists of used cut-stones of varying size and quality which are unevenly coursed. In the Ottawa group it appears that by the Late to Terminal Classic period the labor efforts for construction buildings were being reduced by reusing the cut veneer stones, although the labor required to dismantle structures and “clean” these stones for reuse must be taken into consideration. As noted previously, there is a general trend in the Maya Lowlands towards more expedient construction at many Maya sites.

In general Terminal Classic masonry all over northern Yucatan is very different from what remains at Ottawa and Structure N10-15. In the Yucatan much of the masonry—especially of the Terminal Classic—is finely cut almost-square stone blocks, evenly coursed with small joints. Even northern Lowland sites as close as Rio Bec have very different masonry characteristics. Throughout the Late to Terminal Classic construction stages at Ottawa and Structure N10-15 the masonry is much more aligned with Peten sites and sites to the south, which were certainly influenced by Peten architectural styles. As for floor plans, terraces, and stairs—they are all over the board in sites all over the Maya lowlands. Out of the small sample I have observed, the two architectural groups that are closest in the character to the Ottawa group are that of the Barrio at Caracol, and the Nunnery at Uxmal, but each also has a number of very different qualities than Ottawa. This attests to the great

variety seen in the architecture of Maya cities. Certainly there is some level of standardization, but each city expressed itself architecturally with different details.

Variants of the stairs and stairside outsets that were thought to be idiosyncratic at the Ottawa Group are found on structures at sites including Cahal Pech, Coba, and Xunantunich, but where they originated is indeterminate. The only Yucatecan influence at N10-15 is the use of the vertical stone risers on the stairs (and there are some in the adjacent N10-19), which seems to be widespread in the Maya Lowlands and it may be that archaeologists have not yet pinpointed its origin. As for even vs. odd number of terraces and stairs I would argue that, aside from dealing with a palimpsest of buildings requiring the incorporation of previous construction into new construction efforts, as the function of temple-pyramids and other elite structures changed—perhaps driven by a new ideology behind the architectural modification programs—the earlier requirements for an odd number of terraces gave way to the practical requirements of building. Maya cosmology probably did not change much, but the need for Maya royalty to serve as divine intermediaries with the gods and to communicate this through building programs and other physical expressions was altered.

The character of the different structures in the Ottawa group and the stairs and terraces upon which they sit is different between the individual structures of Ottawa, which highlights the architectural variation that can occur within a single architectural group and may suggest the buildings had different functions or were created by different groups. One observation is that Structure N10-15 (and the adjacent Structure N10-18) sits higher than any of the other structures that surrounded the courtyard in the early stages. Perhaps this speaks to the status of that building and its occupants. This represents an ideology of leadership that is exclusive.

When Ottawa was eventually transformed by “leveling the status” of all the structures (and the people) that subsequently sat upon the level of a single floor (Xix floor), it created an architectural layout that was more accessible and presumably open to a greater number of people now that access was not restricted as it had been in the earlier architectural stages. Certainly this change in attitude reflects broader ideological change. Using quantitative spatial analyses, an investigation of this change in access at the Ottawa group was undertaken by Christopher Andres (2005), in which he observed a tendency for buildings at Lamanai to become progressively restricted and harder to access prior to about A.D. 800 before becoming increasingly accessible after this point. He concluded that there was a movement towards more inclusive patterns of social interaction, and the process underlying this enabled some Maya communities—including Lamanai—to persist through the Maya collapse. Among the Maya sites that collapsed and those that continued into the Postclassic, distinct social processes were operating, which in part involved the manipulation of material culture and led to very different outcomes (Andres 2005).

Functional Analysis

Pendergast has remarked that although the Ottawa complex was likely multipurpose, it must have served some residential function too. He also notes the absence of other clearly identifiable elite-residential groups in the central precinct, which argues for this complex to serve at least some residential function. Although opinions vary about the placement of burials and caches in residential buildings, the absence of any burials within Structure N10-15, at least compared to Altun Ha, may suggest that Structure N10-15 was not a residential building. However, there are several rooms with room-filling benches—although it is not known if they were present in all phases—so to the contrary, if these are sleeping benches

this suggests a residential function for the building (refer to the discussion on building function and benches in Chapter V). Although the presence of an inner row of rooms has not been addressed in the literature as far as I am aware, it seems that in masonry buildings these rooms would better serve storage functions than the housing of people, as they would be quite dark and stuffy, especially when buildings have limited exterior doors. These interior rooms also could serve as a location for ritual where esoteric knowledge is restricted. It is interesting to note that of the palace plans reviewed in Chapter V, the Monjas at Chichen Itza also has an inner row of rooms similar to N10-15 after the addition (see Figure 5.24). Ultimately it appears that Structure N10-15 could be seen as either residential or administrative in function, and it may very well have been a combination of both.

CHAPTER VII

CONCLUSIONS

This chapter begins with a summary of the result of the analysis of the architectural sequence of Structure N10-15, followed by a summary of the cache analysis. I then return to my research question to discuss how the modification of Structure N10-15 may have addressed the challenges of the collapse and helped Lamanai survive it. I then turn to some of the limitations and issues that impacted my research. And conclude with some thoughts about expanding upon this research in the future.

Summary

The Maya site of Lamanai survived the transition from the Classic to Postclassic, but the reason for this is not well understood. The focus of this thesis is Structure N10-15 in the Ottawa Group at Lamanai and its Late (AD 624 – AD 773) and Terminal Classic (AD 773 – AD 962) period building phases—a period of over 300 years. These date ranges are based on the current Lamanai chronology discussed in Chapter III. During this time Structure N10-15 saw many remodeling episodes, while other major construction activity had slowed in the Central Precinct and other areas of the site. The Ottawa Group, Plaza N10[3], is situated between three large pyramidal structures in the Classic period central precinct of Lamanai. The multipurpose Ottawa Group, is proposed to be have functioned as an elite-residential-administrative group (Pendergast 1990a:172), which also may be seen as a palace (Graham 2004:231). It was no doubt an important architectural complex for the ruling elite of Lamanai.

Architectural Sequence Summary

In the Late Classic, the Ottawa group was composed of six range structures situated around a courtyard. At the east end, Structures N10-17 and N10-77 opened directly upon the plaza floor, while Structure N10-28 sat upon a single terrace. The latter structure had a painted modeled-stucco façade with motifs which have led some scholars to suggest it may have been a council house (Shelby 2000). Structures N10-15/19, N10-18 and N10-78 (unexcavated) were at the western end of the Ottawa group and all sat upon a u-shaped two-terrace substructure that elevated these three structures to a greater height than those on the east end.

At Structure N10-15 additions were built both to the north (which are designated Structure N10-15 2nd) and to the west at the adjacent area previously designated as Structure N10-19, which shares a wall at the west end of N10-15. This research has identified seven architectural stages—the first representing the primary building, Structure N10-15. Architectural Stage 2 saw the addition of a ramp or stair feature on the north central axis, which overlaid the substructure of Structure N10-15. In architectural Stage 3, the addition of an 8 meter wide box-like platform covered the ramp/stair feature, and two stairs were built to connect it to the central north door of Structure N10-15. During architectural Stage 4, a new substructure, parallel to and 3.5 meters north of Structure N10-15, was added to create a platform for the addition of another linear set of rooms across the north side of Structures N10-15 and N10-19, although it may have been done in two separate construction episodes beginning with the east side first. It appears that the rooms were subsequently torn down and followed in Stage 5 by the rebuilding of rooms in the same location, resulting in the addition of Structure N10-15 2nd and N10-19 3rd to the north side of what is now designated as N10-

15 1st for the purpose of distinguishing the primary building from the addition. A major change to the whole of the Ottawa Group (which may have seen its beginnings in Stage 5) occurred in architectural Stage 6. This monumental construction effort entailed the filling of the entire plaza area to the north, the courtyard to the south, and an area to the west, with large boulders topped by a new floor (Xix), to bring it nearly level with the interior floor surfaces of Structure N10-15. The three buildings on the east side of the Ottawa complex were demolished in the process and the passageway from Plaza N10[2] was closed and filled. Structure N10-15/19 and Structure N10-18 were likely still in use with this new floor, but for how long is unknown. At the end of this transformation the Ottawa Group buildings were all sitting at the same level on a single elevated grand platform that, although the edges have yet to be clearly delineated, was approximately 70 meters in length by 45 meters wide with a variable height of about 3.5 to 4 meters above the plaza below—and probably higher on the eastern lagoon side. Following this, architectural Stage 7 represents all subsequent constructions on top of the new plaza floor. Because new structures were constructed of perishable materials on low masonry platforms—sometimes made of crude uncut stones—there is often only scant evidence for their existence, and the layering of building-atop-building has complicated matters further, such that it is difficult to disentangle these latter constructions and time periods. It is unclear when Structure N10-15 ceased to exist, but all or part of it eventually become a platform supporting a perishable structure. Table 7.1 is a chart indicating the construction stages of Structure N10-15, with associated features and floors that were present during each stage.

Table 7.1. Chart indicating the construction stages of Structure N10-15, with associated features and floor that were present during each stage.

Architectural Stages of Structure N10-15						
Architectural Stage	Numerical designation of structure	Floor in use at primary axis	Associated substructures	Nickname for walled structures	Potentially significant changes	Ceramic phase
Stage 7	N10-19 3 rd				In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 7	N10-15 2 nd	Velda	Ike (now buried)		In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 7	N10-15 1 st	Mama	Doll (now buried)		In use for unknown amount of time, then Demolished	Buk/ Terclerp
Stage 6	N10-19 3 rd				Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 6	N10-15 2 nd	Velda interior Xix exterior	Ike (now buried)	Scholar with Daxil north perimeter wall	Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 6	N10-15 1 st	Mama interior Xix exterior	Doll (now buried)	Mays	Exterior floor level raised covering substructures. Boulders fill and Xix floor.	Terclerp/ Late Tzunun
Stage 5	N10-19 3 rd		Ike western addition		Terrace addition on west side of N10-18 & N10-19	Terclerp/ Late Tzunun
Stage 5	N10-15 2 nd	Velda	Ike	Scholar with Daxil north perimeter wall		Terclerp/ Late Tzunun
Stage 5	N10-15 1 st	Smuts & Bug-Burger Floors	Doll	Mays		Terclerp/ Late Tzunun

Stage 4	N10-19 3 rd		Ike western addition		New Ike western substructure. Ike terrace covered Doll platform.	Terclerp/ Late Tzunun
Stage 4	N10-15 2 nd	Damsel or Spayed	Ike eastern substructure	unnamed structure atop Ike	New Ike eastern substructure. Ike terrace covered Doll platform	Terclerp/ Late Tzunun
Stage 4	N10-15 1 st	Smuts	Doll	Mays		Terclerp/ Late Tzunun
Stage 3	N10-15 1 st	Smuts, Crumpet (aka Serious)	Doll	Mays	Box, stela?	Terclerp/ Late Tzunun
Stage 2	N10-15 1 st	Smuts	Doll	Mays	Ramp	Terclerp/ Late Tzunun
Stage 1	N10-15 1 st	Smuts	Doll	Mays	Primary building	Terclerp/ Late Tzunun

Table 7.1. continued.

Cache Sequence Summary

All caches encountered *in* Structure N10-15 date to the Late Classic to Terminal Classic, although more detailed studies should be carried out to explore this further. The most elaborate caches were found on the northern primary axis of Structure N10-15 1st in the central door area of that structure. Caches N10-15/6 and 8 are on the primary axis of Structure N10-15 1st and have a clear association with the institution of divine kingship. Placed during architectural Stage 1, Cache 8 had seven vessels, one of which was a polychrome vessel associated with the Jaguar God of the Underworld, along with a number of chert eccentrics, other prestige items, and obsidian implements suggesting blood sacrifice. Cache 6, placed in Stage 2, 3 or 4 also has chert eccentrics, along with other prestige items including jade, pearl, and obsidian implements. Cache 10, a lip-to-lip cache placed in architectural Stage 3, falls into the 3-layered representation of the cosmos type of cache, and

it too contains a polychrome vessel; however, the imagery is more abstract than the jaguar vessel in cache 8. Lip-to-lip caches occur throughout the first six stages of the architectural sequence and it may be that the other lip-to-lip caches represent the cosmos too, but are a variant. Also in architectural Stage 3 was the placement of a large mass of charcoal with a fragmented tall cylindrical vessel and one jade bead, which may be associated with a ritual fire ceremony that may simultaneously mark termination and dedication. In architectural Stage 5 or Stage 6 caches were placed *outside* the building. Cache 1 was a single vessel in boulder-like core, which could either represent the “Boulders phase” or boulder core material placed for other construction. A new type of cache was introduced—Cache 2 comprised six vessels of forms different than the previous cache vessel forms—some of which exhibited pre-interment breakage. In Stage 6, Cache 3 was typical of earlier caches with a polychrome and lip-to-lip vessels, and was also placed *outside* the building at the new north central axis (which had shifted east with the building addition) of N10-15 2nd. In Stage 7, which represents all subsequent activity on the new platform, there are a number of special deposits of ceramics and one burial in and around Structure N10-15, or what remained of it. Some of these deposits may be intrusions from new perishable structures erected upon a demolished and filled Structure N10-15. Ceramic sherds from pre-interment breakage comprise most of the deposits. Table 7.2 presents the Structure N10-15 caches and their associated attributes for each architectural stage.

Table 7.2. Caches in N10-15 and associated attributes and architectural stage.

Cache Number (all have the prefix N10-15/, except as noted)														
ATTRIBUTES	8	Wimp	4	6	9	10	11	7	1	2	5	8a	3	N10-14/7
Context														
Building Core	•	•	•	•	•	•	•	•			•	•		?
Boulder Core									•	•			•	
Offerings														
# of vessels	7	0	2	0	1	2	0	2	1	6	0	2	3	8
Lip-to-Lip	•		•			•		•				•	•	•
Polychrome	•					•							•	
Charcoal	•		•		•	•					•			
Worked Jade	•			•	•									
Obsidian Lancet/Blade	•		•	•		•	•						•	•
Obsidian Other				•				•			•	•		
Chert Eccentric	•			•										
Chert Flakes or Blades	•			•										
Other Stone	•				•	•								
Pearl				•										
Faunal or Human Bone	•			•										
Organic Material	•			•										
Ashy Deposit		•			•						•			
Condition														
Pre-Internment Breakage										•				•
Architectural Stage	1	1	1	2, 3, or 4	3	3	4	5	5 or 6	5 or 6	6	6	6	6 or 7

Discussion

I now return to my research question, “Do changing architectural and caching features at Structure N10-15 in the centrally located N10[3] Ottawa architectural group speak to ideological changes at Lamanai during the Late to Terminal Classic Period that relate to Lamanai’s survival of the collapse?”, to address ideological changes that are qualitatively meaningful and visually expressive through the architectural modifications that took place at this building.

When Structure N10-15 was first built it occurred as part of a larger reconfiguration of the Ottawa group at which time the level of the courtyard floor was raised, followed by new construction. It has been proposed that this courtyard floor raising occurred sometime in the late A.D. 600s to early AD 700s (Elizabeth Graham, personal communication 2015). The excavation that exposed a lower terrace of Structure N10-28, below the level of this newly raised courtyard floor, exposed apron molding; however, the new terrace style in the Ottawa group discontinued the use of apron molding. We cannot be sure apron molding was the norm for all preexisting Ottawa structures, but this one example does show a stylistic change early in the Late Classic.

Meanwhile, elsewhere in the Central Precinct at about this same time, architectural changes were made to Structure N10-43 with the addition of a series of rooms across its lower terrace. Similar modifications were also made at Structure N10-9. David Pendergast (personal communication 2015) stated that these features (commonly referred to as a *Lamanai Building Type*) date from the early part of the Late Classic, or possibly as late as the early AD 700s. So this modification to Structure N10-43 falls in the range of dates from AD 624 to early 700s, potentially overlapping with the raising of the courtyard floor at Ottawa.

What is significant is that this type of modification to a temple-pyramid represents a change in function in which the temple-pyramids now also served as palace compounds (Braswell et al. 2004). This shift in architectural conventions that had once divided sacred and secular space to practices that combine them may signal an ideological change that took place at Lamanai as Structure N10-15 was first being conceived. It may also have implications for a change in the function of the Ottawa Group, which perhaps necessitated some restructuring of the group (evidenced by the raising of the courtyard floor and building new structures, including Structure N10-15) since the Ottawa Group and Structure N10-43 and N10-9 were the loci of political life at Lamanai.

Following the initial construction of Structure N10-15, the changes that are seen in the architectural Stages 2 through 4, although expanding the building, appear to maintain the status quo associated with the primary building. Whether this expansion was necessitated by a growing population (residential needs), or an increase in administrative functions (the need for more “office space”), is not clear and perhaps it was a combination of both. The caches suggest a strong link between the building and royalty, and with the duties required of the ruler in aspects of ritual performance—of both a public nature (on the north side) and a semi-private or more restricted nature (on the courtyard side). The stairs on the courtyard side could have been used in semi-private dance or other more restricted acts, while the Box feature added in Stage 3 may have been used for some aspect of public political performance. In fact, it seems that the final construction of the Box feature was associated with ritual activity evidenced by the cached charcoal deposit with jade, and the cosmologically-related lip-to-lip offering placed as the floor was being completed. Ceremonial burning and censuring are associated with architectural rites and the caches link the building with rulership, and are

perhaps related to a calendrical ritual similar to the Aztec New Fire ceremony. If there were stairs leading up to the Box—from the north or from either side—this platform area would have been a locale for performance, or an architectural element facilitating official functions, as well as an intermediary area for the reception of visitors in the room to which it was connected—a room with a large bench facing out.

In Stage 5 the addition of the third layer of rooms (N10-15 2nd) to N10-15 1st may have been somewhat imperceptible to viewers as the façade shifted north, but it also could have been stylistically very different. The change in cache location and contents at this stage appears to represent some new influence. By this time the caches no longer feature any of the former ruler-associated prestige items, despite the remaking of the building. The assumption here is that the new building would have been dedicated or in some way marked by caches that were ruler-associated if there was continuity in function and/or high-status occupants, but there are no known caches in this stage that contain prestige or ruler-related items. This combined change in the architecture and caching pattern in Stage 5 may be a sign of political restructuring at Lamanai. But, it should be noted that the apparent change in the caching pattern may also reflect an excavation bias, as it is probable there are undiscovered caches in the buildings. Another argument in support of ideological and political changes occurring in this stage is that the architectural changes to Structure N10-15 also entailed the eastward expansion of the building, and this means that the adjacent Structure N10-28, with its modeled stucco façade, was simultaneously being torn down. The interpretation of the iconography of that façade positioned Lamanai's rulers within the political and religious ideological systems of the Late to Terminal Classic Lowland Maya (Shelby 2000). The destruction of this stucco façade suggests the message was no longer valid.

Another change in ideology resulting in the biggest change in visual appearance of the group as a whole occurred at the inception of the boulders infilling in Stage 6. The roof of Structure N10-15 may have changed and if so the building was probably stylistically very different from what stood before; however, it is also possible that the same architectural style was maintained and hence the completed building may not have looked that different. Since it appears that Structure N10-15 was still in use for some time after the new Xix floor was laid, it suggests there was also some continuity with the past, but creating what can be seen as greater access to the Ottawa grand platform further attests to a bigger ideological change. The construction of perishable buildings was a marked contrast—a dramatic change really—compared to the masonry structures that they replace, but we don't know if other perishable structures may have previously existed around the Ottawa platform—now buried beneath the boulders. If there were previous structures around Ottawa they were below the platform and now structures moved up on the grand platform, at a level equal with the other structures. One might consider how the enlarged Ottawa platform was perceived by Lamanai residents. Did the effect of creating one expansive floor surface, with all structures sitting at the same level, make them less imposing, more equal, and more accessible? And from an access analysis perspective, were the structures indeed more accessible, or did this grand platform continue to restrict access simply by moving the access points further out? The locations of stairs that led up onto the grand platform are still unknown, and this may be a subject for future investigations.

Many sites in the northern Yucatan had council houses during this period, with the implication being that the political systems at such sites represented some type of power sharing arrangement and perhaps one of the new masonry platforms that stood on this new

Xix floor represents such a building. The new perishable structures could represent other building types that are seen in the Yucatan at this time, but there is no direct evidence for this.

Each of the many potential ideological shifts suggested by transformations in the architecture and caches at Structure N10-15 signal that the ideology and political system were continuously evolving, and perhaps are representative of varying political strategies being used by Lamanai elites. Eventually these changes resulted in the dissolution of divine kingship and usher in a new system of governance. The caches in Stages 5 and 6 represent two different cache forms or concepts operating concurrently, which suggests, as many other things at Lamanai do, the emergence of competing interpretations. There is both continuity and change.

The Terminal Classic is a time of greater interregional interaction with increased trade, heightened warfare, migrations, and the spread of what is seen as a new religion in the cult of Quetzalcoatl. Any of these could have contributed to a shift in worldview at Lamanai. It is difficult to determine how much interregional interaction influenced all the changes at Structure N10-15 and the Ottawa group. Throughout the many architectural renovations, the architectural style, as seen in the portions of wall that remain, seems to be more aligned with sites in the Peten than with those in northern Yucatan; however there several characteristics that may suggest northern influence. These are the vertical slab risers and perhaps colonnades on some feature that no longer exist. Elsewhere at Lamanai there is more evidence of Yucatecan influence in architecture—a colonnaded building to the east of Plaza N10[2] and a circular structure and some other unusual platforms located further south in the site—and it

may have been obvious at Ottawa in the ancient past, but is now obscured by the ravages of time.

The pottery cache vessels that were inside the building are consonant with the Lamanai repertoire of Late to Terminal Classic vessel types; however there is some change in vessel type when the caches are located outside the building, but it is not understood how these might deviate from the norm. Some of those caches have vessels that exhibit pre-interment breakage—a new pattern at Lamanai, of undetermined origin. Other deposits and the lone burial are representative of external influence, although they may be local manifestations of such foreign influence: the molded carved vessel, and the position of the body in Burial N10/1. The source of the new burial position is unknown, and there is speculation that the molded carved vessel tradition emanated from the Gulf Coast, so it is possible that this represents northern influence, but not conclusive.

What other changes accompanied those that are expressed visually in the non-local influence in architecture and artifacts are not completely understood, but it is possible that some alternate worldview was shaping new practices and thinking.

Conclusions

As stated previously, this work at Structure N10-15 builds upon the strong foundations of Pendergast and Loten's previous excavations at this structure and they detected many of the architectural stages discussed herein, but this study of their drawings, photographs, and notes—coupled with additional excavations—has resulted in a better understanding of the architectural sequence, and allowed this information to be compiled into a more comprehensive format for the first time since Structure N10-15 was originally excavated. What the architectural construction stages suggest is that Structure N10-15 stood

on important ground and whether or not it was continuously occupied by the same noble lineage, or whether it experienced changes in function, the socio-political situation in the Late to Terminal Classic period at Lamanai was strong enough to support a continuous building effort here, and one—in the final stages—that took an enormous amount of resources and labor. The willingness to make this type of change to the royal compound must signal an ideological change that helped Lamanai keep pace with a changing world. The transformation of the Ottawa complex that occurred as the outcome of the boulder infilling may have resulted in much greater public access to the buildings situated upon this now grand single-platform. Certainly not the only innovations at Lamanai, but a move to inclusivity may have contributed to Lamanai's persistence while other sites were being abandoned. In the later architectural stages of Structure N10-15 dynastic or divine rulership is being downplayed. The previous areas that were used for ruler-led ritual performance, both public and private, no longer exist. The central reception room of Structure N10-15 1st, where the regal caches were placed, is no longer directly accessible or visible from the exterior and the south steps and terrace have been replaced by a floor at the same height as the building. Certainly the public aspects of divine performance requirements of the ruler have diminished or disappeared. With the building now sitting level with an open plaza area it is much more accessible. This new accessibility to Structure N10-15, and the people who occupy it, is in accord with Christopher Andres (2005) analysis of access of Ottawa and the Central Precinct of Lamanai.

By its very nature this research, with a focus on the socio-political center of Lamanai, fails to directly include the commoner, although the changes identified may be the indirect result of elite-commoner negotiation. It is possible that both Lamanai elites and non-elites

negotiated for a change to the sociopolitical system and that a restructuring was mutually beneficial. The visual expression of the architectural modifications through N10-15's history ultimately broadcast a very different message than it had when the primary building was built in Stage 1.

Challenges and Limitations

Problems Incorporating Reconstructed Structures into Current Architectural Research

What is original and what is reconstructed? Some of the stonework in Structure N10-15 on the standing "stub walls" is not original, but was reconstructed during the 2002–2003 Tourism Development Project undertakings on the Ottawa Group, and therefore it is difficult to give accurate descriptions or make comparisons of stonework, masonry styles, and wall details to other structures. In some areas there was no standing wall in existence prior to reconstruction and decisions had to be made by the Tourism Development Project crew as to where walls had existed when the building was in use by its ancient occupants. Relying of course on the detailed excavation plans and notes recorded by Stan Loten, those responsible for reconstruction had to use their best judgment in cases of missing or ill-defined architectural features. As in most architectural excavation and recording, elements of the structure are often missing. Structure N10-15 was subject to both the destructive activities of the Maya and horizontal exposure through archaeological excavation, had plenty of missing walls in many areas, so one has to "connect the dots". During our work at N10-15 we did note that the central (and only) doorway on the south side of the structure presently stands a meter wide, which seems highly unlikely in comparison to the doorways from other structures throughout the complex. The possible *sacbe* that was observed during the 2014

excavations has now been reengineered as a wide pathway for tourists. It is not known if this was archaeologically investigated before the changes were made.

Data Access Issues

Because this project was excavated in the 1980s, most of the project data is hand-recorded and not available electronically, and it is stored in numerous locations. Although I had copies of field notes and architectural plans, I did not have the forms that record all the details on the artifacts, especially the artifact details for the caches and vessels. To be clear, it was not an unwillingness of the excavators to share this information, but rather a logistical matter of accessing it. Making data accessible is an issue that archaeologists grapple with and there is no easy solution. There are obvious financial and time limitations to organizing the data in a data-base program and making it available on-line, but it is a goal to strive for. I propose that existing notes and drawings be consolidated to encourage and facilitate future analysis.

Delay between Excavation and Analysis

Because so much time has elapsed between the original excavation and this research, it has been difficult to disentangle all of the past data, especially in instances when the excavation recording relied on datums or other information that is not apparent in the notes and plans, and when names for things are unclear. The lesson here is that analysis and publication should follow immediately after excavation, but it is fortunate that this study has been completed now, because waiting further might have denied the analyst access to the original excavator's notes and memories.

The Use of Nicknames for Multiple Features

Each room of Structure N10-15 was recorded with its own set of nicknames for floors and features and this was a challenge to interpret and to understand stratigraphic equivalents. The problem was compounded by the lack of section or profile drawings for different areas of investigation within the building. The use of a Harris matrix to record the floor and architectural features may have resolved some of these issues and would have been useful even in the absence of a final report. Section drawings—even quick schematic drawings—at the different areas throughout the building would be beneficial to understanding architectural features and relationships. A designation system similar to that which Pendergast used for the final report of Altun Ha (1979, 1982c, 1983) would be very helpful, but much of this has to be worked out after the excavations when the features are better understood. However, it would be best to use codes that incorporate real information whenever possible: 1) make them numerical, or even alphabetical, based on stratigraphic order, 2) do not duplicate, by creating a nickname for a building that already has a perfectly good name/number designation, 3) avoid ambiguous terms like “Crude,” “Boulder,” that may imply other things.

Future Opportunities

My research question is addressed here by clarifying the architectural sequences in Structure N10-15 and correlating the cache placement within these sequences. An additional goal of this thesis is recording the data from Pendergast and Loten. Combined, this can then serve as a template for future studies of the Ottawa Group, when the established architectural sequences for Structure N10-15 can be used in conjunction with the architectural sequences for the other structures in the Ottawa Group to determine the overall sequence of changes

within this group and more precisely date this sequence of events, and then examine this in the broader context of regional changes during the Late to Terminal Classic period.

Undertaking a complete ceramic analysis of the cache vessels would be useful for several purposes: dating and comparative studies. We now have a clearer understanding of the construction sequence of N10-15, although there is much that can never be understood. What we do not know; however, are the precise dates that all this construction activity took place within a possible 300 year (or so) range. It would be ideal to integrate the architectural and cache data with that of other areas in the Ottawa Group to tack back and forth between the evidence in hopes of ultimately providing more fine-grained dating to the sequence of events at Ottawa. Our understanding of the Collapse is so different now from when the original Ottawa excavation was carried out in the early 1980s. The recognition of “continuity” at Lamanai had its value at that time, but now we need to have a much more chronologically refined understanding of the processes of collapse or adaptation. The excavations conducted by Elizabeth Graham (2004) in 2001 added a great deal to the chronological refinement, but more can be done. A full review of the rest of the stratigraphy and caches in the Ottawa Group is needed to link them all up, and plans for this in the latter part of 2016 and 2017 are already underway. We can build on the N10-15 data by incorporating it with the rest of the Ottawa data and a more detailed ceramic analysis coupled with C14 dates to link simultaneous architectural stages. And perhaps we can begin to make more accurate temporal comparisons of the construction activities across Lamanai, and across the region. Unpublished radio carbon dating can be incorporated into an analysis of the entire Ottawa complex.

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APPENDIX A

LAMANAI, OTTAWA GROUP N10[3] CACHES AND SPECIAL DEPOSITS AT STRUCTURE N10-15

This appendix represents information pertaining to the caches in Structure N10-15 and names given to structures, rooms, and architectural features within the structures. This is an excerpt from a working document that I have been compiling for the caches at Ottawa, which brings together details on all of the caches in all the Ottawa Group buildings and other locations around the buildings such as caches placed in the boulder core that filled the courtyard and north plaza area in architectural Stage 6.

From David Pendergast's (1982) field notes I extracted the cache details and contextual information for cache locations—there is more contextual and architectural sequence information in the field notes. The pottery illustrations come from scans of the original illustrations that were recently scanned in an effort to make them more available for research. If an illustration is missing, the vessel was not illustrated. Additional information, illustrations, and photos of the cache artifacts are from the PhD dissertations of Linda Howie, Jennifer John, and Richard Meadows. Louise Belanger provided copies of some of her watercolor illustrations. The 1980s excavation data and specifics about the artifacts are paper reports that are currently housed by Pendergast in England. The architectural plans are housed in another location in England. I do not know the location of all of the cache artifacts, as it is possible that some are at the Royal Ontario Museum in Canada, however many are in storage on site at Lamanai, either in the building that was formerly the site museum, or the ceramic sherds from vessels that were not reconstructed are stored in disintegrating sugar sacks in the Lamanai bodega. Lamanai archaeologists have been seeking funding to rehouse artifacts, but so far have met with only limited success. Some cache artifacts may also be

housed at the Institute of Archaeology in Belmopan.

David Pendergast and Elizabeth Graham have provided feedback to my many questions on the caches at Ottawa and some of these notes are incorporated below. I also found some information that is incorporated in this Appendix in the Lamanai Master Lot List. Recently one of Liz Graham's students at the Institute of Archaeology went through the handwritten artifact cards from the 1980s excavations at Structure N10-15 to compile the descriptive information on the ceramic vessels into an Excel spread sheet and that information is incorporated into this document.

In the notes that follow there are many nicknames used in relation to cache placement. The tables below are intended as a glossary to provide some interpretation as to what the names are and general information on their location. The excavation section drawings from the 1980s were drawn on the central axis of Structure N10-15 1st, and the central axis of N10-15 2nd, which is east of the first axis. These section drawings indicate the location of some of the floors and features noted below; however, any feature names that do not occur at the section lines are solely described in Stan Loten's (1984) field notes and plans, so there are times when the relationship of some features to others is unclear. See Figure A.5 for a composite section at the central axis.

To make it more clear to the reader in the notes that follow, [David Pendergast's \(1982\) field notes for the N10-15 caches and special deposits are in blue text, in this different font.](#) **My comments that relate directly to Pendergast's field notes are in red.** All other text is black and citations follow information gathered from other published sources. The cache information below lists the artifact number for each object within the cache, based on the lot number. A lot is a distinct area under investigation and numbers are assigned

sequentially from the beginning of the Lamanai ROM investigations. Lot numbers begin with the prefix LA, and are explained in more detail in Chapter IV. Special artifacts and ceramic vessels, including all artifacts in the caches, are further designated with a unique tag based on the lot number of the cache, followed by a slash and a number.

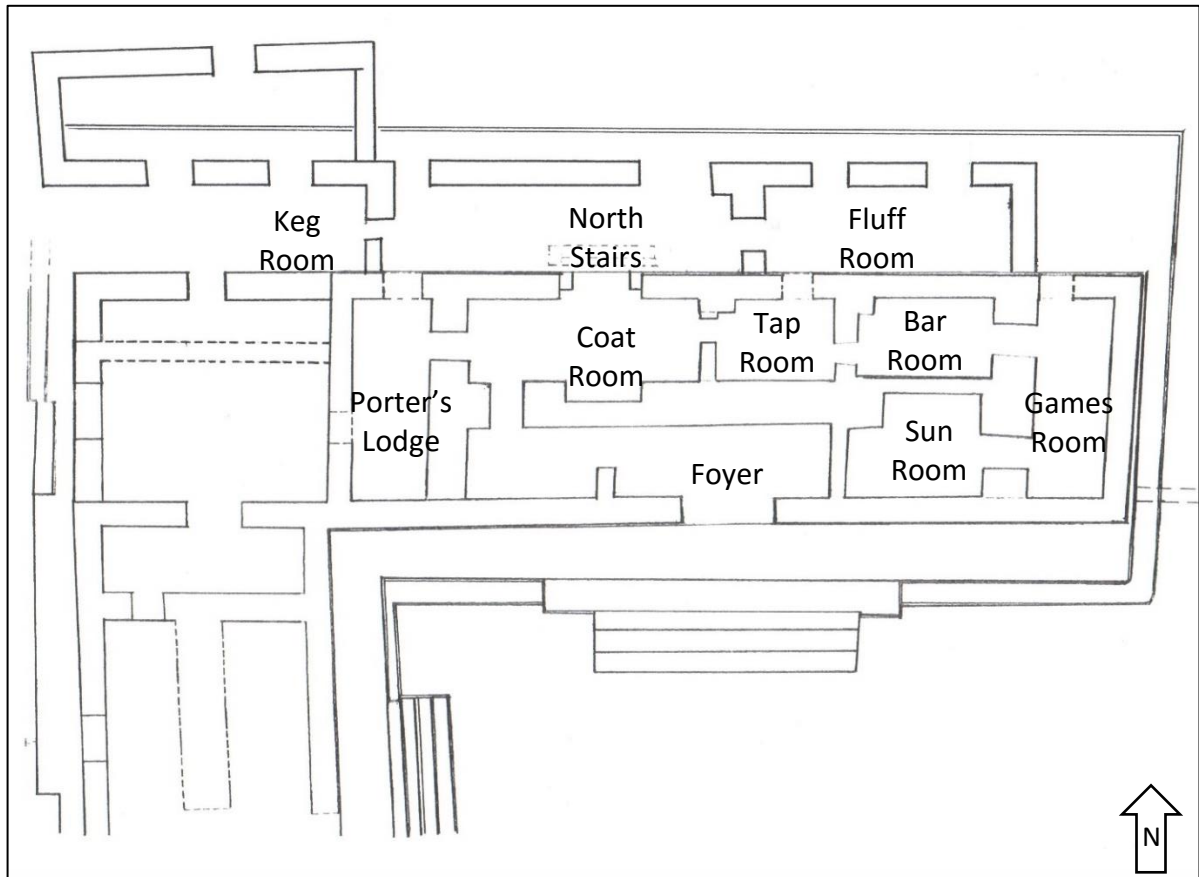


Figure A.1. Structure N10-15 1st and N10-15 2nd. Room names used in Loten's (1984) field notes. Porter's Lodge may be the same as Ruben's room.

Table A.1. Table of Names Associated with Structure N10-15 1st Cache Locations.

Table of Names Associated with Structure N10-15 1st Cache Locations		
Name	Description	Alternative names or spellings in field notes or plans
Structure N10-15 or N10-15 1 st	The primary building	Mays, Maze, Maize
Doll	The substructure that N10-15 1 st sits on	Doll platform, Doll terrace
Smuts	The primary floor of N10-15 1 st	Xsmuts
Bug-Burger	The second floor of N10-15 1 st	Same as Bug or Burger
Mama	The third floor of N10-15 1 st	
Slit Floor	A floor at same level as Deb/Skoit, approx.. 33–38 cm above Mama floor	
Deb Floor	a platform about 38 cm above Mama	Skoit is the adjacent floor/platform at same level
Lithics Floor	unknown	May be the Slit floor
Ruben's Room	Uncertain, but a room in the center row of rooms in N10-15, Pendergast says "W room in the centre rank"	probably equal to the room called Porter's Lodge, but it could be the room west of that in N10-19
Jonny Bench	unknown	
Wimp	An undesignated cache of perishable materials in the Foyer room	

Table A.2. Table of Names Associated with Structure N10-15 2nd Cache Locations.

Table of Names Associated with Structure N10-15 2nd Cache Locations		
Name	Description	Alternative names or spellings in field notes or plans
Structure N10-15 or N10-15 2 nd	A building addition on the north side of N10-15 1 st	Scholar
Ike	The substructure that N10-15 2 nd sits on	Ike platform, Ike terrace, Mike is some part of this on the east end
The Box	A platform like addition on the north side of N10-15 1 st	
Crumpet Floor	The floor of the Box	Serious Floor
North Stairs		Doll stair, north steps
Rhodes Floor	The primary ? floor of N10-15 2 nd	Damsel, Broad, Crude
Spayed Floor	The second ? floor of N10-15 2 nd	
Velda Floor	The third ? floor of N10-15 2 nd	
Lass Floor?	40 cm above Velda east of centreline of building	Equal to Moll
Willie Additions	unknown	May be the same as Scholar or N10-15 2 nd
Daxil wall	The north perimeter wall of N10-15 2 nd	
Boulders		
Kabob Floor	A floor primary to Xix in some areas in the west part of Ottawa	
Xix Floor		Boulders floor, possibly also called Xiu
Moll Floor	The final upper floor in N10-15 2 nd ?	Equal to Lass Floor
Fluff Floor	Primary floor of Daxil	?equal to Moll and Lass height?
Lib Floor	A 9 cm floor modification to Fluff floor	May be same as floor called Tart

Table A.3. Table of Names Associated with the Xun and Bak Platforms.

<p align="center">Table of Names Associated with the Xun and Bak Platforms</p> <p align="center">These platforms and features are all located at the east side of Structure N10-15 and may partially overlie the west side of Structure N10-28. They are poorly understood and although they are partially represented horizontally on the N10-15 plan, the section does not incorporate all features named below. It appears from these notes that the Bak platform was built over the Xun platform.</p>		
Name	Description	Alternative names or spellings in field notes or plans
Xun Platform	Platform with Niche wall; later capped by Xix floor	
Nan Structure	A structure atop Xun platform; lower part later capped by Xix floor	
Niche Wall	A wall stub below Tun, apparently secondary to the earlier platform, is Niche, the platform is Xun; later capped by Xix floor	
Bak Platform	A platform built into the corner created by the abutment of Tun against the E face of Nan.	
Tun Wall	The N side wall of Bak, built on Xix floor	
Levine Pit	A pit dug through Xix floor and boulders core to a depth of approx. 170 cm; located at the east face of N10-15 2 nd .	
Doll	The substructure that Mays sits on	Doll platform, Doll terrace
Tulip	A building	Structure N10-28, to the east of N10-15

Table A.4. Table of Plaza N10[3] Ottawa Group Structure Numbers and Alternative Names.

Table of Plaza N10[3] Ottawa Group Structure Numbers and Alternative Names		
Name	Description	Alternative names or spellings in field notes or plans
Thistle Floor	The courtyard floor primary to Structure N10-28, and which the substructures of N10-15, N10-18 sit upon. Structure N10-77 opens to this floor.	N10[3] courtyard floor
Salt Floor	A floor primary to and 15 cm below Thistle Floor at the east end of Ottawa at the west face of the Sleet building platform.	N10[3] courtyard? floor (early)
Shamrock Floor	A floor at the east end of Ottawa that lies below the Salt Floor.	N10[3] floor (early)
Xix Floor	The floor that capped the boulder infilling of the Ottawa Group.	N10[3] floor (late), maybe also called Xiu?
Boulders phase	This is an architectural stage referred to as “Boulders”, which is the name that describes both the stage and the stones that were used in this huge architectural transformation when Classic period buildings were razed and the courtyard was filled (Graham 2004:232). The floor that capped the boulders is named Xix.	Boulders (See also N10-14)
Structure N10-12	A long masonry platform built over the razed and filled remains of Structures N10-77, N10-78, and the access passage between these two structures. There were two building stages. It has been excavated on the east side only.	Trillium
N10-14	The name given to the boulders infilling, Architectural Stage 6 in this analysis.	Boulders, Boulders phase (Not a ceramic phase)
Structure N10-15	A masonry building with tandem rooms oriented on an east-west axis, flanked by transverse rooms; expanded through 7 building stages.	Fifteen, N10-15 1 st , N10-15 2 nd
Structure N10-17 Primary stage	Sleet is an earlier structure that stands with its walls almost intact to their full 2 meter height; with its roof ripped away, it was capped by Snow. There may be two stages to this structure that are built on different floors below Salt Floor. It was a 4-room masonry building with two tandem rooms flanked by transverse rooms.	Sleet
Structure N10-17 Intermediate stage	The facing that cases Sleet is Snow. Snow is a terraced platform with large stairs and the platform top lying above the wall tops of Sleet.	Snow
Structure N10-17 Final Stage	Slux is a little platform built atop the boulder core that covered Snow.	Slux
Structure N10-18	A masonry building with tandem rooms oriented on a north-south axis, flanked by transverse rooms. Only partially excavated	Mux

	on the north end.	
Structure N10-19	This structure was first considered separate from Structure N10-15, but was later determined to be a part of N10-15. It connects N10-15 to N10-18, which may represent a single L-shaped structure.	Willows
Structure N10-28	A masonry building with tandem rooms oriented on an east-west axis, flanked by transverse rooms; expanded through 3 building stages.	Tulip
Structure N10-29	A feature S of N10-15, composed largely of unshaped stones set in an apparent circle—a platform of undefined type that probably served as the foundation for a perishable building.	Felino
Structure N10-76	A 17m x 6.5m platform about 60 to 80cm in height with a wall at its west side.	Plant
Structure N10-77	A masonry building with tandem rooms oriented on an east-west axis; expanded through 2 building stages, with a third row of rooms added. Partially unexcavated at the south side. This building underlies Structure N10-12 at the east side of Ottawa.	
Structure N10-78	Unexcavated structure that underlies Structure N10-12 at the west side of Ottawa.	
Central Access	An open passage between Structures N10-77 and N10-78 at the level of the courtyard floor connecting Plaza N10[3] and Plaza N10[2].	Access passage, access passageway
Structure N10-80	A small platform built on top of boulder core over the razed remains of Structure	Paper
Structure N10-81	A low crude platform at the west side of N10-76 built of earth and small stones, which lies just west of N10-76, abutting the west face of N10-76. Built on top of boulder core.	Mess
N10-XX	A low platform, ca 24 cm high, built on top of boulder core.	Oxblud

Table A.4. Continued.

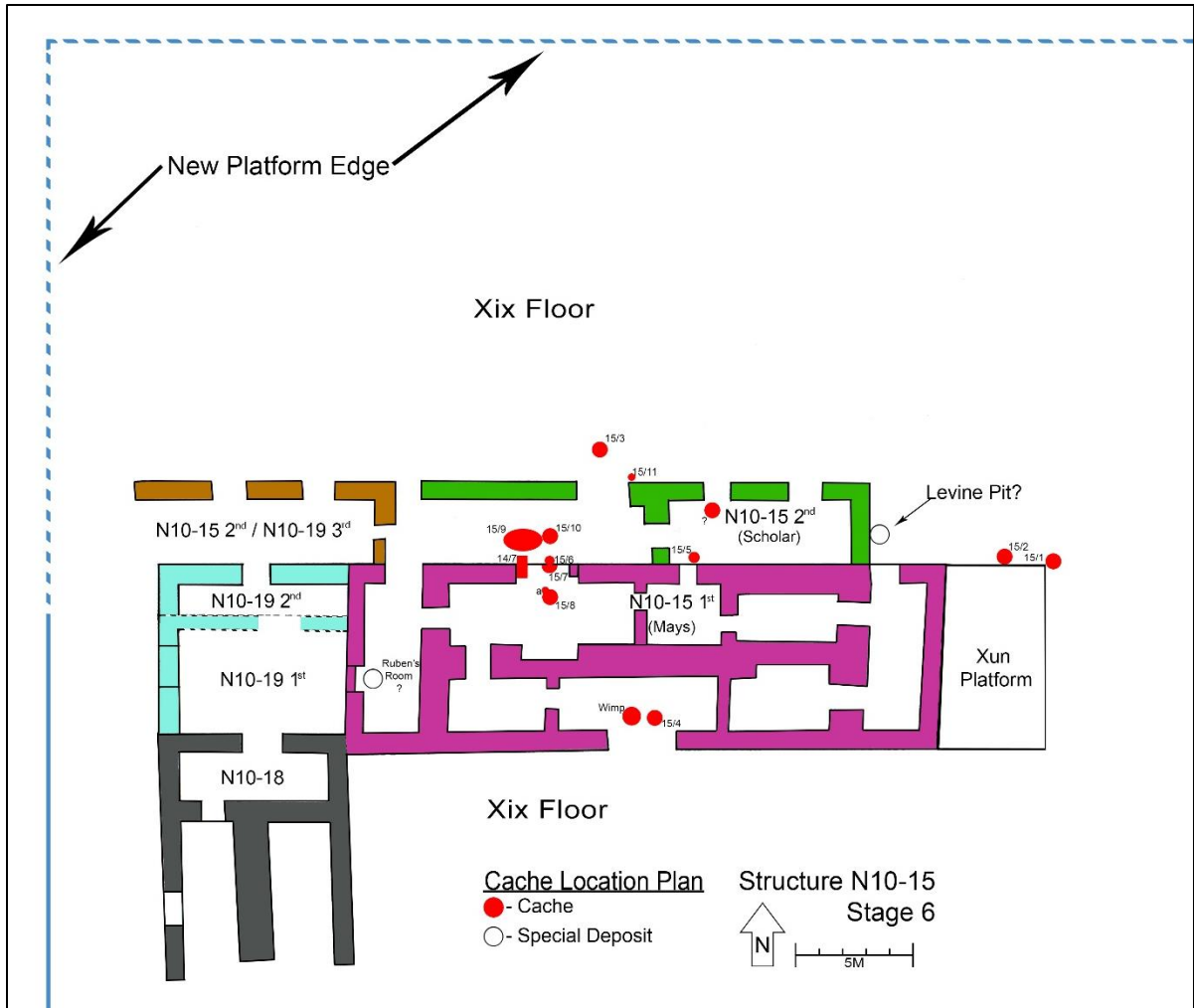


Figure A.2. Cache location plan showing all known caches for Structure N10-15 and areas of special deposits. This is the architectural Stage 6 floor plan.

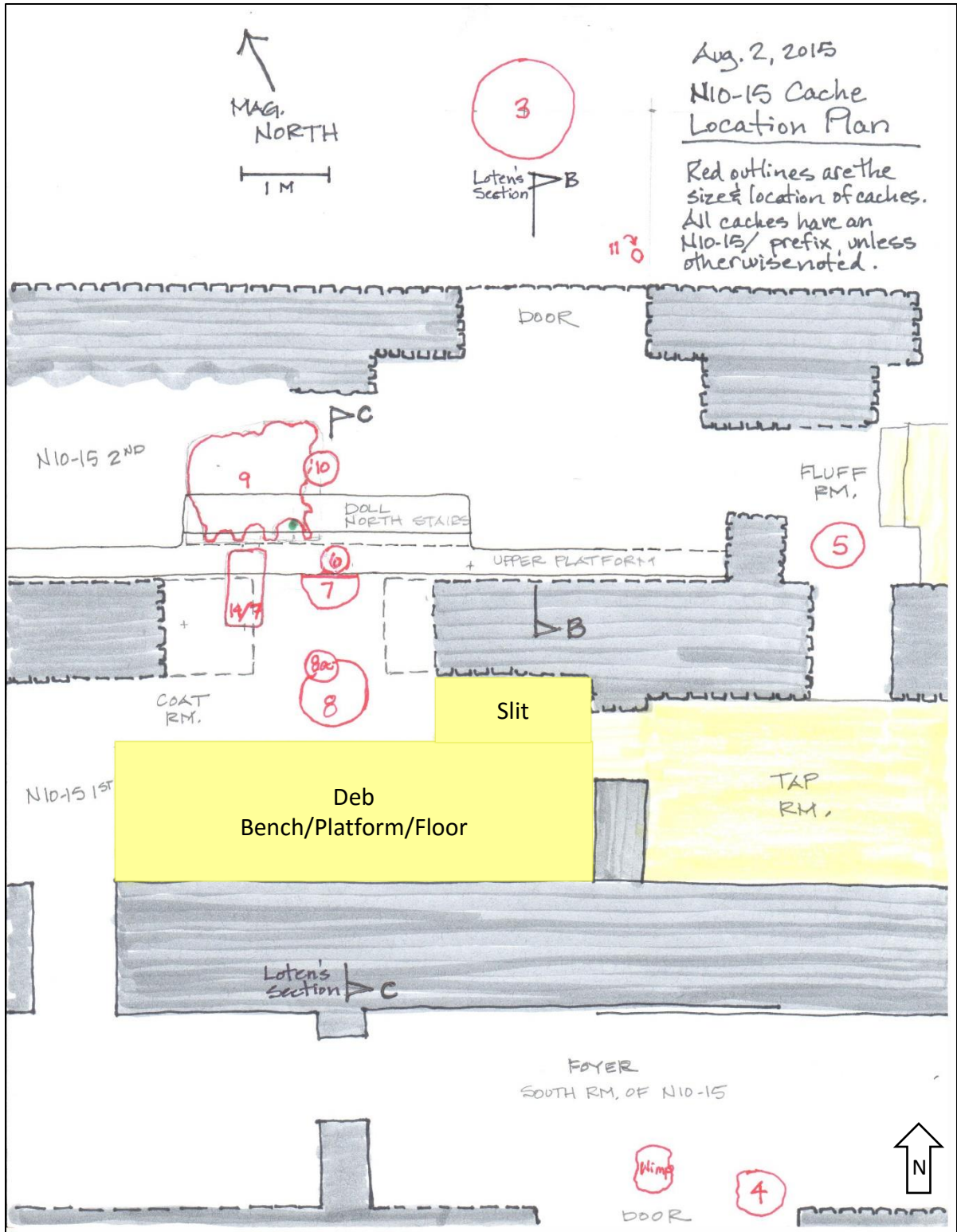


Figure A.3. Cache location sketch plan showing north and south central axis caches for Structure N10-15 and section cut lines for the composite axial section (below). Refer to Figure A.1 for orientation of this sketch within the entire floor plan of N10-15.

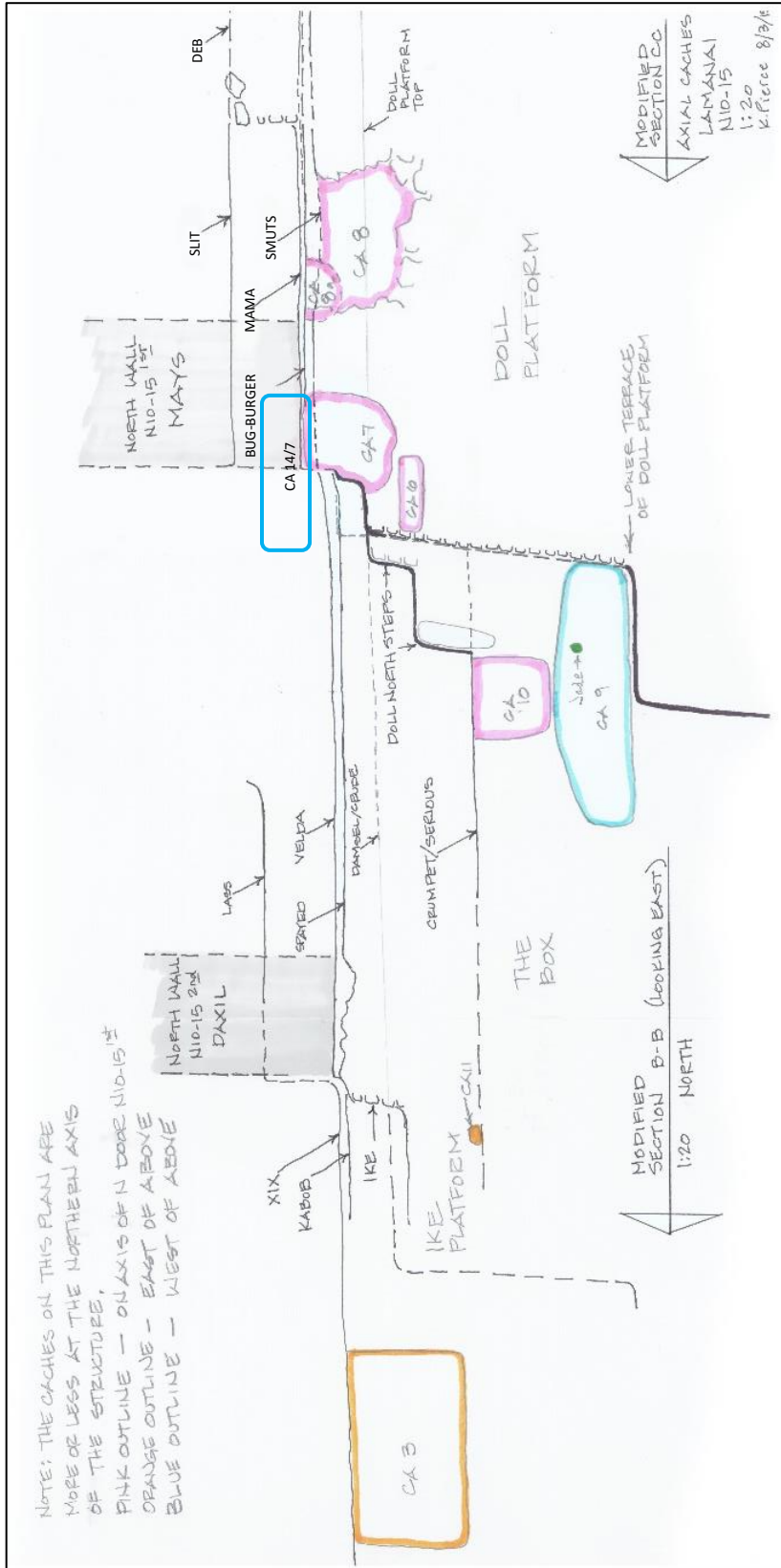


Figure A.4. Section showing location of caches at the northern doorway of N10-15 1st and in N10-15 2nd. This section is offset to incorporate the northern-most cache, N10-15/3.

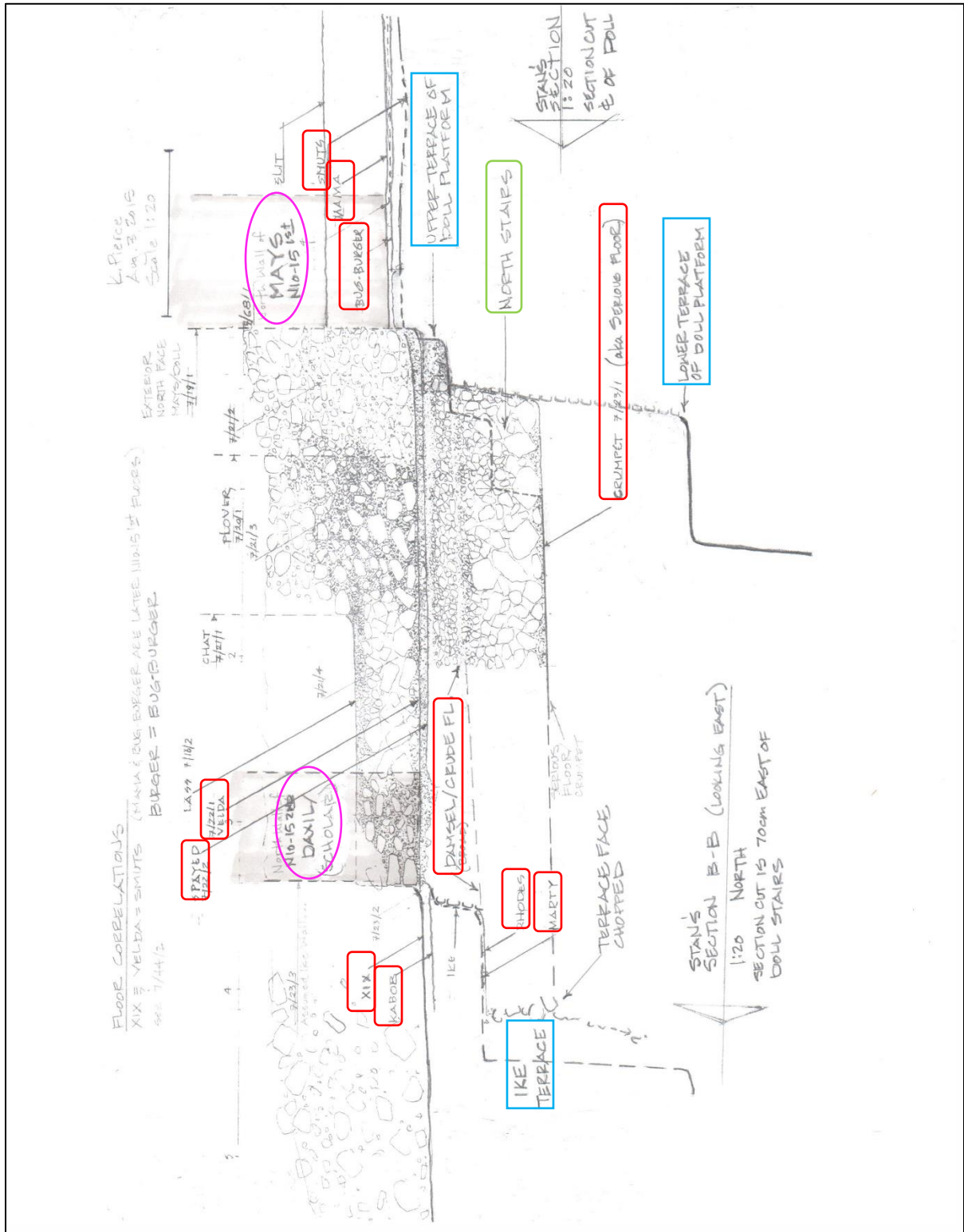


Figure A.5. Modified north-south axial section (section cut is at two different lines) of Structure N10-15 1st and 2nd, showing locations of floors and other features (based on Stan Loten's (1984) original sections BB and CC).



Figure A.6. 1980s excavations looking northwest across Structure N10-15, with several cache holes in image (photo C117-15 by David Pendergast, adjusted for better contrast).

**“STRUCTURE” N10-14 (“Boulders”)
CACHE N10-14/7 (LA-673)**

Pierce’s Note: Although this cache is designated as N10-14/7, which applies to caches associated with the boulders infilling in architectural Stage 6, the description for the location of the following cache—at the North Doll Stair—means this cache is at Structure N10-15, but whether the building could still be considered N10-15 at the time this cache was placed is not known.

Pendergast’s Field Notes (1982):

Atop the uppermost step of the N Doll stair of N10-15 was a further cache:

In boulder corer, sealed by a fragment of LITHICS floor, presumably synonymous with the Boulders surface

Area: 84 cm N-S X 42 cm E-W

Depth: from the step of Doll to the top 16 cm above, or 20 cm below the Lithics floor; base of /2 38 cm below Lithics floor

Pierce’s Note: (Lithics Floor is not in Loten’s notes, and this also seems to be above the Boulders (Xix) floor level. Loten’s Note 7.60.1 says “chop in SLIT for some kind of deposit of sherds”. This is right where I think this cache is located, so Slit may be David’s Lithics floor—it seems to be the right height—according to Loten’s notes (7.39.6) this “door-blocking unit” is also at the same level as Deb/Skoit—38cm above Mama on Section CC.

Location: from junction of W Doll stairside and Doll platform face to centre E-W at S end of cache area 88 cm S X 700 cm E

Pierce’s Note: Pendergast hasn’t used this measurement designation anywhere else in these notes—might it be 70 cm? ...instead of 700 cm or 7 meters? All indications are that this is at the Doll north stair and the use of the stair as a measuring point for cache location supports this, although it could have been the most easily distinguishable feature to reference. If the correct dimension *is* 700 cm east, the cache falls in a wall or where a wall had once stood, which would indicate a significant reconfiguration, or destruction, of the building had occurred when this cache was placed.

673/1 dish (two vessels?), round-side, inverted atop /2, probably in situ breakage

673/2 dish, round-side, upright under /1, in situ breakage

673/3 bowl, cylindrical, tripod, inverted at and in N side of /2, apparently pre-inhumation breakage

673/4 bowl, cylindrical (?), majority just N of /3, at face of Doll, N end of cache area

673/5 dish, round-side, inverted over E side of /1 and /2, over most of /3

673/6 dish similar to /1, under /1and inverted atop /2

673/7 lancet blades, obsidian, total 5, random pile at centre bottom of /2 (ca .5–2.0 cm above vessel bottom)

673/8 dish, round-side, inverted as lid atop /9; both at riser face of Doll, N end of cache area

673/9 dish, round-side, upright under /8

673/10 single lancet blade, obsidian, inverted at centre of /9 with tip to N

(Pendergast 1982)

CACHE N10-14/7 (LA-673) Continued

Cache N10-14/7 was placed late in Stage 6, or possibly in Stage 7—in fact Pendergast did not assign this cache to Structure N10-15 because at the time of excavation it was thought to be associated with the boulders infilling or later (Stage 6), or perhaps with a later platform/structure that was built on top of a defunct Structure N10-15 into which this cache intruded, which is possible—Graham (2004:234–235) encountered this situation at Structure N10-12. It should be noted that there is a potential conflict between one of the dimensions in Pendergast’s (1982f) field notes (700cm) and the description he provides for the location of this cache above the north stairs. I opted to see the dimension as an error, because all other descriptions and dimensions of the location suggest an error, *and* if the noted dimension is used it places the cache in the perimeter wall of N10-15 1st. It is possible that the cache was placed within the wall, as this occurred at Structure N10-12. However, since the architectural sequence is now better understood, and the known caches have been located on plan, this cache has clear associations with Structure N10-15 and features (or possibly floors) that were built atop the Mama floor. Additional evidence of its association with Structure N10-15 lies in its location just off the primary axis and in the same room where Caches 6, 7, 8, and 8a are concentrated, and partially atop the two now-covered north stairs where Caches 9 and 10 were located.

CACHE N10-14/7 (LA-673) Continued

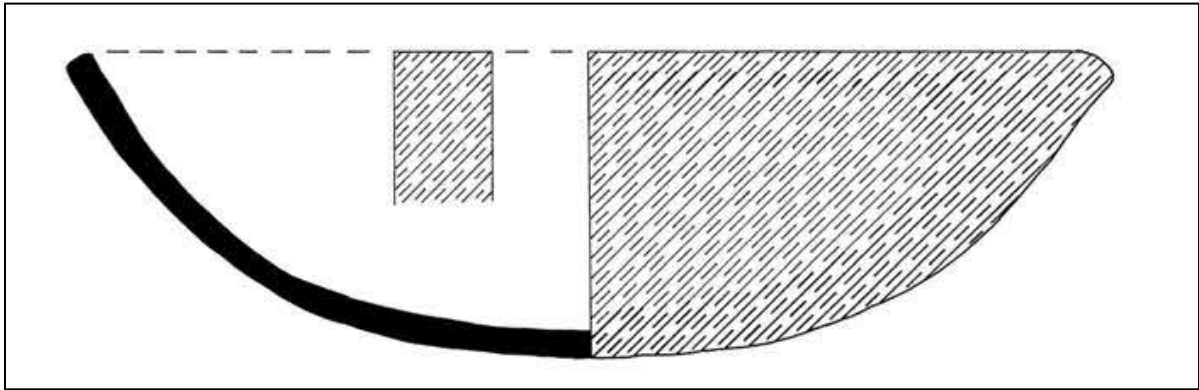


Figure A.7. Cache N10-14/7, Vessel LA 673/5 Diam. 21.0cm; ht 6.1cm; th 0.5cm.

Vessel LA673/5 sampled and described by Howie (2005):

Dish, round sides, direct rim, squared lip that is slightly bevelled out, slightly rounded base.
Decoration: buff slip on interior surface, exterior surface is unslipped except for rim area.
(Howie 2005:577, 603)

CACHE N10-14/7 (LA-673) Continued



Figure A.8. Looking southwest at the north stairs of Structure N10-15. The area of the charcoal in Cache 9 at the base of the stairs has been covered with a tarp for removal of a portion of the steps (photo by Karen Pierce, 2014).

Pierce's Note: Cache N10-14/7 may have been located where there is one basal molding (circled area) stone missing atop the upper Doll step, although we don't know if this stone was missing at the time of original 1980s excavation, or how the door jamb was reconstructed during the TDP project.

STRUCTURE N10-15 (“FIFTEEN”)

CACHE N10-15/1 (LA-639)

Pendergast’s Field Notes (1982):

In core of Xix floor, E of the E corner of Tun. Possibly some special placement of larger-than-usual stones in the core abutting Tun.

Area: vessel diameter

Depth: from Xix floor to top 25 cm, base 34 cm

Location: from the corner of NICHE to centre 14 cm N X 47 cm E

Photos: C103/11–14, BW 101 7–10

639/1 dish, round-side, red on orange, whole; no contents.

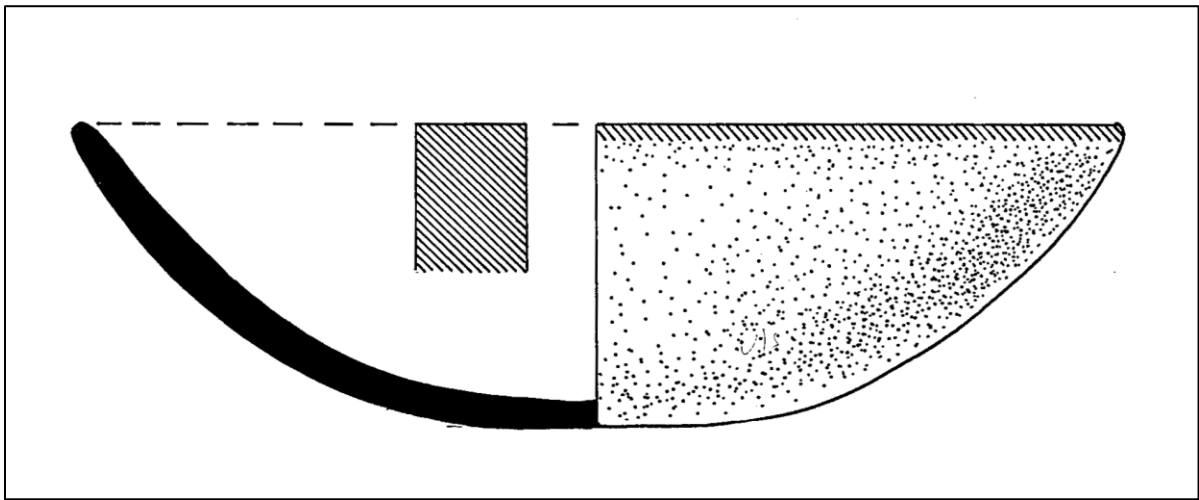


Figure A.9. Illustration of Cache N10-15/1 vessel LA 639/1, Diameter 12.65cm.

Both Cache 1 and Cache 2 were placed *outside* the main masonry structure of N10-15 in boulder core and are associated with the Niche feature that is part of the addition of Structure N10-15 on the east end. It is unclear exactly how they were located in relation to this feature, but it appears they were placed in some boulder-type core adjacent to this feature. It may very well be linked to the beginnings of the greater Boulders stage of filling in the courtyard.

CACHE N10-15/1 (LA-639) Continued



Figure A.10. Cache N10-15/1 in situ. “View from NW of Cache N10-15/1, showing XIX floor, overlying soil & rock, TUN wall at R, with NICHE wall below” (David Pendergast’s 1980s Slide C103/11).

Pierce’s Note: Not sure of the proper orientation of this slide. I flipped these photos horizontally and it seems to make more sense now, but it is still unclear. Also, maybe this description needs to be switched with the next photo description.

CACHE N10-15/1 (LA-639) Continued



Figure A.11. Cache N10-15/1 in situ. “*Closer view of Cache N10-15/1*” (photo by David Pendergast, Slide C103/13, 1980s)

Pierce’s Note: Not sure of the proper orientation of this slide. I flipped these photos horizontally and it seems to make more sense now, but I have yet to understand the precise orientation of these features. See Loten’s plan below.

CACHE N10-15/1 (LA-639) Continued

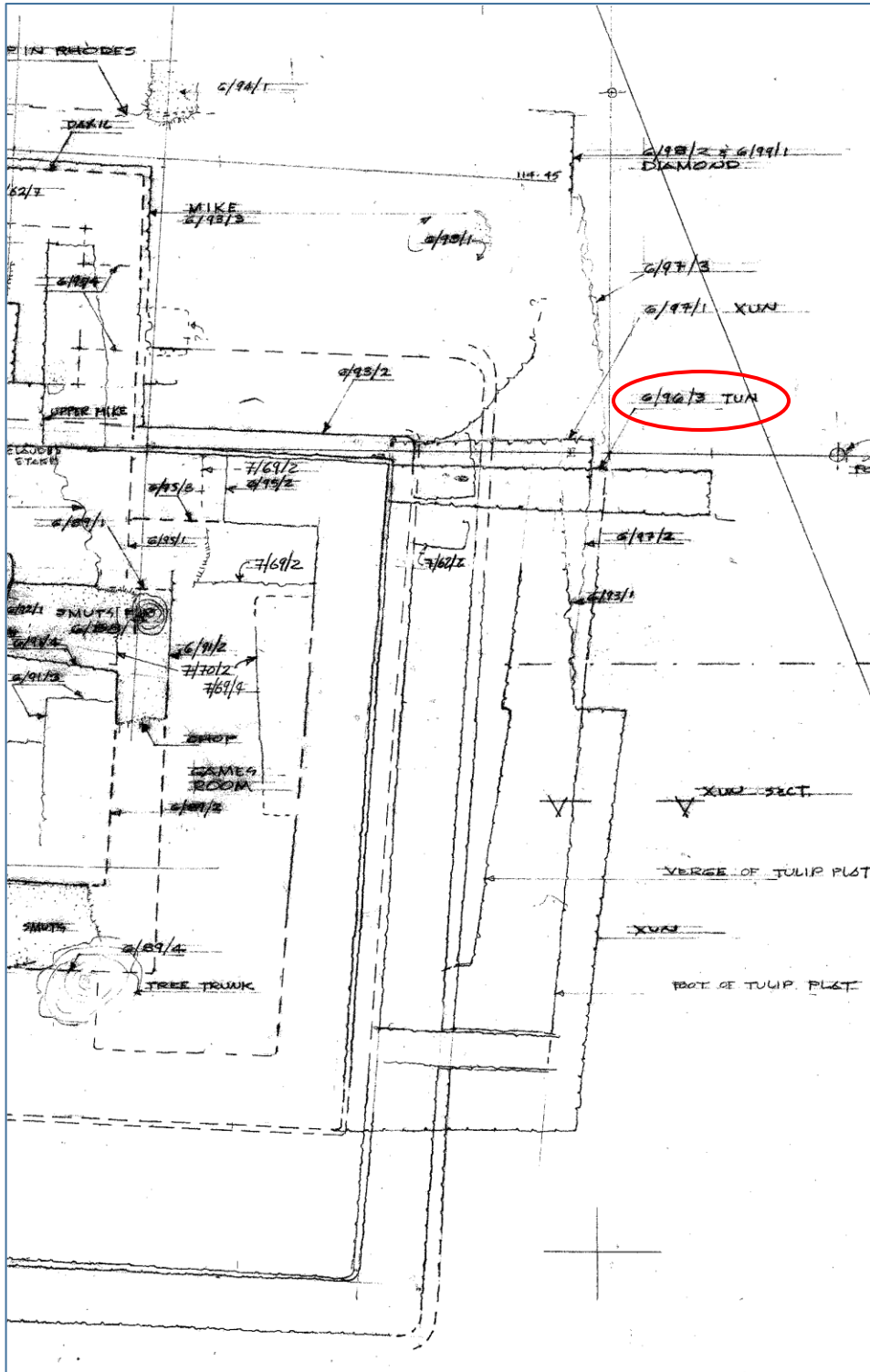


Figure A.12. Loten's Plan (1984) of the east end of Structure N10-15 indicating the location of Tun. According to Pendergast's field notes (1982) Tun is the N side wall of Bak platform, built on Xix floor.

CACHE N10-15/2 (LA-640)

Pendergast's Field Notes (1982):

Vessels groups N and W of Cache 1.

Area: 55 cm N-S X 68 cm E-W

Depth: from Xix surface to top 25 cm, base 54 cm

Location: from Niche corner to area S edge 14 cm N, to area W edge 98 cm W

640/1 bowl, composite profile, upright at W edge of area; pre-interment breakage and in situ breakage

640/2 jar, scattered around /1, pre-interment breakage

640/3 jar, N and E of /1 and /2, pre-interment breakage

640/4 jar, orangeware, E of /3, pre-interment breakage

640/5 bowl, round-side, redware, half N of /1, half under /6

640/6 bowl, thick, redware; mixed with /3

Vessels LA640/4 and LA640/6 sampled and described by Howie (2005):

LA640/4 Jar, globular, low vertical neck that bulges slightly in the middle, slightly bolstered rim, slightly squared lip, rounded base. Decoration: red slip on exterior surface, unslipped interior surfaces. Dimensions: max. diam. 19 cm; rim diam. 9 cm; orifice diam. 7 cm; neck ht. 2.8 cm; ht. 17.6 cm; th. 0.5 cm.

LA640/6 Bowl, rounded sides, direct rim, squared lip that is slightly bevelled out; flat base. Decoration: red slip on interior surface, unslipped exterior surface except for lip area. Dimensions: diam. 14 cm; ht. 6.1 cm; th. 0.7 cm.

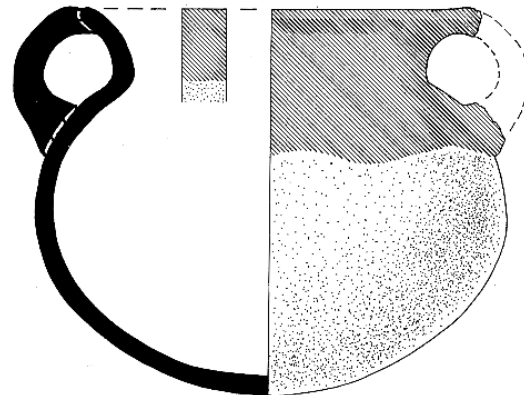
(Howie 2005:574, 601)

The six vessel forms found in Cache 2 are different forms than those previously encountered in caches from earlier stages and Elizabeth Graham (personal communication 2015) suggests the grouping represents both late Late Classic and Terminal Classic vessel forms. Although the forms are different this is still the same date range of the caches in the first stage. The use of new forms and the pre-interment breakage marks a distinct change from the previous caches of Structure N10-15; however, the function of this building addition could be different than the function of what might be considered the main building of Structure N10-15.

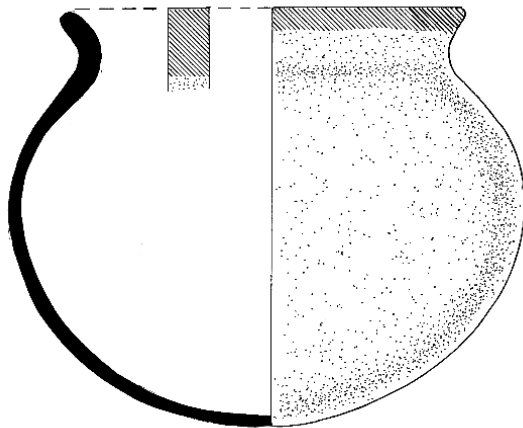
CACHE N10-15/2 (LA-640) Continued



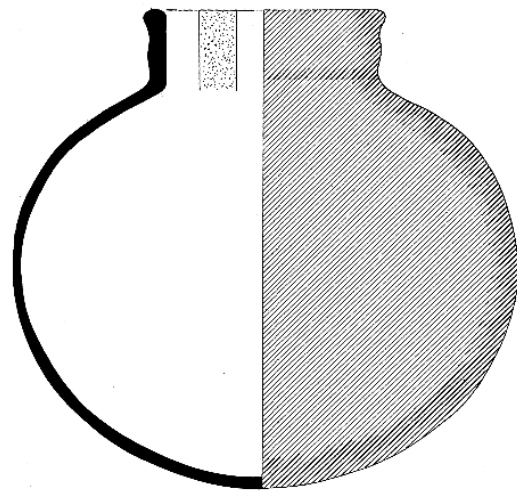
LA640/1



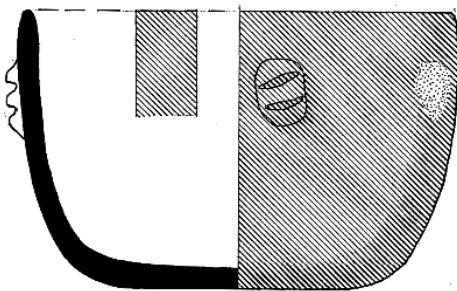
LA640/2



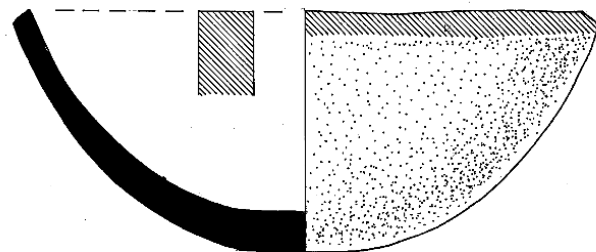
LA640/3



LA640/4



LA640/5



LA640/6

Figure A.13. Illustration of Cache N10-15/2 vessels: 640/1, 13.25 cm dia.; 640/2, 16.0 cm dia. (pre-interment breakage); 640/3, 14 cm dia. (pre-interment breakage); 640/4, 18.9cm dia. (pre-interment breakage), 640/5, 6.1 cm dia.; 640/6, 14.3 cm dia..

CACHE N10-15/3 (LA-655)

Pendergast's Field Notes (1982):

In N perimeter floor at N side of N10-15, approximately centred in the W doorway

Area: Pit diameter 107 cm N-S X 113 cm E-W

Depth: pit filled to floor; top of vessel /1 37 cm below floor, base of /3 62 cm below floor
(benchmark depths 2083 – 37 and 62 = 2046 and 2021)

Location: from N corner of E jamb of doorway to pit centre 201 cm N X 143 cm W

655/1 lid vessel, atop /2 in NE quarter of pit, in situ breakage

655/2 base vessel, upright beneath /1, in situ breakage

655/3 dish, polychrome, upright S of and below /1&/2, in situ breakage

655/4 obsidian blade, fragmentary, in 655/3 at E side

655/5 obsidian blade, in top of pit cap

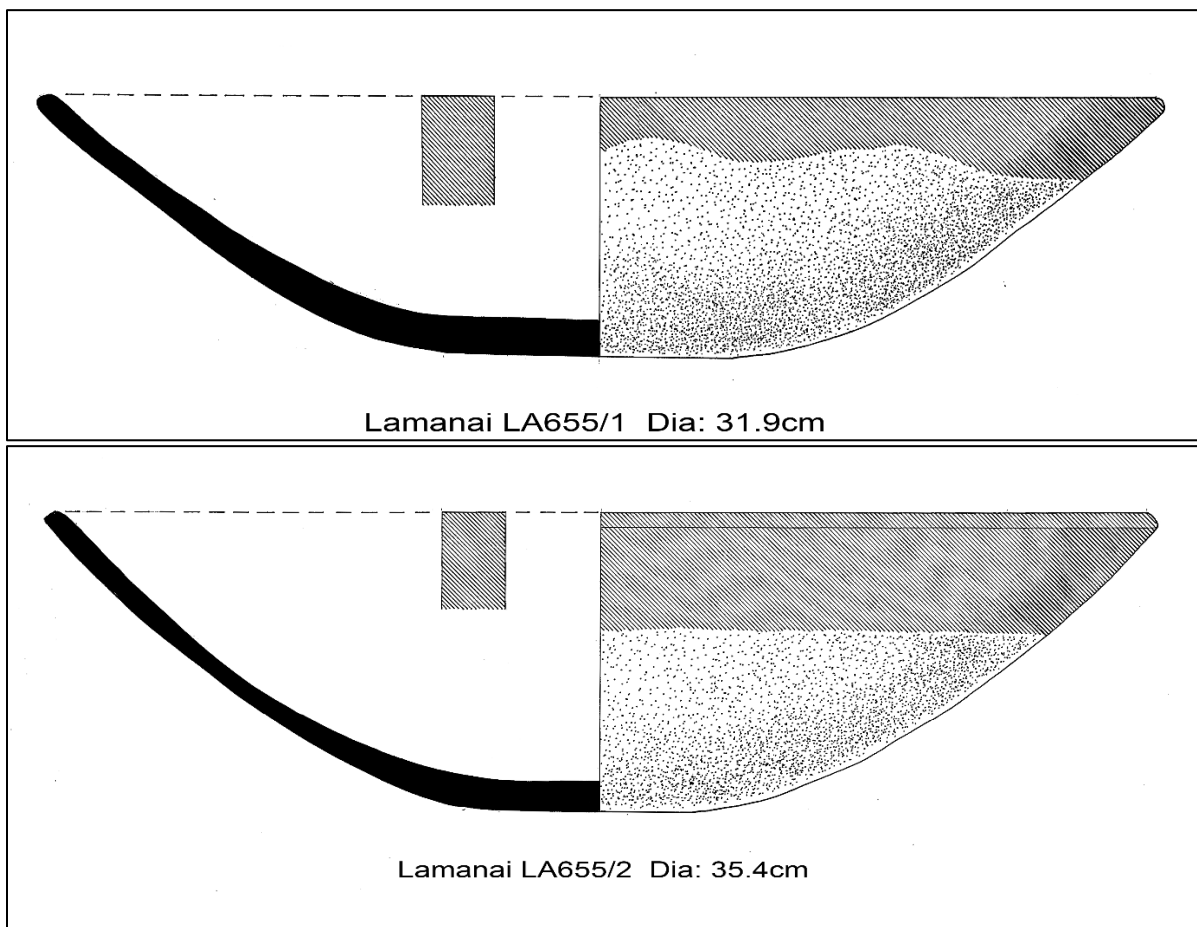


Figure A.14. Illustration of Cache N10-15/3 vessels LA 655/1 and LA 655/2.

Vessel LA655/2 sampled and described by Howie (2005):

LA655/2 Dish, round sides, direct rim, squared lip, slightly rounded base.

Decoration: red slip on interior surface, exterior surface is unslipped except for rim area. Dimensions: diam. 32 cm; ht. 9.4 cm; th. 0.6 cm. (Howie 2005:574, 601)

CACHE N10-15/4 (LA-679)

Pendergast's Field Notes (1982):

In core probably attributable to MAYS, atop an under-running floor 25 cm below Mays

Area: vessel diameter

Depth: from Mays floor surface, S room, to top 14 cm, base 23 cm

Location: from N corner or E doorjamb of Mays to centre 46 cm N X 72 cm W

679/1 dish, round-side, inverted atop /2 as lid, in situ breakage

679/2 dish, round-side, upright beneath /1, in situ, breakage

679/4 obsidian blades (3) inside /2 at bottom, with small amount of charcoal (/3)

679/5 obsidian blade, beneath /2

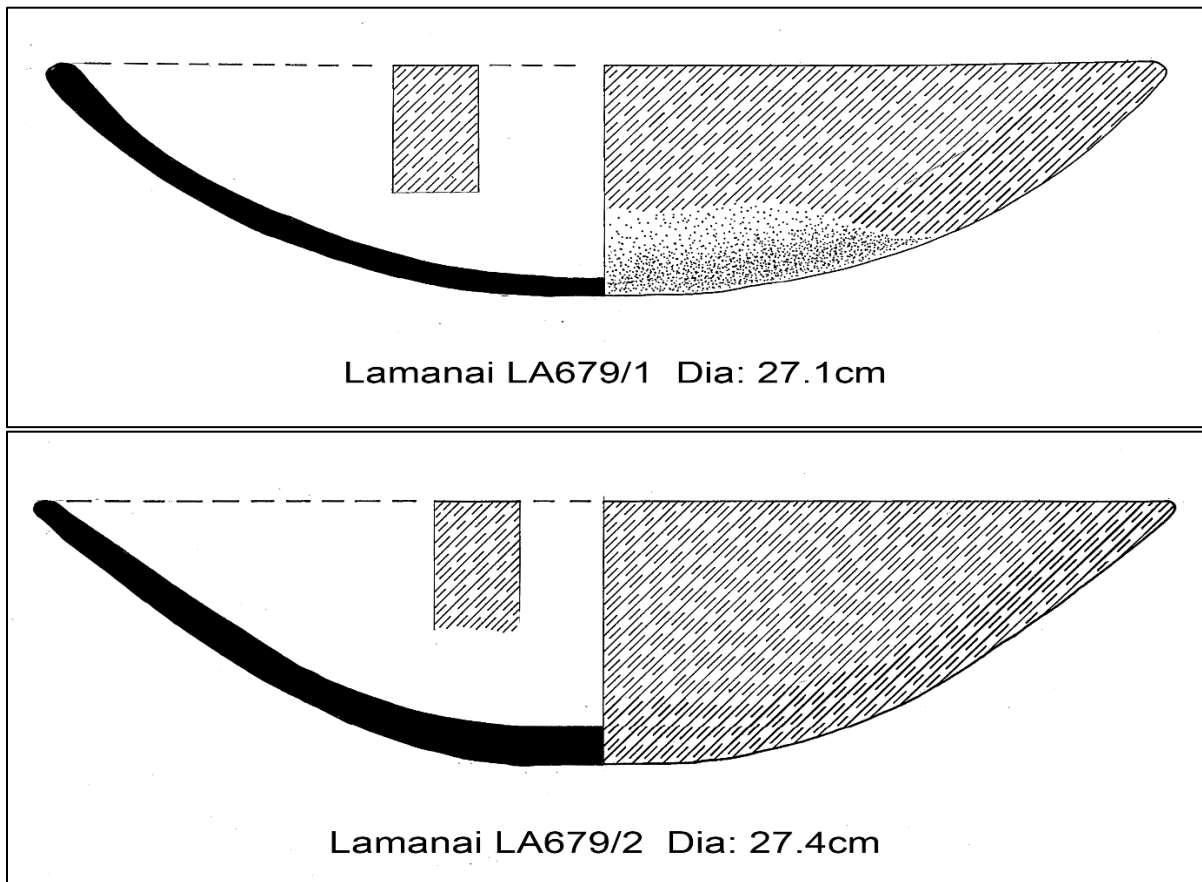


Figure A.15. Illustration of Cache N10-15/4 vessels LA 679/1 and LA 679/2.

CACHE? WIMP DEPOSIT

(on central axis at south central door of N10-15, near Cache N10-15/4)

Loten Field Note: 7/42/6 WIMP is a deposit of ash and shed ca 27 cm deep, sealed by poor MAMA. There is no SMUTS surface over it and BURGER has just been eliminated by logic!

Loten Field Note: 7.42.6 WIMP is a deposit of ash and sherds ca 26 cm deep, "sealed" by poor "MAMA". There is no "SMUTS" surface over it and BURGER has just been eliminated (logically).

Pierce's Note:

This is probably an "empty hole" cache, but it wasn't designated as a cache.

This should be right at the level of Smuts floor. Why wasn't the floor there?

Or, did Loten get the floor order mixed up here?—he might have, because one wouldn't eliminate Burger by logic if there was no Smuts. One of the sketches in his notes has the floors listed in the wrong order, so this deposit could actually be sealed by Smuts, with no Mama over it, which by logic would eliminate BURGER, but that doesn't make sense either, as Burger could be present but have no Mama on top of it.

Could this be associated with a larger cache area of Cache N10-15/4, which is near this at the same level?

CACHE N10-15/5 (LA-680)

Pendergast's Field Notes (1982):

In pit in floor N of 7/7/5, capped by Moll floor, filled with ashy soil and a few bits of charcoal. Area: pit diam 21 cm. Depth: from floor surface to base 17 cm. Location: from SW corner of steps immediately E of pit (also capped by Moll to pit centre 63 cm N X 60 cm W). 680/1 obsidian flake blade, at pit base

Pierce's Note: This is noted as a fire hole on Loten's plan—note 7/24/2: Loten says blackened at the bottom, but no contents.

UNIDENTIFIED CACHE

There was another cache in the vicinity of Cache N10-15/5, but further east, also noted on Loten's plan, but not in Pendergast's notes.

Loten's Note 7/24/7: hole cut 37 cm into FLUFF floor sealed by mortar patch then by LIB whose surface was at same level as top of patch, i.e. 5 cm above FLUFF. Had one pot cache.

It is located on the plan, in the 2nd doorway from the east in N10-15 2nd.

CACHE N10-15/6 (LA-682)

Pendergast's Field Notes (1982):

The rear of Doll has a two-step stair that leads down to the platform surface beneath the western WILLIE additions. The stair and associated units are capped by a floor; a section through the floor is shown in C113/5&6 (see Figure A.20) and BW 111/1&2. A cut to the stair centre revealed a cache:

Area: 42 cm N-S X 34 cm E-W

Depth: from VELDA floor to top 42 cm, base probably 52 cm (27 cm above Doll floor, which is 79 cm below Velda).

Location: from the E base front corner of the Doll N stair to centre 34 cm N X 148 cm W

682/1 pearl, top of group at W end

682/2 jade lamina, just S of /1

682/3 bead, jade, group top centre (smashed)

682/4 jade lamina, E end at top

682/5 fish bones, scattered on top of cache

682/6 flake blades, chert, scattered as the top layer of the cache

682/7 flakes plus one blade and one core, obsidian, with 682/6

682/8 flint, bipoint with centre serrated crescent, topmost of flints at E side, atop /9 and /10

682/9 flint, one end bifurcated, other pointed

682/10 flint, serrated crescent, at E with /9

682/11 flint, axe-like, beneath /9

682/12 flint, bipoint with 2 opposing points on each side near one end, at W side of area

682/13 flint, larger serrated crescent, laid flat; base 52 cm, probably the original base of the cache, with lower objects having slipped down through core

Note: A small amount of dark soil within the circle of /13 suggests the presence of an organic object; flakes lay atop and within /13 but not beneath it (except for obsidian and chert pieces that were at considerably greater depth, ca 74 cm below Velda)

Pierce's Note: 74cm below Velda is the level of Crumpet Floor (in 2014 we called this Serious Floor). Because of the assumed density of the core, it would appear that the pieces at a greater depth were deliberately placed there.

See photos in Figures A.19–A.26 for location context.

CACHE N10-15/6 (LA-682) Continued

The placement of Cache 6 is problematic. Based on its location it could be another primary cache for the building, but as explained previously in Stage 1, it is assumed there was only one primary north cache associated with the new construction. Cache 6 could have been placed during this Stage 2 when another construction episode was embarked upon—the construction of the ramp or stair feature. This cache appears to be placed within the upper of the two north steps associated with the Box; however, the north step was constructed by adding a row of facing stones across the face of the existing Structure N10-15 1st's building platform, so that the step itself combines elements from two different architectural stages. Therefore the cache could have been placed either entirely within the northern platform edge, either as another primary cache for N10-15 1st, on its northern axis, or placed entirely within the building platform when the ramp or stair feature was constructed. Of note, the absolute depth of the cache is equal to or greater than Cache 8. It is also possible that Cache 7, located south of and adjacent to Cache 6, and Cache 6 are actually one single cache, but at the time of excavation Pendergast believed they were separate caches as there were two distinct pits cut into the building core. Additionally, Cache 7 is associated with the Bug/Burger floor (Stage 5) and when that floor was in use the stairs were already covered by the Velda floor, which supports the placement of this cache in an earlier stage. I suggest it was prior to the construction of the Box in Stage 3, because it does not appear to have been cut into the plaster of the upper step, although it could have been placed during construction of the step. We cannot know.

CACHE N10-15/6 (LA-682) Continued

Pierce's Note: The dating that is assigned for the eccentric flints that follow in Caches 6 and 8 may have been called into question by revisions to the Lamanai chronology subsequent to Richard Meadow's dissertation in 2001.

Analysis from Meadows 2001:

LA682/11--Zoomorphic Forms: Birds and Bird- like Depictions

Site: Lamanai

Dimensions (cm) L: 15.4 W: 11.1 Th: 2.2

Technological type: Biface

Presence of cortex: Yes, small quantity at distal end of specimen

Raw material appearance: Banded dark brown gray light gray and tan brown

Presence of polish/ thermal alteration/ coloration: No

Context: Structure N10-15/6 axial cache beneath north staircase
(Late Classic AD 800)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of very fine textured chert. Along the medial surfaces of the specimen, short and relatively lengthy feather terminated flake scarring is visible. Along the lateral margins, short feather terminated flake scars are most prevalent. Closer to the margins, shorter hinge terminated flake scars are visible and some edge crushing is prevalent. Of note are the few flake scars visible on what appears to be the "wing" of the form. In effect, flake scarring only appears along the margins in this area of the specimen in order to strengthen the edges of the margins.

Presence of pigments/ residues: None
(Meadows 2001:357)



Figure A.16. Photo of flaked stone symbol LA682/11 (Meadows 2001:358).

CACHE N10-15/6 (LA-682) Continued

Analysis from Meadows 2001:

LA682/ --Crescent Forms: Two Pronged and Serrated Crescents

Site: Lamanai

Dimensions (cm) L: 21.2 W: 12.3 Th: 1.8

Technological type: Biface (serrated/ two pronged)

Presence of cortex: Yes, small quantity on one medial surface

Raw material appearance: Banded pale gray and dark brown gray

Presence of polish/ thermal alteration/ coloration: No

Context: Structure N10-15/6 small axial cache north stair (L. Classic AD 850)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of fine textured chert with crystallized inclusions. The lateral margins exhibit a similar breakage pattern as other specimens. Short feather terminated flake scars are visible along the lateral margins, with stacked microflaking and edge crushing also prevalent. Across the medial surfaces, lengthy feather terminated flake scars are visible. Several lengthy hinge terminated flake scars are visible on one medial surface.

Presence of pigments/ residues: None

(Meadows 2001:430)



Figure A.17. Photo of flaked stone symbol LA682/? (Meadows 2001:431).

CACHE N10-15/6 (LA-682) Continued

Analysis from Meadows 2001:

LA682/9--Artifact Grouping: Bident and Trident forms

Site: ~~Altun-Ha~~ correction, this is Lamanai

Dimensions (cm) L: 22.6 W: 7.1 Th: 1.9

Technological type: Biface (stemmed)

Presence of cortex: Yes, small area present at one terminus

Raw material appearance: Banded dark brown gray with very dark gray brown

Presence of polish/ thermal alteration/ coloration: No

Context: Structure N10-15/6 small axial cache north staircase

(Late Classic AD 800)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of fine textured chert. The medial surfaces of the specimen exhibit short and lengthier feather terminated flake scarring. The lateral margins exhibit short parallel flake scars along the stem and the two prongs. As well localized areas of stacked microflaking and edge crushing are visible, especially prevalent on the interior of the notch created by the two prongs.

Presence of pigments/ residues: None

(Meadows 2001:562)

CACHE N10-15/6 (LA-682) Continued

Analysis from Meadows 2001:

LA682/12-- Artifact Grouping: Elongated, Stemmed, and Narrow Forms (Staff Ends)

Site: ~~Altun-Ha~~ correction, this is Lamanai

Dimensions (cm) L: 30.7 W: 8.5 Th: 2.1

Technological type: Biface

Presence of cortex: No

Raw material appearance: Banded gray and pale gray

Presence of polish/ thermal alteration coloration: Yes, some polish visible along the stem of the specimen

Context: Structure N10-15/6 one of two axial caches beneath north staircase (Late Classic AD 600- 900)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of very fine textured chert. The specimen is finely flaked overall with short feather terminated flake scarring predominating across the medial surfaces. The lateral margins show stacked microflaking and edge crushing, but also are finely flaked. Short feather terminated flake scars are also visible along the margins. Edge crushing is a bit more prevalent on the interior of the notches close to one terminus. Of note is what appears to be polish that may indicate hafting.

Presence of pigments/ residues: None

(Meadows 2001:562)



Figure A.18. Photo of flaked stone symbol LA682/12 (Meadows 2001:604).

Location of Caches N10-15/6, N10-15/7, N10/15/8 and N10-15/8a Extension

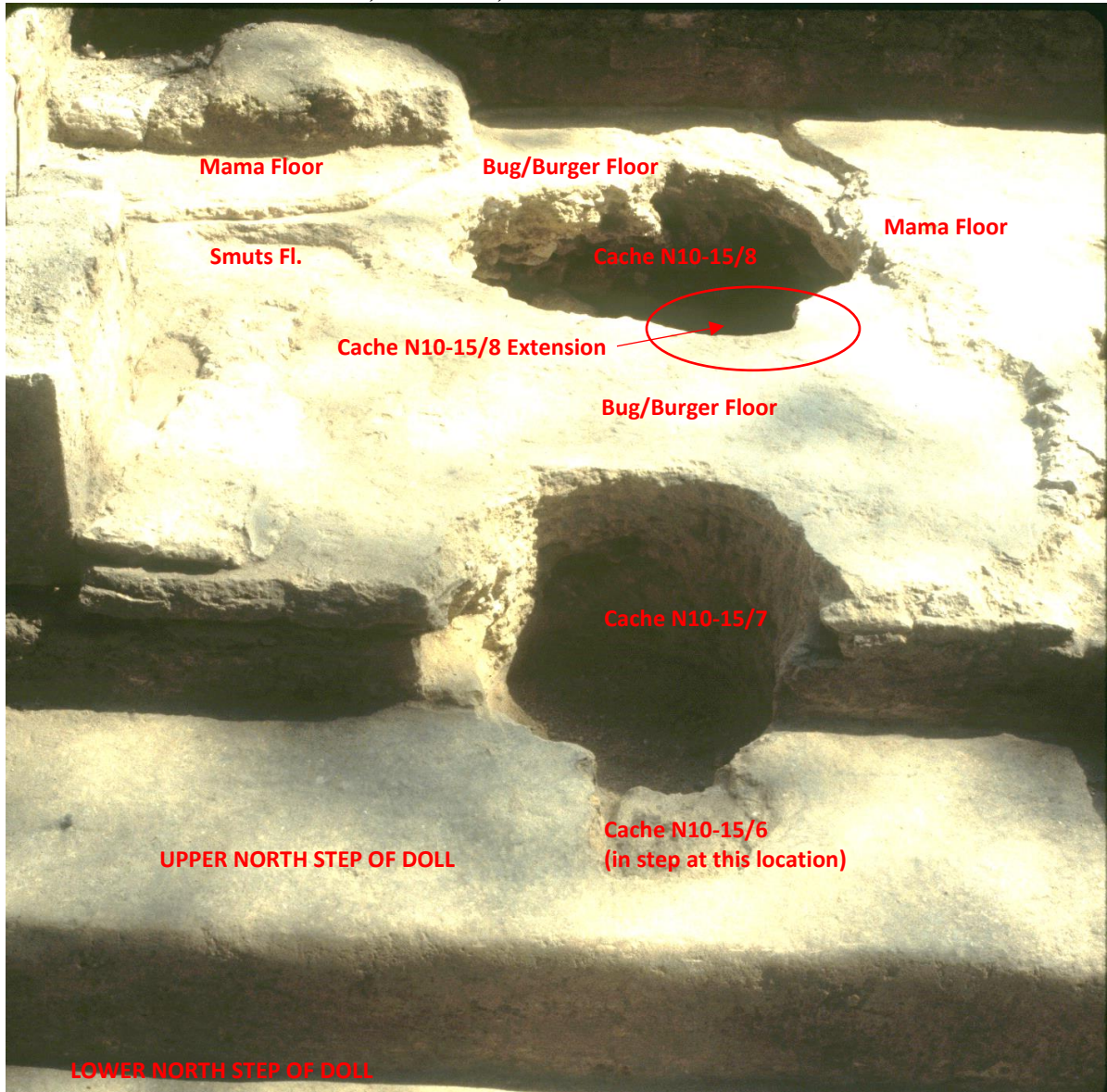


Figure A.19. Photo of caches N10-15/7 and N10-15/8. “View from N of Cache N10-15/8 (background), showing pit of Cache 7 in foreground, doorway of MAZE at N, DOLL stair, MAZE wall at rear. Floor surrounding pit of Cache 8 is BUG/BURGER; capping floor, cut away at L&R, is MAMA.” (photo by David Pendergast, 1980s Slide C115-15).

Location of Caches N10-15/6, N10-15/7, N10-15/8 and N10-15/8a Extension



Figure A.20. Photo of N10-15 north steps during excavation. “DOLL N stair and overlying floors (HSL 7/14/1), from E” (photo by David Pendergast, 1980s Slide C113-5).

Pierce’s Note: Pendergast’s/Loten’s post-it note in this photo (circled) says 7/14/1. So he calls this Lass floor, but I don’t think it can be, as Loten’s section BB shows Lass being 38 cm higher than this floor, which I believe is Velda. So this photo shows Velda on top of “Serious Floor” or Crumpet (also called Damsel). Loten’s corresponding field note reads: “7/14/1 LASS floor, on top of VELDA, up against what appears to be primary steps of MAYS.”



Figure A.21. Photo of N10-15 north steps, looking west. This photo shows how the “Two North Steps of Doll” (once fully plastered) were added against the uppermost terrace of the Doll platform (blue line), on top of Crumpet Floor. Caches N10-15/6, N10-15/7, N10-15/8 and N10-15/8a were located left of blue line and Caches N10-15/9 and N10-15/10 were located right of blue line (photo by Karen Pierce, 2014).



Figure A.22. Photo of N10-15 north steps, looking south with the pyramidal Structure N10-9 in the background. This photo shows how the “Two North Steps of Doll” (once fully plastered) were added against the uppermost terrace of the Doll platform (blue line), on top of Crumpet Floor (photo by Karen Pierce, 2014).



Figure A.23. Excavation photos at the location of Caches N10-15/6, N10-15/7, N10-15/8 and 8a. Photo 6) view to southwest at the two north steps, 5) view to the southeast with Pendergast and Graham excavating Cache 8 and Cache 6 hole exposed in foreground, 11) Pendergast and Graham at Cache 8 (photos by Stan Loten, 1981–1982).

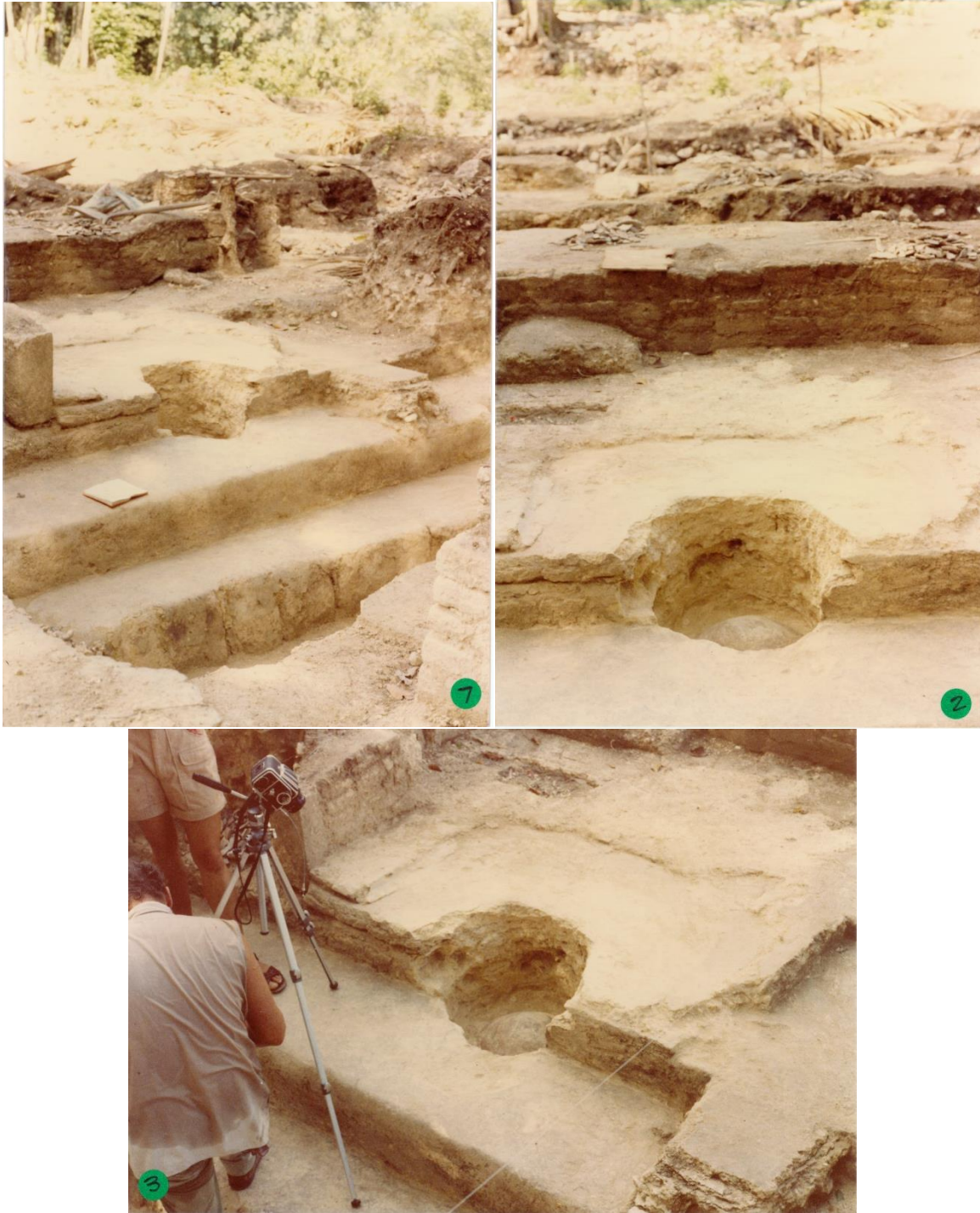


Figure A.24. Excavation photos at the location of Caches N10-15/6, N10-15/7, N10-15/8 and 8a. Photo 7) view to southwest at the two plastered north steps with Cache 6 hole exposed south of upper step, 2) view to the south with Cache 7 hole exposed, 11) Pendergast and Graham at north steps with Cache 7 hole and patch of floors overlying the north steps (photos by Stan Loten, 1981–1982).



Figure A.25. Excavation photos at the location of Caches N10-15/6, N10-15/7, N10-15/8 and 8a. Photo 8) view to south at the upper north step with both Cache 7 vessels in situ, 9) view to the north with Cache 7 lower vessel in situ, 11) Graham at Cache 7 with Cache 8 and 8a hole exposed to the south, and Deb bench beyond (photos by Stan Loten, 1981–1982).



Figure A.26. Excavation photos at the location of Caches N10-15/6, N10-15/7, N10-15/8 and 8a. Photo 1) view to south at the two north steps before Cache 7 is excavated, but with the patched area over the cache visible, 4) view to the south showing the excavated “pedestaled floor sequence” over the two north steps with the trowel resting on what is presumed to be the Smuts floor running from N10-15 2nd into N10-15 1st (photos by Stan Loten, 1981–1982).

CACHE N10-15/7 (LA-693)

Pendergast's Field Notes (1982):

Sealed by BUG/BURGER floor and a patched area, which suggests continued use of the floor following deposition of the cache.

Pit diam. 42 cm N-S X 62 cm E-W at top, 50 X 39 cm at base

Depth: from Bug/Burger floor to top ?; base 49 cm.

Location: see plan

693/1 dish, round-side, inverted atop /2

693/2 dish, round-side upright beneath /1

693/4 obsidian flake blades, total 9, in the bottom of /2 under a quantity of large charcoal fragments

See photos in Figures A.19–A.26 and A.28–A.30 for location context.

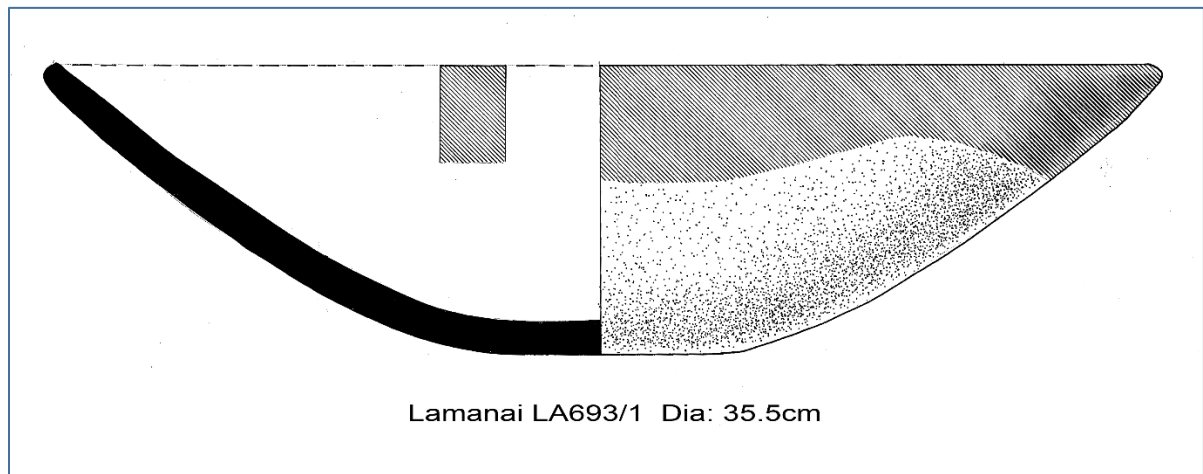


Figure A.27. Illustration of Cache N10-15/7 vessel LA693/1, 35.5 cm diameter.

Vessel LA693/1 sampled and described by Howie (2005):

LA693/1 Dish, round sides, direct rim, rounded lip that has an angular interior margin, flat base. Decoration: red slip on interior surface, exterior surface is unslipped except for rim area. Dimensions: diam. 35 cm; ht. 7.5 cm; th. 0.9 cm.

(Howie 2005:578, 604)

LA 693/2 Dish, flaring=side Cache N10-15/7, Cache N10-15/7, flaring, med-th. Sides; lip rounded to slt. Flattened; base flat. Diam. 33.4 x 34.1cm; ht. 8.0-9.6 cm; th. 0.75cm. Int.sl., med.burn., v.well sm, wear(?) in bottom, partly leached & some erosion; ect. sl. upper body only, irreg., unburn, pitted Red (Vinaceous-Rufous) none, Complete.

CACHE N10-15/7 (LA-693) Continued



Figure A.28. Excavation photo of Cache N10-15/7 “Cache N10-15/7 from NE, showing DOLL N steps & floors of N10-15” (photo by David Pendergast, 1980s Slide C115-9).

CACHE N10-15/7 (LA-693) Continued



Figure A.29. Excavation photo of Cache N10-15/7 “*Cache N10-15/7 from NE, upper vessel*” (photo by David Pendergast, 1980s Slide C115/11&13).

CACHE N10-15/7 (LA-693) Continued



Figure A.30. Excavation photo of Cache N10-15/7 “*Cache N10-15/7 from NE, lower vessel*” (photo by David Pendergast, 1980s Slide C115/11&13).

CACHE N10-15/8 (LA-694) and N10-15/8a (this “a” designation assigned by Pierce)

Pierce’s Note: David says: there are 2 caches here! I have designated the intruding cache as 8a. The primary cache is N10-15/8, Smuts association, probably primary cache of structure. *N10-15/8a Extension is a secondary cache to the original, and are associated with Mama Floor—Pendergast says clearly post Bug-Burger. N10-15/8 Extension comprises 694/1, 694/2 and 694/10.

Pendergast’s Field Notes (1982):

In doorway of Doll N stair, cut into MAZE; cut through Bug/Burger, sealed by Mama floor Pit diam. (Irregular) 66 cm N-S X 84 cm E-W.

Depth: from Bug/Burger floor to top of vessel 1 10 cm, to top of vessel 3 28 cm, to base 60 cm

Location: see plan

*694/1 dish, round-side, at N side of cache, in partly separate niche higher than remainder; inverted as lid for /2

*694/2 dish, round-side, upright below /1

694/3 dish, round-side, inverted as lid, in centre of lower group of materials in cache

694/4 dish, round-side, upright beneath /3; filled 2.0 cm deep with organic decay product (sample collected)

694/5 dish, on edge at E side of /3

694/6 dish, on edge at SW corner of /3

694/7 dish, polychrome, annular base, inverted at W beside /3 & /4

694/8 dish, inverted below /7

694/9 dish, upright below /8

*694/10 large flake blades, obsidian, total 17, in bottom of /2

694/11 flint, vertical below 1&2, beside 3&4

694/12 flint, small crescent; for location of this and following flints, see drawing

694/13 flint

694/14 triangular flint

694/15 flint flake object

694/16 flint, crescentic

694/17 flint, human form

694/18 section of vessel

694/19 obsidian blade., in /4 at W side

694/20 jade bead, in /4 at vessel centre-N

694/21 jade disc, S of /20

694/22 jade disc, rough, E side of vessel contents group

694/23 bone pin (?), 2 pieces, atop other materials in vessel /4

694/24 flint, disc

694/25 flint, flake with hole

694/26 flint, human form

694/27 flint, serrated multi-crescentic form

694/28 flint, crescentic form

694/29 flint, fragmentary crescent with projections

CACHE N10-15/8 (LA-694) Continued

Pendergast's Field Notes (1982) continued:

- 694/30 flint, quasi-human
- 694/31 flint, large human
- 694/32 flint, bipoint with centre crescent
- 694/33 flint, serrated, handle and tip ends
- 694/34 flint, elongated bipoint, one end serrated
- 694/35 flint, flake with centre hole
- 694/36 flint, crescent with handles
- 694/37 flint, bipoint with centre crescent (at edge of /8 and /9, S side)
- 694/38 flint, serrated crescent, N of /37
- 694/39 hammerstone, with flake blades
- 694/40 flake blades, chert, clutch with point up
- 694/41 flint, serrated disc, hooked with /38
- 694/42 flint, large crescent with centre projection; N of 41, under N end of /36 (beneath /40)
- 694/43-51 flint flake objects, total 9, W of /37, 38, & 39
- 694/52 obsidian blades, total 5, in bottom of /9

Note: 694/40 set in a mass of brown clay soil (sample saved), probably decay product of organic objects.

Note: The chop in Bug/Burger seems likely to have cut SMUTS and to have come down on the primary cache for the structure, objects 694/3 et seq.; following this, a smaller hole was extended northward to enclose 694/1 & 2 and their contents. The unfinished edge of the chop in Bug and Smuts contrasts sharply with that of the north hole. Hence it is likely that vessels 1 and 2 are a Mama-related cache, and the remaining objects are Smuts-related. The cache seems far too large to be associated with Bug, which was merely a reflooring, and the extent of the cache westward under Smuts also argues against a Bug association. The depth of the cache below Bug is considerable, and more so below Mama; this, too, argues against a Mama association for the entire cache.

Pit area at base 79 cm N-S X 125 cm E-W; the N-S measurement of 66 cm at the top does not include the northern well-finished pit, diam E-W 34 cm, which extends the N-S dimension to 83 cm. If the pit was essentially circular, its S limit would have lain about 49 cm from the S limit of the larger chop. It appears that the Mama activity involved opening of the top of the cache, then placement of the new (Mama) cache farther N, so that its centre did not correspond to that of the earlier cache, though both were on the primary axis. Clearing of Smuts by removal of Bug-Burger showed that the Smuts floor had slumped by as much as 2 cm+ in the area of 694/3 et seq., and had been levelled with a patch ca 0.4 cm thick near the remaining edge. The patch was faired onto the unslumped floor around the area. This indicates that there was an unstable area in the subfloor core, and the instability is surely attributable to the cache. This leaves almost no doubt that the sequence of events described above is what occurred.

See photos in Figures A.19, A.21–23, A.25, A.31–34 for location context.

CACHE N10-15/8 (LA-694) Continued

The style of painting on the jaguar vessel marks a departure from the beautifully painted polychrome vases that are found in different contexts than these more cartoonish Lamanai polychromes, which appear in caches in the Terminal Classic period (Graham 2004:235). This particular vessel though, seems to fall somewhere in between the more refined Classic style of painting and other polychromes that employ a caricature-like style of animal portrayal, so it could certainly be a transitional late, Late Classic to Terminal Classic vessel (Graham personal communication 2015). Whether this is a reflection of a change in the overall polychrome ceramic repertoire or is specially related to cache vessels is not clear at present, but this new style, “cartoonish Lamanai polychromes”, is a Terminal Classic marker at Lamanai.

CACHE N10-15/8 (LA-694) Continued



Figure A.31. Excavation photo of Cache N10-15/8 “*Cache N10-15/8 from N pottery level*” Cache N10-15/8 and Cache N10-15/8a (intruding later cache) (photo by David Pendergast, 1980s Slide C116/1).

Pierce’s Note: There are 2 caches pictured here. The pair of lip to lip vessels located at the upper left of center are a secondary cache (N10-15/8a Extension) to the original, and are associated with Mama Floor—Pendergast says clearly post Bug-Burger floor. The primary cache is N10-15/8, Smuts association, is probably the primary cache of structure.

CACHE N10-15/8 (LA-694) Continued



Figure A.32. Excavation photo of Cache N10-15/8 “*Cache N10-15/8 flints level, from N*” Cache N10-15/8 and Cache N10-15/8a (intruding later cache) (photo by David Pendergast, 1980s Slide C116/13).

CACHE N10-15/8 (LA-694) Continued.

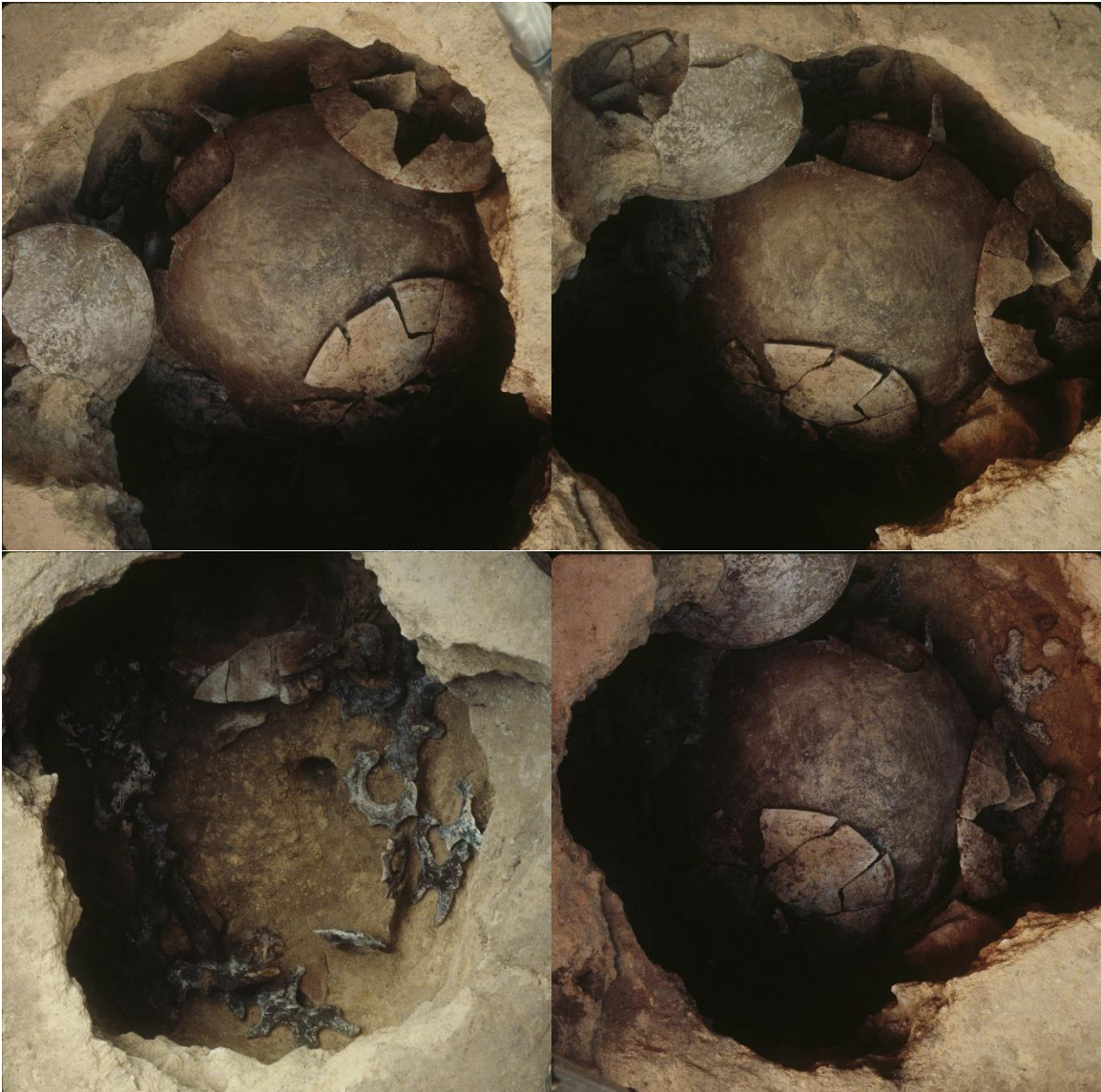


Figure A.33. Additional excavation views of Cache N10-15/8 (David Pendergast's 1980s Slides).

CACHE N10-15/8 (LA-694) Continued.



Figure A.34. Additional excavation views of Cache N10-15/8 (David Pendergast's 1980s Slides).

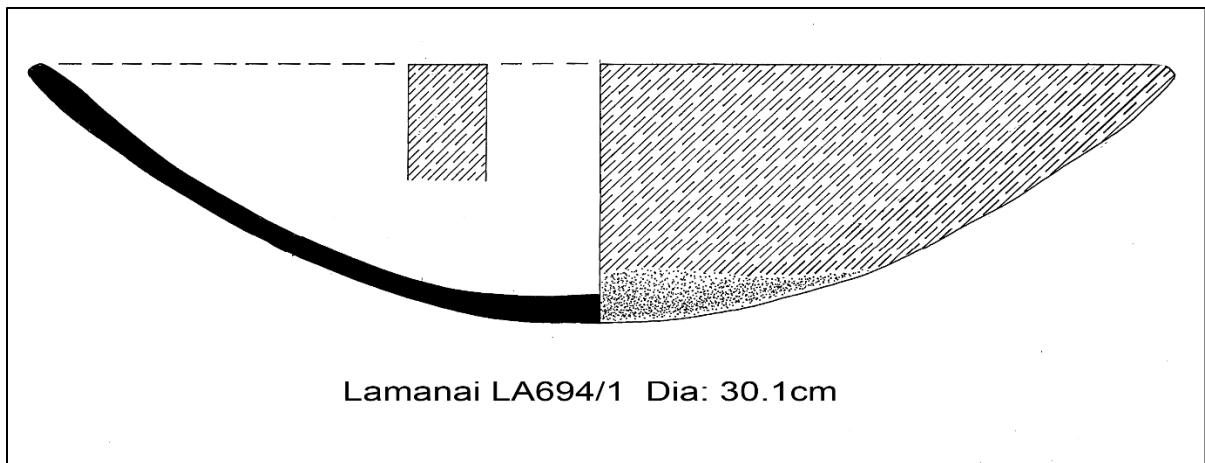


Figure A.35. Illustration of Cache N10-15/8a vessel LA 694/1.

CACHE N10-15/8 (LA-694) Continued

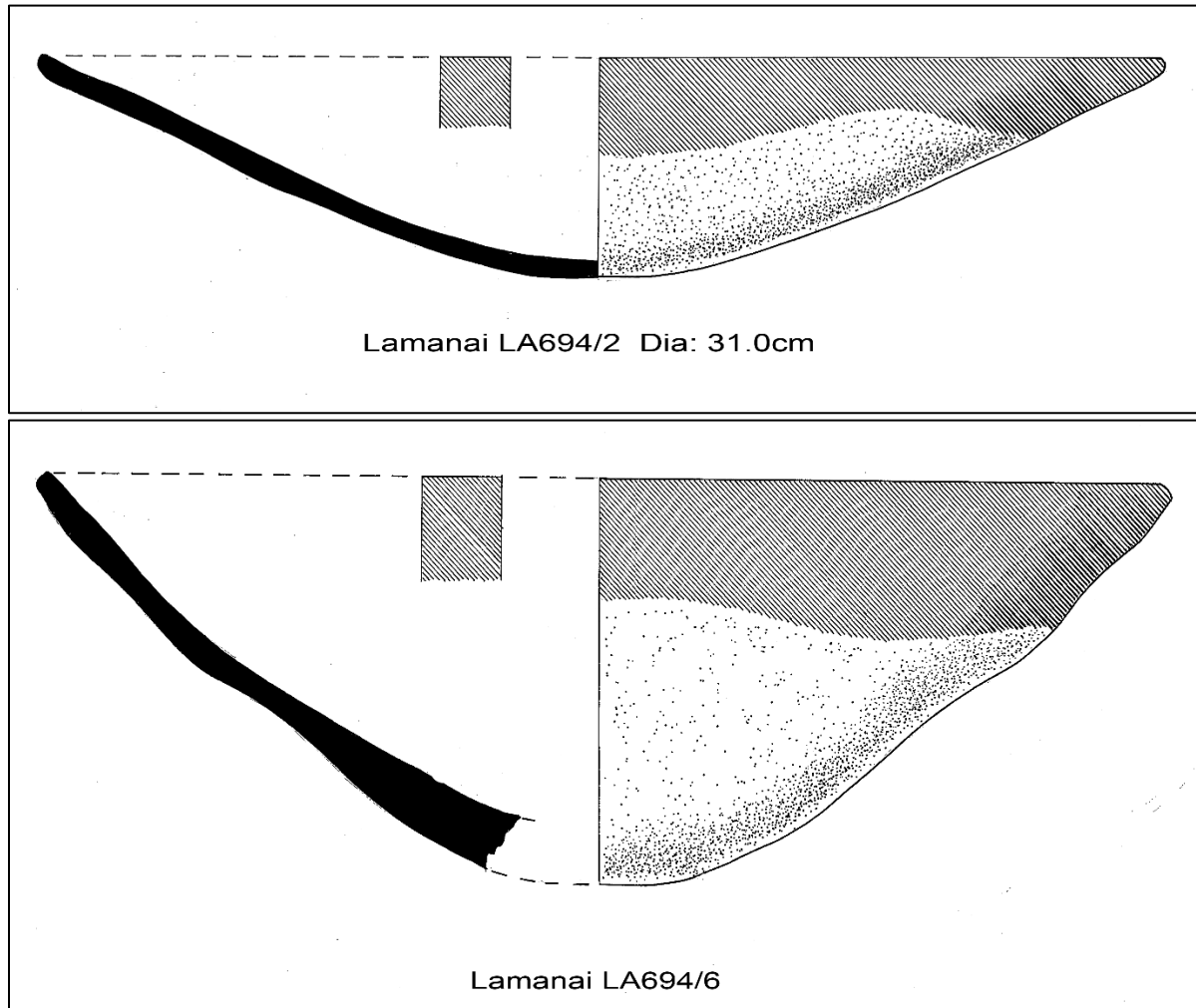


Figure A.36. Illustration of Cache N10-15/8 vessels LA 694/2 and LA694/6.

LA 694/3 Dish, Cache N10-15/8, Late Late classic, Cache N10-15/8, Rounded, med-th. sides; lip rounded w/angular int. margin, base slightly flattened, Diam. 54.4 cm; ht 16.1-17.1cm; th. 0.8cm, Int.sl., v.high burn., v.well-sm., minor lat. sm. marks, slt. Streakness in some of slip; ext. sl. upper body only, unburn., leached, eroded, lat. Sm .marks & temper-drag, pitted, ase firing cloud. Red (English Red) Large med-grey core, buff surfaces calcite, opaque angular fragments, small amts. of organic burn-out complete

CACHE N10-15/8 (LA-694) Continued

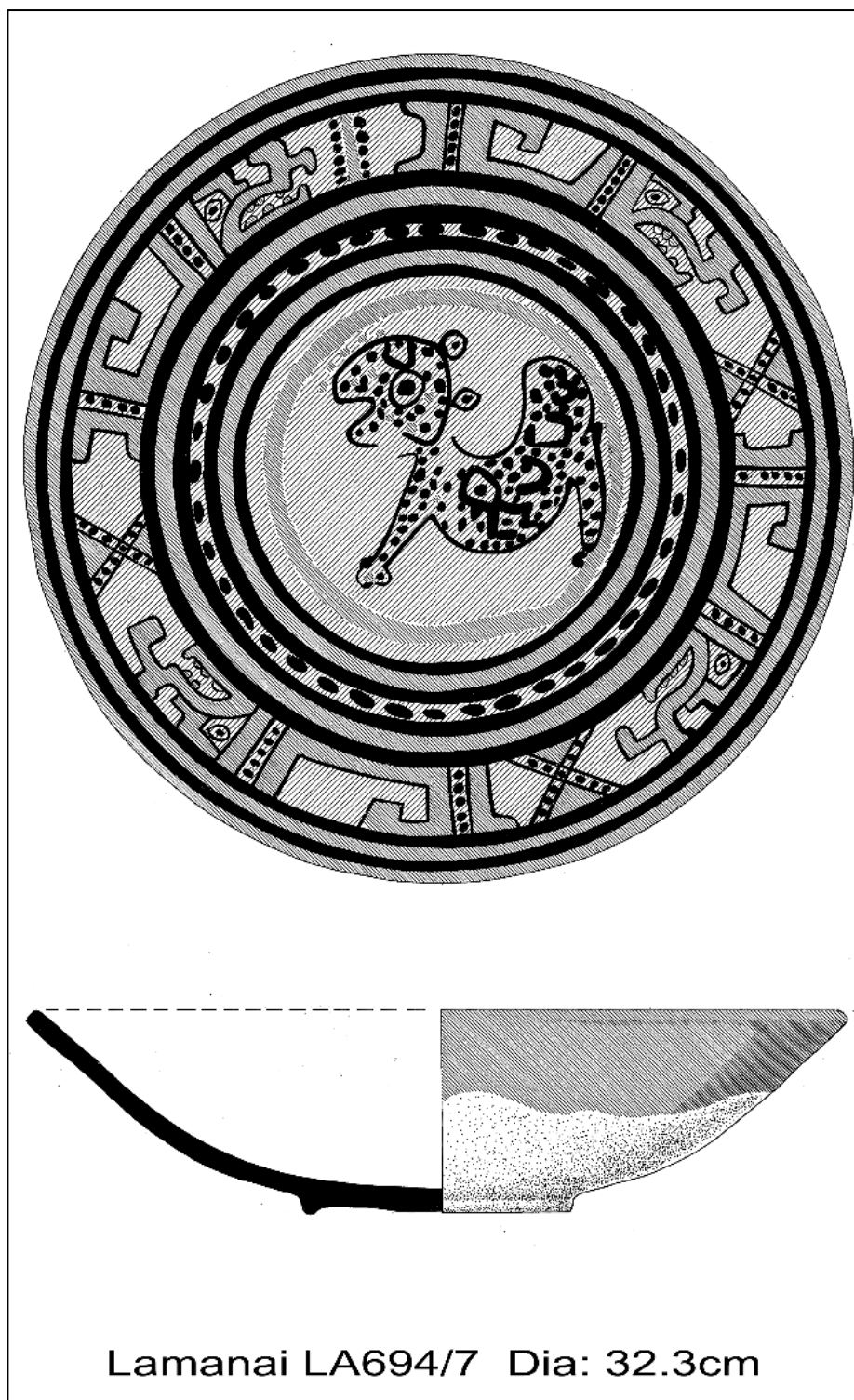


Figure A.37. Illustration of Cache N10-15/8 vessel LA 694/7.

Pierce's Note: This annular base does not occur on other N10-15 cache vessels that I am aware of.

CACHE N10-15/8 (LA-694) Continued



Figure A.38. Watercolor illustration of Cache N10-15/8 vessel LA 694/7, by Louise Belanger (Belanger 2016).

CACHE N10-15/8 (LA-694) Continued

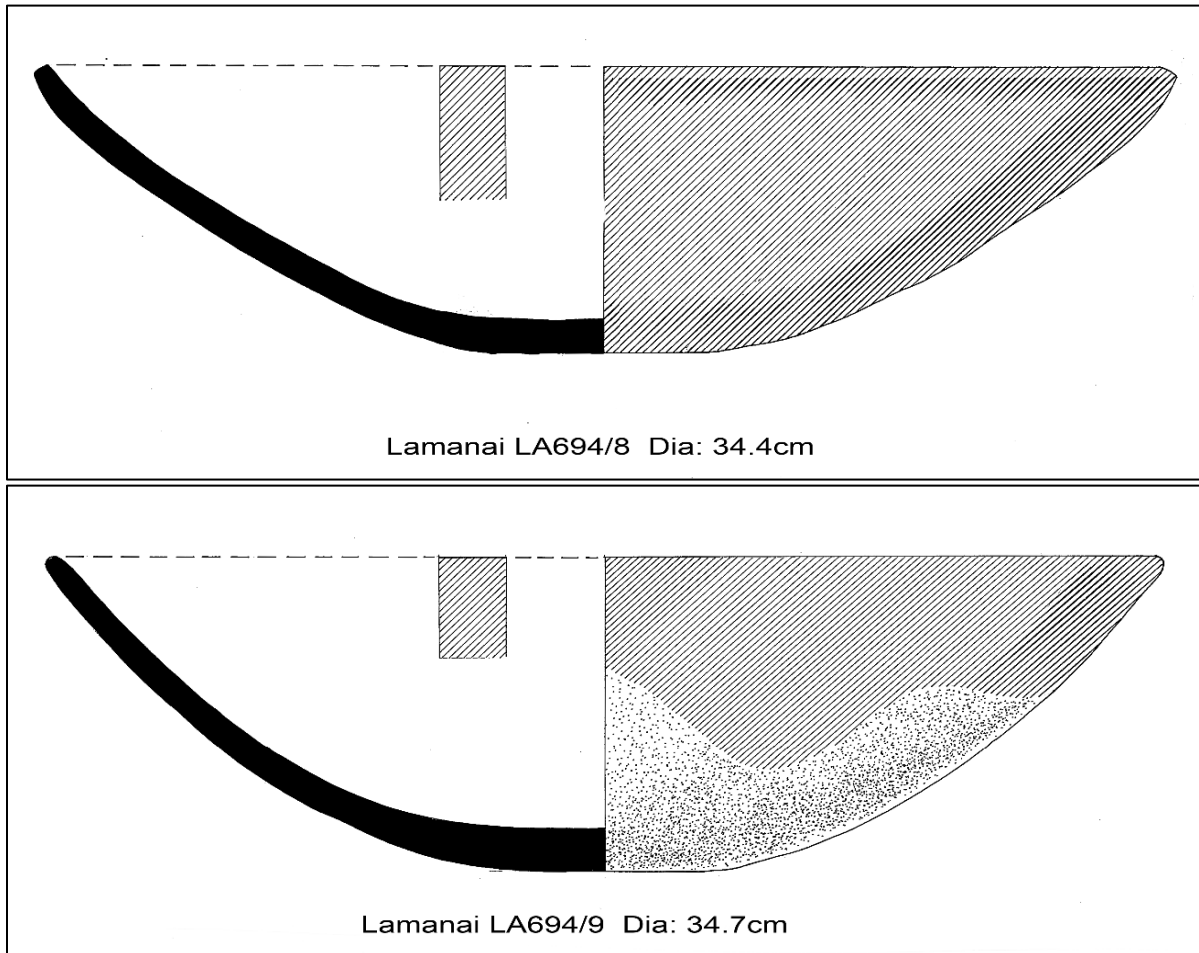


Figure A.39. Illustration of Cache N10-15/8 vessels LA694/8 and LA694/9.

Vessels LA694/3, 694/8, and LA694/9 sampled and described by Howie (2005):

LA694/3 Dish, round sides, direct rim, rounded lip that has an angular interior margin, slightly rounded base. Decoration: red slip on interior surface, exterior surface is unslipped except for rim area. Dimensions: diam. 52 cm; ht. 17.1 cm; th. 0.8 cm.

LA694/8 Dish, round sides, direct rim, rounded lip that has an angular interior margin, slightly rounded base. Decoration: red to orange slip (varies with thickness) on interior surface, exterior surface is unslipped except for rim area. Dimensions: diam. 38 cm; ht. 8.8 cm; th. 0.7 cm.

LA694/9 Dish, round sides, direct rim, rounded lip that has an angular exterior margin, slightly rounded base. Decoration: red to orange slip (varies with thickness) on interior surface and upper sides of exterior, unslipped lower exterior sides and base. Dimensions: diam. 37 cm; ht. 9.5 cm; th. 0.7 cm.

(Howie 2005:578, 604)

CACHE N10-15/8 (LA-694) Continued

Pierce's Note: The dating that is assigned for the eccentric flints in Caches 6 and 8 is called into question by revisions to the Lamanai chronology subsequent to Richard Meadow's dissertation in 2001.

Analysis from Meadows 2001:

LA694/31

Site: Lamanai

Dimensions (cm) L: 35.5 W: 15.0 Th: 3.1

Technological type: Biface

Presence of cortex: Yes

Raw material appearance: Dark brown and dark gray brown

Presence of polish/ thermal alteration/ coloration: Yes, dark brown coloration

Context: Structure N10-15/8 axial cache beneath north central staircase of the structure (Late Classic AD 850– 900)

Appearance in literature: n/a

Breakage patterns/ notes: This specimen is made of fine textured chert. Along the medial surfaces of the specimen lengthy feather terminated flake scarring is prevalent. The lateral margins exhibit shorter feather terminated flake scarring with some localized areas of step and hinge terminated scarring and edge crushing. The margins at the distal and proximal termini exhibit attrition, but it is unlikely that extensive platform set up and thinning was necessary. Of note are the headdress and facial profile.

Presence of pigments/ residues: None, but dark brown coloration is visible across surfaces where cortex is present.

(Meadows 2001:308)

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/9--Anthropomorphic Forms: Depictions of Sacrifice

Site: Lamanai

Dimensions (cm) L: 26.8 W: 16.9 Th: 3.4

Technological type: Biface

Presence of cortex: Yes

Raw material appearance: Tan brown dark brown and very dark gray

Presence of polish/ thermal alteration/ coloration: Yes, faded red color visible on the ventral surface

Context: Structure N10-15/8 stair cache (Terminal Classic AD 875)

Appearance in literature: n/a

Breakage patterns/ notes: The specimen is made of very fine textured chert with a number of circular inclusions. Lateral margins exhibit stacked step and hinge terminated flake scarring, especially prevalent in the notches of the arms and legs. The medial surfaces of the specimen exhibit lengthy feather terminated flake scarring, which is also present on the proximal surface (head) and the legs. Of note is the subtle yet detailed upturned facial profile.

Presence of pigments/ residues: None
(Meadows 2001:314)



Figure A.40. Photo of flaked stone symbol LA694/9 (Meadows 2001:315).

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/3--Zoomorphic Forms: Birds and Bird- like Depictions

Site: Lamanai

Dimensions (cm) L: 17.5 W: 12.8 Th: 2.1

Presence of cortex: Yes, small quantity on one medial surface

Raw material appearance: Tan brown dark brown

Presence of polish/ thermal alteration/ coloration: Yes, stain on one surface

Context: Structure N10-15/8 axial cache located beneath north staircase
(Terminal Classic AD 900)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of very fine textured chert. Across the medial surfaces of the specimen, flake scarring is primarily feather terminated. The lateral margins exhibit short feather terminated flake scars, with some localized areas of stacked flake scarring and edge crushing. Of note is the combination of two forms (composite) depicted in this specimen, namely a bird resting on the back of a crocodile. Also of notes is the small flake scar that appears to delineate the eye of the bird.

Presence of pigments/ residues: None
(Meadows 2001:357)



Figure A.41. Photo of flaked stone symbol LA694/3 (Meadows 2001:358).

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/ --Zoomorphic Forms: Crocodiles and Crocodile- like Depictions

Site: Lamanai

Dimensions (cm) L: 24.8 W: 9.5 Th: 1.9

Technological type: Biface (notched)

Presence of cortex: None

Raw material appearance: Banded gray brown and pale brown gray

Presence of polish/ thermal alteration/ coloration: Non

Context: Structure N10-15/8 axial cache beneath n. staircase (T. Classic AD 900)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of fine textured chert with coarse oval shaped inclusions. The medial surfaces of the specimen exhibit short feather terminated flake scars. The lateral margins exhibit short feather and stacked step and hinge terminated flake scarring. Edge crushing is more prevalent on the interior of the notches, but overall there is little attrition visible.

Presence of pigments/ residues:

(Meadows 2001:377)

Analysis from Meadows 2001:

LA694/38--Crescent Forms: Serrated, Barbed, and Single Pronged Crescents

Site: Lamanai

Dimensions (cm) L: 17.0 W: 15.4 Th: 2.2

Technological type: Biface (barbed crescent)

Presence of cortex: No

Raw material appearance: Brown gray and tan brown

Presence of polish/ thermal alteration/ coloration: No

Context: Structure N10- 15/8 cache beneath north staircase (T. Classic AD 900)

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of very fine textured chert. The appearance of the material marks it as originating in northern Belize. The medial surfaces of the specimen exhibit lengthy and short feather terminated flake scarring. The lateral margins exhibit short feather terminated flake scarring with localized areas of stacked step and hinge terminated scarring and edge crushing. Of note short is the feather terminated scarring visible on barbs.

Presence of pigments/ residues: None

(Meadows 2001:443)

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/24--Artifact Grouping: Barbed and Serrated Rings

Site: Lamanai

Dimensions (cm) L: 15.0 W: 10.5 Th: 1.8

Technological type: Biface (perforated)

Presence of cortex: No

Raw material appearance: Mottled tan brown/ gray brown with pale gray

Presence of polish/ thermal alteration/ coloration: No

Context: Structure N10-15/8 one of two caches beneath north stairway

Appearance in the literature: n/a

Breakage patterns/ notes: This specimen is made of fine textured material with some coarse textured inclusions. The interior margins exhibit stacked step and hinge scarring. The exterior margin exhibits stacked step and hinge terminated flake scars and edge crushing. Some large hinge scars are also visible. Across the medial surfaces of the specimen short and moderate length feather terminated flake scars predominate.

Presence of pigments/ residues: None

(Meadows 2001:490)

Analysis from Meadows 2001:

LA694/12--Artifact Grouping: Notched and Perforated Flakes

Site: Lamanai

Dimensions (cm) L: 6.2 W: 4.5 Th: 0.4

Technological type: Flake (notched/ perforated)

Platform dimensions (cm) n/a

Platform angle: n/a

Presence of cortex: Yes, small quantity visible at one terminus

Raw material appearance: Tan brown and very pale brown

Number of dorsal facets: 5

Context: Structure N10-15/8 axial cache beneath north staircase

(Terminal Classic AD 900)

Appearance in the literature: n/a

Notes: This specimen is made of very fine textured chert. There is no flake scarring across the medial surfaces of the specimen. The lateral margins exhibit notches, the interior of which exhibits edge attrition and some short feather terminated flake scarring. The perforation exhibits a similar pattern of flake scarring. The specimen exhibits a ring form. There is no indication of surface alteration.

(Meadows 2001:636)

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/25--Artifact Grouping: Notched and Perforated Flakes

Site: Lamanai

Dimensions (cm) L: 12.5 W: 9.0 Th: 1.1

Technological type: Flake (notched/ perforated)

Platform dimensions (cm) n/a

Platform angle: n/a

Presence of cortex: No

Raw material appearance: Tan brown and pale brown

Number of dorsal facets: 4

Context: Structure N10-15/8 axial cache beneath north staircase
(Terminal Classic AD 900)

Appearance in the literature:

Notes: This specimen is made fine textured brown chert. The dorsal surface exhibits moderately lengthy feather terminated flake scarring. The lateral margins exhibit some edge attrition but little stacked micro flaking. There is dark reddish blue staining present on one edge prominence. The striking platform is not present. The specimen appears to represent an anthropomorphic form with the perforated area representing an eye and the notch along the lateral margin representing a mouth.

(Meadows 2001:636)



Figure A.42. Photo of flaked stone symbol LA694/25 (Meadows 2001:635).

CACHE N10-15/8 (LA-694) Continued

Analysis from Meadows 2001:

LA694/43--Artifact Grouping: Notched and Perforated Flakes

Site: Lamanai

Dimensions (cm) L: 10.2 W: 4.0 Th: 0.7

Technological type: Flake (notched)

Platform dimensions (cm) n/a

Platform angle: n/a

Presence of cortex: Yes, small quantity visible at one terminus

Raw material appearance: Uniform brown

Number of dorsal facets: 2

Context: Structure N10-15/8 axial cache beneath north staircase
(Terminal Classic AD 900)

Appearance in the literature: n/a

Notes: This specimen is made of very fine textured chert. The medial surfaces of the specimen exhibit no flake scarring. One lateral margin exhibit short feather terminated flake scars. The opposite margins exhibit two notches, the interior of which exhibits microflaking and edge crushing. There is no evidence of surface alteration visible.

(Meadows 2001:637)

Analysis from Meadows 2001:

LA694/51--Artifact Grouping: Notched and Perforated Flakes

Site: Lamanai

Dimensions (cm) L: 8.7 W: 6.6 Th: 0.7

Technological type: Flake (notched/ perforated)

Platform dimensions (cm) W: 0.7 Th: 0.6

Platform angle: n/a

Presence of cortex: No

Raw material appearance: Dark gray brown and tan brown

Number of dorsal facets: 6

Context: Structure N10-15/8 axial cache beneath north staircase
(Terminal Classic AD 900)

Appearance in the literature: n/a

Notes: This specimen is made of very fine textured chert. There is no flake scarring across the medial surfaces of the specimen. The lateral margins exhibit edge attrition with some edge rounding and crushing. Shorter feather terminated flake scarring is visible along the margins. There is no indication of platform preparation or surface alteration.

(Meadows 2001:637)

CACHE N10-15/9 (LA-3108)

(See Pierce 2014 Field Report, Op 2 Details for photos, drawings and additional information)
Formally named Cache N10-15/9 (LA3108), but during excavations in 2014 we referred to this as Cache 2.

Area: E-W 1.3m x N-S 1.0 m

Depth: 40-50 cm below Serious Floor down to top of lower terrace (see section)

Location: West of centerline and north of steps spread over the depth of terrace 2.

Cache N10-15/9 (LA3108) consisted of a very large quantity of charcoal—eight 5-gallon buckets of charcoal, ~0.16cu meters, weighing ~52kg/115 pounds. Surrounding the charcoal deposit was a layer of a soft matrix, which may have been ash, but it was difficult to determine—a sample was saved. Within the charcoal were three burnt-looking stones (among other soft limestones); a highly fragmented Achote black vase absent any rim sherds (LA3108/1) which was located in the charcoal and stones near the top of the cache; a large jade “bead” (LA3108/2) which was located seemingly randomly in the charcoal toward the bottom of the cache. The cache extended south under the two steps all the way south to the face of the upper Doll terrace and down to the surface of the second terrace, spilling down over and to the north of the terrace verge. On the surface of the lower terrace there was another circular area of soft limestones which the charcoal was placed within (and filled the cracks between the stones). It appears to us, with Phil Austin (UCL PhD candidate specializing in charcoal analysis) assisting with the cache removal, that the charcoal was put here cold as opposed to being burned in place as there was no evidence of burnt surfaces on the plastered terrace or structure faces.

- LA3108/1 Highly fragmented Achote Black (per Debra Walker) cylindrical vase (bottom intact) absent any rim sherds, base is 10.5 cm diameter, height is 5.5 cm at the highest point of breakage. A line is incised around the circumference 1 cm from the bottom.
- LA3108/2 Jade “bead” or ceremonial object, 6.6 cm diameter, 4cm high, 3.19 cm hole diameter, weight 288 g
- LA3108/3 ~0.16 m³ of charcoal weighing ~52 kg/115 pounds

See photos in Figures A.8, A.21–A.23, A.25, A.45, and A.46 for location context.

CACHE N10-15/9 (LA-3108) Continued

The 2014 excavations exposed the Box platform feature where Cache 9 and Cache 10 were placed under the floor of this feature. There is no evidence of a floor cut for the placement of the caches, so we conclude they were placed in the Box during construction. This is the stage when the two north steps were added and cache placement in relation to the steps also corroborates this. Cache 9 extends under the steps to meet the plastered terrace face of N10-15 1st, and the bottom of the charcoal deposit sits upon the lower terrace. Cache 10 is located under Serious Floor directly north of the lower step on the north central axis of Structure N10-15 1st. The caches and placement are described and photographed in detail in the Sub-Op 2 section of the 2014 Field Report (Pierce 2014).

CACHE N10-15/9 (LA-3108) Continued

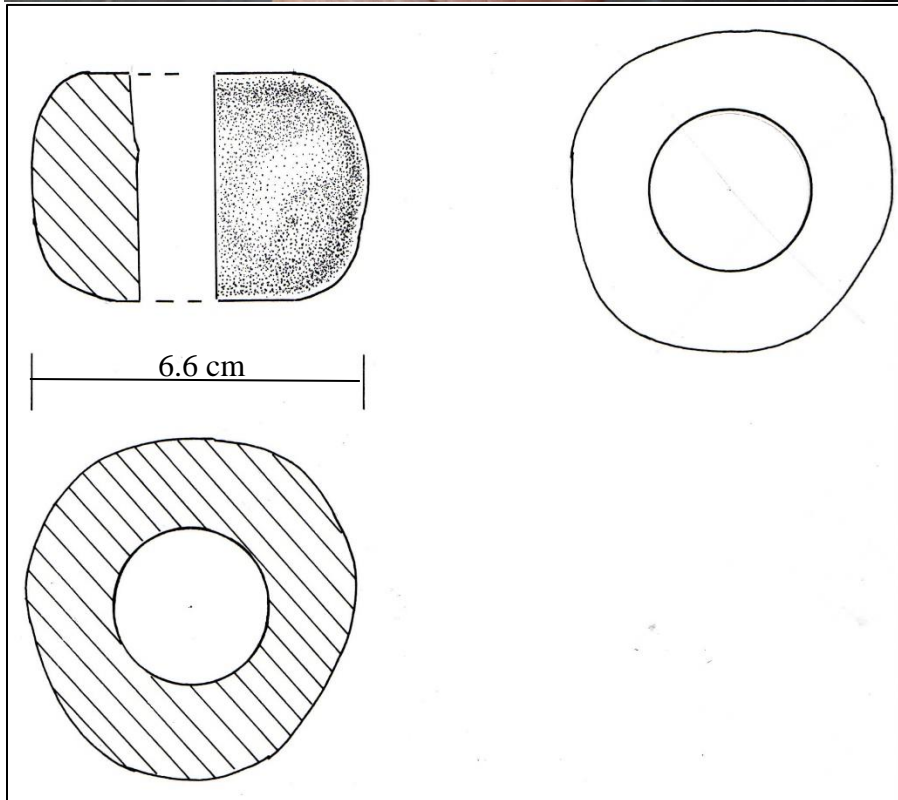


Figure A.43. Cache N10-15/9 Jade “bead” LA3108/2 (photo by Karen Pierce, 2014). 6.6 cm diameter, 4cm high, 3.19 cm hole diameter, weight 288 g (illustration by Louise Belanger).

CACHE N10-15/9 (LA-3108) Continued



Figure A.44. Photos of Cache N10-15/9 vessel LA3108/1 in situ and removed. A highly fragmented Achote black vase (absent any rim sherds) was located on and around three burnt stones, an ashy matrix, and charcoal fragments near the top of the cache. Vessel remains unwashed for residue analysis, therefore there has been no attempt at reconstruction thus far (photos by Karen Pierce, 2014). **Pierce's Note: See Cache N10-77/4 (LA 1785) in Ottawa Structure N10-77, as these vessels, their breakage, and intact bases are very similar.**

CACHE N10-15/9 (LA-3108) Continued



Figure A.45. Photo of Cache N10-15/9 in situ, looking west at the base of the N10-15 north stairs. Three burnt stones on which the shattered vessel (LA3108/1) was placed, set in a mass of charcoal (photo by Karen Pierce, 2014).

CACHE N10-15/9 (LA-3108) Continued



Figure A.46. Photo of excavation of Cache N10-15/9, looking east at the N10-15 north stairs and the lower terrace (north arrow sits on it), the bottom of the charcoal deposit sat upon this terrace and extended north slightly beyond the terrace verge at the level of the terrace (photo by Karen Pierce, 2014).

CACHE N10-15/10 (LA-3107)

(See Pierce 2014 Field Report, Op 2 Details for photos, drawings and additional information)
During excavations in 2014 we referred to this as Cache 1.

Area: E-W 60cm x N-S 60cm

Depth: 34cm below Serious Floor. See section drawing

Location: Cache 1 area, formally named Cache N10-15/10 (LA3107), at centerline and directly north of the two steps on the north side of N10-15 (1st). This cache was incorporated into the dense floor matrix of Serious Floor, just below the 6cm plaster level was a circular arrangement of soft limestones with one diamond-shaped stone centered in these, which turned out to be centered over the cache lip-to-lip vessels. The soft limestones were placed directly on top of a 6 cm layer of charcoal that covered the 2 ceramic vessels (LA3107/1 and LA3107/2) which were placed lip-to-lip (14cm combined height) and contained large charcoal fragments (one piece with the wood not completely carbonized), 9 unremarkable white stones, and 5 obsidian lancets. Under this was an additional 6cm of charcoal and possible ashy substance. A dense sascab/limestone core continued below this.

- LA3107/1 Lamanai polychrome vessel, 9.2cm H x 30.5 dia.
Note: this is Palmar Orange with red stripes and black paint—Tepeu 3 related (Debra Walker, personal communication 2014)
- LA3107/2 Lamanai polychrome vessel, 7.6cm H x 37cm dia.
Note: this is Palmar Orange with red stripes and black paint—Tepeu 3 related, very worn slip (Debra Walker, personal communication 2014)
- LA3107/3 5 obsidian lancets
- LA 3107/4 9 white stones

See photos in Figures A.8, A.21–A.23, and A.25 for location context.

The lip-to-lip container in Cache 10 was nested in a bed of charcoal, with a square cut-stone (cut on each surface) placed above it. While the lower vessel's surface is eroded, the design on the upper vessel has a central unidentified motif surrounded by multiple red and black rim bands and wavy lines (Figures A.49 and A.50) and is similar in character to other Ottawa Terminal Classic cache vessels that are dubbed "Lamanai Polychromes". The vessels were identified by Dr. Elizabeth Graham as typical Lamanai Terminal Classic polychrome forms, and during a site visit to Lamanai, Maya ceramicist Dr. Debra Walker (personal communication 2014) noted that they are Palmar Orange type from the Tepeu 3 phase.

CACHE N10-15/10 (LA-3107) Continued



Figure A.47. Photo of Cache N10-15/10, the 5 (unwashed) obsidian lancets found within the charcoal inside the lip-to-lip cache vessels LA3107/1 and LA3107/2 (photo by Karen Pierce, 2014).



Figure A.48. Photo of Cache N10-15/10, the 9 (unwashed) unremarkable stones found within the charcoal inside the lip-to-lip cache vessels LA3107/1 and LA3107/2 (photo by Karen Pierce, 2014).

CACHE N10-15/10 (LA-3107) Continued

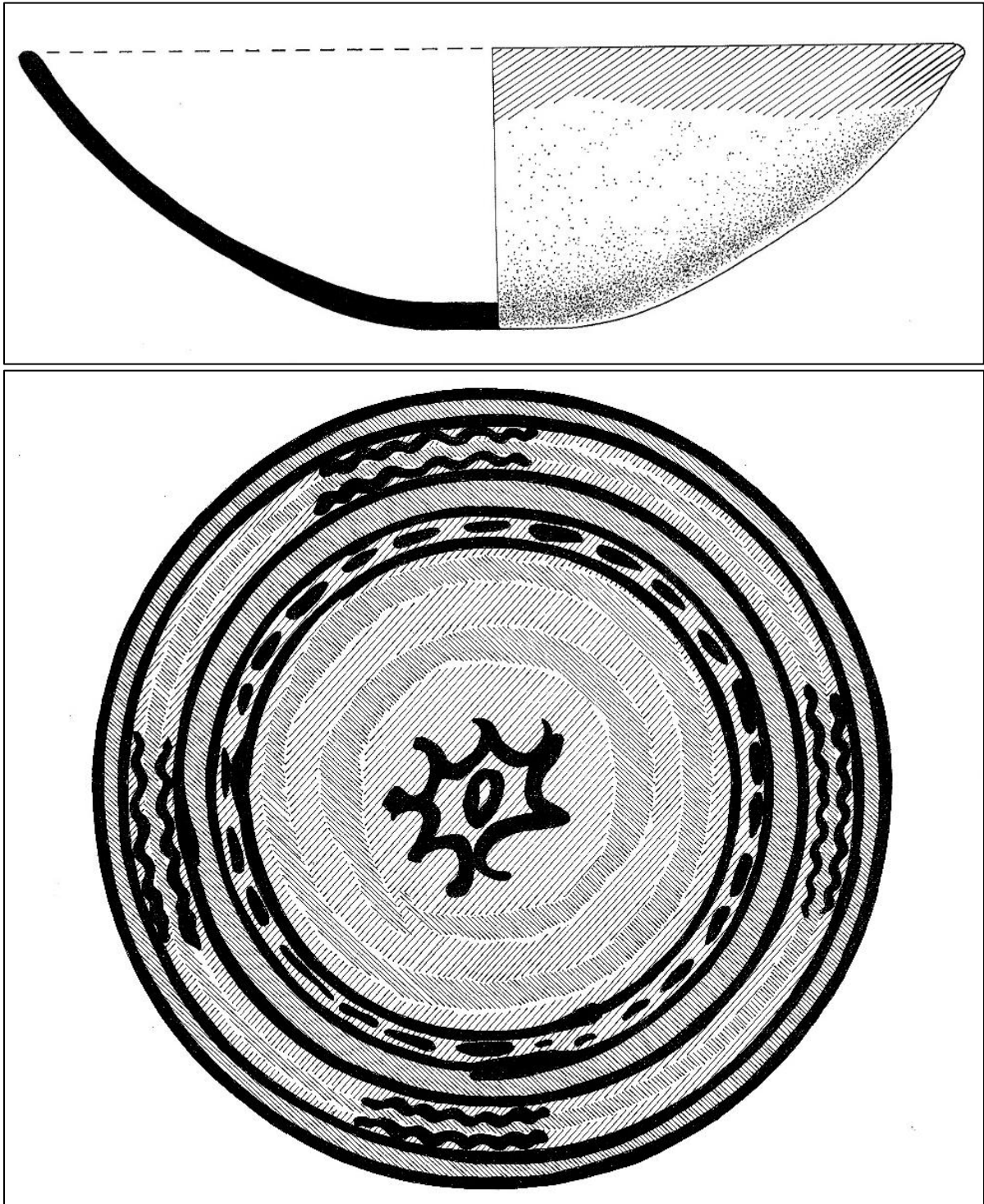


Figure A.49. Illustration of Cache N10-15/10 vessel LA3107/1 profile (top) and interior view (upper 'lid' vessel in cache) (bottom) (illustrations by Louise Belanger).

CACHE N10-15/10 (LA-3107) Continued



Figure A.50. Cache N10-15/10 vessel LA3107/1 interior view watercolor and photo (watercolor illustration by Louise Belanger 2014; photo by Karen Pierce, 2014).

CACHE N10-15/10 (LA-3107) Continued



Figure A.51. Top: Cache N10-15/10 illustration of cache vessel LA3107/2, the lower cache vessel that contained the charcoal and objects (illustration by Louise Belanger). Bottom: Cache vessel LA3107/2 (attempted to keep vessel unwashed for residue analysis, but the 3 large pieces were inadvertently washed—the other fragments are still unwashed) (photo by Karen Pierce, 2014).

CACHES N10-15/9 AND N10-15/10 Continued

Table A.5. Lamanai Wood Identifications: Caches N10-15/9 and N10-15/10 from Str. N10-15. [6/14] (Rapid assessment) (Phil Austin, Institute of Archaeology, University College London).

Lamanai Wood Identifications: Caches N10-15/9 & N10-15/10 from Str. N10-15			
Sample	Taxon	No. frags	Remarks
Cache N10-15/9 LA 3108	<i>Pinus caribaea</i>	10	-
Cache N10-15/10 LA3107	<i>Pinus caribaea</i>	10	Charcoal from below vessels
Cache N10-15/10 LA3107	<i>Pinus caribaea</i>	10	Charcoal from above vessels
Cache N10-15/10 LA3107/1&2	<i>Pinus caribaea</i>	10	Charcoal from inside (lip-to-lip) vessel
Cache N10-15/10 LA3107/2	<i>Pinus caribaea</i>	5	Charcoal & residue
Cache N10-15/10 LA3107	<i>Pinus caribaea</i>	5	Charcoal from inside (lip-to-lip) vessel – last bit removed from bottom

CACHES N10-15/9 AND N10-15/10 Continued

Table A.6. Biosilicate frequencies and starch grains isolated from vessels LA3108/1 and LA3107/2 at Lamanai, Belize (Steven R. Bozarth, Lamanai Biosilicate Report, 2015).

Area	LA3108/1		LA3107/2	
	Cache N10-15/9 Loose matrix from the upper part of intact base	Cache N10-15/9 Residue blob stuck on interior of bottom of vase	Cache N10-15/10 Lip to lip vessels with charcoal	Cache N10-15/10 Lip to lip vessels with charcoal
Sample #	200	39	298	-
Context	203	39	320	-
Biosilicate Sum	2,303	1,872	10,945	-
Phytolith concentrations				
Shrubs and Trees				
Rugulose spheres ≤10μ	13.8	2.6	53.8	-
Smooth spheres ≤10μ	3.9	-	0.3	-
Polyhedra	4.9	-	-	-
Anticlinal (jigsaw-puzzle pieces)	-	-	-	-
Branching tracheid	-	-	-	-
Stomata	-	-	-	-
Hat-shaped (Bactris-type)	-	-	0.6	-
Palm (Spinulose spheres ≥ 10μ)	15.3	7.7	2.8	-
Other palms and Bromeliads	15.8	5.1	5.3	-
(Spinulose spheres 5-10μ)				
<i>Inga</i> fruit phytoliths	.5	-	-	-
Native Grasses, Subfamilies (short cells)				
Panicoid (Bilobates and crosses)	0.5	-	1.6	-
Chloridoid (Saddles and spools)	0.5	7.7	0.6	-
Pooid (Trapezoids)	0.9	2.6	2.2	-
<i>Aristida</i> (Arundinoideae)	-	-	-	-
Native Grasses, other phytoliths				
Long cells	21.2	51.3	17.5	-
Bulliforms	2	10.3	0.3	-
Trichomes	0.5	2.6	2.2	-
Dendriforms	-	-	-	-
Tracheids	-	-	-	-
Asteriforms	-	-	-	-
Non-grass herbs				
Asteraceae	-	-	-	-
Cyperaceae	-	-	0.3	-
Rugulose spheres > 10μ	9.4	2.6	1.9	-
Smooth spheres > 10μ	2	-	-	-
Hemisphere w/ occluded carbon	-	2.6	-	-
Unknown	7.4	5.1	3.8	-
Other biosilicates				
Sponge spicules	-	-	0.6	-
Diatoms	-	-	5.6	-
Algal statospores	1.5	-	0.6	-
Starch grains				
<i>Zea mays</i>	-	1	-	-
Unidentified (elliptical 22-26μ)	-	3	-	-

(Lamanai biosilicate table 2015)

CACHE N10-15/11 (LA-3151) (Karen & Claude, 2014—see KLP Field Report Op 8 Details Draft for photos, drawings and additional information)

Area: approx. 50 cm long x 20 cm wide

Depth: approx.. 75-80 cm below upper (Xix) floor

Location: From top of Rhodes Floor down ~52cm to the top of “Serious Floor” (believed to be equal to Stan Loten’s “Crumpet Floor”) the cache was found just above Serious Floor at the NE corner of the unit, consisting of 2 obsidian lancets and reddish matrix (samples saved).

LA3151/1

2 obsidian lancets



Figure A.52. Photo of Cache N10-15/11, looking down with north at top of photo. Area of cache with two obsidian lancets and reddish-colored matrix (photo by Karen Pierce, 2014).

BURIAL N10-15/1 (LA-621)

(1982) At the E side of the structure, trenching above a low facing more or less in line with the face of Tulip (N10-28) revealed a floor (= XIX) at the apparent E side of N10-15. Atop the floor, abutting a facing at the W, was a mass of facing and other stones that extended along the face of N10-15 to the N. Atop the mass of stones, at its S end, lay a burial:

Grave Type: on core, covered by post-abandonment accumulation (?); partly lined with unshaped stones, no cap

Length: grave 136 cm, skel 112 cm

Width: grave 78 cm, skel 31 cm

Depth: from surface to top 2 cm, base 15 cm

Orientation: head WNW 308°, facing down

Position: frogged, feet on pelvis

Condition: fair

Sex,age: male, mature adult

Location: see N10-15 plan; from facing at W side of Fifteen to top centre of cranium 400 cm S X 10 cm W (KP: does this mean the west face of the wall at the east end of N10-15?)

Associated artifacts:

621/1 necklace of human teeth with roots perforated; around neck

621/2 bone tube, at R shoulder, atop /3, oriented across body; originally under body

621/3 bone tube, under /2, oriented ca E-W (along body axis), at body centreline

621/4 bone tube like /3, just N of /3

621/5 bone tube, short, broken, N of /4

621/6 tube like /5, under E end of /4

621/7 dish, outcurving-side, tripod, at R shoulder, beside head (scattered)

621/8 dish, tripod, at L hip (scattered)

621/9 bowl, round-side (?), at L side of skull, inverted, in situ breakage

621/10 chalice, fragmentary, part at upper R side, with additional pieces at R hip, R. leg, and L hip

KP: Pendergast 1982 Handwritten Field Notes, PDF file page 20

BURIAL N10-15/1 (LA-621) Continued

Vessels LA621/8A and LA621/9 sampled and described by Howie (2005):

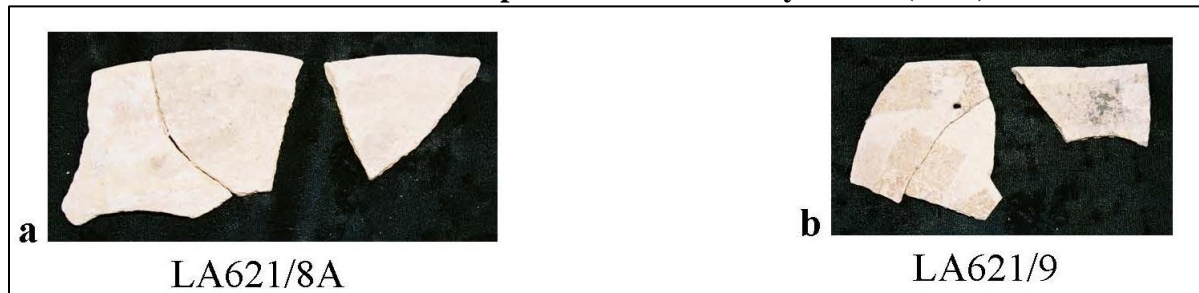


Figure A.53. Photo of sherds from Burial N10-15/1 vessels LA621/8A and LA621/9 and descriptive information for the vessels (Howie 2005:572).

Vessels LA621/8A and LA621/9 sampled and described by Howie (2005):

a) LA621/8A Tripod bowl, out-curving sides, direct rim, slightly pointed lip, angular junction between sides and base, slightly rounded base, three hollow oven feet with single opposing lateral perforation vents. Decoration: very eroded; orange slip on interior and exterior surfaces of body at least.

Dimensions: diam. 23 cm; ht. 10.5 cm; th. 0.4 cm.

b) LA621/9 Bowl, rounded sides, interior thickened rim, pointed lip that is slightly bevelled in, slightly rounded base. Decoration: orange slip on interior and exterior surfaces (2 mend holes).

Dimensions: diam. 23 cm; ht. 9.4 cm; th. 0.3 cm.

(Howie 2005:572, 599)

LA621/10 Chalice, Buk, Bur. N10-15/1, N.R.: standard rounded int, no break; concave rim w/rounded lip, orange base had triangles w/lateral lines between as border(s) for scene, N.R

Pierce's Note:

There are two additional burials for Structure N10-15 on the Lamanai Master Lot List:

- LA 666 on the Master Lot List is listed as a burial for N10-15
- LA 681 on the Master Lot list is listed as another burial, Burial N10-15/2

Burial N10-15/2

LA 681/1 Bowl, round-side, Bur. No-15/2, Rounded, med-th. sides; lip slightly flattened, w/angular int. margin, base flat. Diam. 16.5 x 17.0 cm; ht. 6.0 cm ; ht 0.6cm. Int.sl., mod. Burn., well-sm. leached & partly eroded; ext.sl. upper body only, well-sm. pitted; base firing whitened, Orange (Rufous), complete exc. for chip.

SPECIAL DEPOSITS

BAK PLATFORM (LA-630 and LA-631)

Note: At the E face of N10-15 Burial 1 was cut into the facing and also into the top of a **secondary platform to the E (= BAK)**.

Bak consisted of one to two courses of facing stones atop a stratum that did not appear at first to be core laid up for Bak, but rather refuse laid atop the Xix floor, extending E of the E face of Bak. The refuse is LA-630; some sherds that are part of LA-630 come from LA-631, the surface above Bak. Further excavation showed that much of the pottery, including most off the larger pieces, came from the top 25 cm of Bak, which suggests that the refuse was in fact Bak core. This in turn raises the question regarding the relationship of the Bak-enclosed core with material from E and S of Bak. As far as examination permitted determination at the time of excavation, no sherds from the area E and S of Bak could be joined to any from LA-630.

On the E face of Fifteen, a cut through the Xix floor revealed the platform of an earlier structure and the base of a wall apparently secondary to the platform below the wall that formed the N side of Bak. The N side wall of Bak is TUN; the wall stub below, apparently secondary to the earlier platform, is NICHE, and the platform is XUN

LA630/6 Bowl, round-side, Terclerp, Core of E. add 'n, N10-15, rounded, med-th. sides; lip pointed, base prob. Convex, Diam. ; ht. ; th. 0.65cm, Int. seems unsl (self-slip?), well-s; ext. as int., some leaching & erosion of both surfs. Darkened, perhaps postfire but possibly firing cloud cream slip; med (mahogany red) dec. red rim band int. & ext.; 3 groove-incised encirc. lines at rim border band f dependent hachured loops (half circles), plus single vertical lines (at least 2 between loops), uniform buff-orange; soft, w/crumblly/powdery fracture, apart from v. rare minute opaque ang. frags., texture suggests ash fragment

BAK PLATFORM (LA-630 and LA-631) Continued

**Vessels LA630/1, LA630/2, LA630/3, LA630/4, LA630/5, LA630/7, and LA630/8
sampled and described by Howie (2005):**

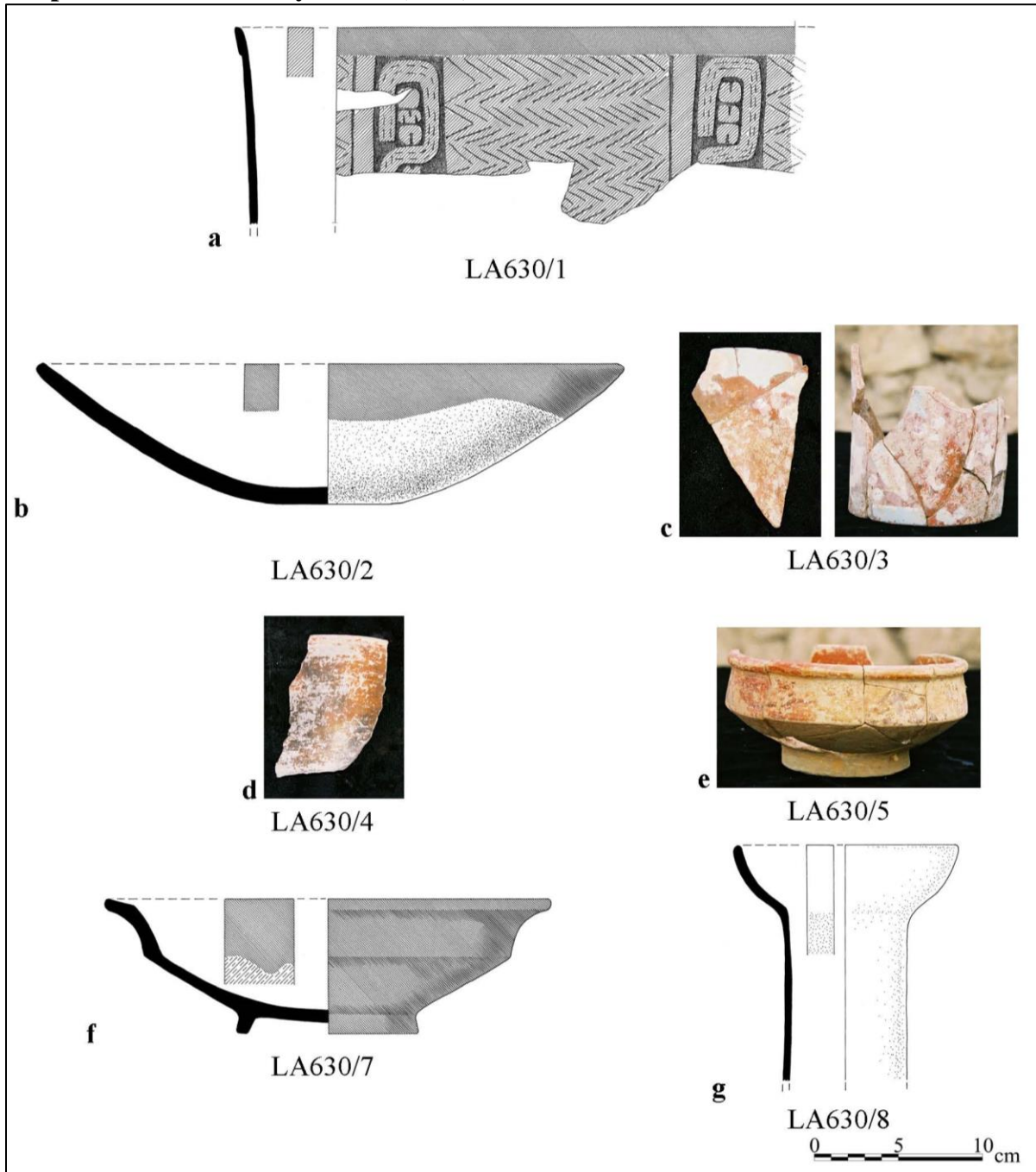


Figure A.54. Photo of sherds and vessel illustrations from BAK platform vessels LA630/1, LA630/2, LA630/3, LA630/4, LA630/5, LA630/7, and LA630/8 and descriptive information for the vessels (Howie 2005:574, 599, 600).

BAK PLATFORM (LA-630 and LA-631) Continued

Vessels LA630/1, LA630/2, LA630/3, LA630/4, LA630/5, LA630/7, and LA630/8 sampled and described by Howie (2005):

a) LA630/1 Cylindrical Vase, vertical sides, slightly flaring bolstered rim, rounded lip, missing base. Decoration: eroded; red slip on exterior surface, unslipped interior surface; preslip groove-incising and gouging on exterior sides in panels, plain interior. Motifs: linear and complex curvilinear.

Dimensions: diam. 15 cm; ht. n/d; th. 0.4 cm; base diam. n/d.

b) LA630/2 Dish, round sides, direct rim, squared lip, flat base. Decoration: red slip on interior surface, exterior surface is unslipped except for rim area.

Dimensions: diam. 20 cm; ht. 5.4 cm; th. 0.5 cm.

c) LA630/3 Cylindrical Vase, vertical sides, direct rim, rounded lip, angular junction between body and base, flat base. Decoration: eroded interior surface; dark red slip on interior and exterior surfaces; exterior surface and interior rim area are stuccoed and painted with motifs (in blue, turquoise and dark red). Motifs: linear, complex curvilinear and naturalistic(?).

Dimensions: diam. 12 cm; ht. n/d; th. 0.6 cm; base diam. 11.5 cm.

d) LA630/4 Bowl, flaring sides, bolstered rim, rounded lip, angular junction between body and base, missing base. Decoration: black slip with some orange mottling on interior and exterior surfaces.

Dimensions: diam. 14 cm; ht. 10.5 cm; th. 0.5 cm.

e) LA630/5 Composite silhouette bowl with a ring base, rounded lower sides rising to an angular junction with slightly in-sloping upper sides, bolstered rim, rounded lip that has an angular interior margin, high ring base. Decoration: red slip on interior surface and on rim of exterior surface; orange slip on exterior surface including base; black painted motifs on upper sides only, plain interior. Motifs: linear, complex curvilinear and zoomorphic(?).

Dimensions: diam. 16 cm; ht. 6.2 cm; th. 0.6 cm; base diam. 9 cm.

f) LA630/7 Composite silhouette dish with a ring base, rounded lower sides rising to an angle from which upper sides curve outward, slightly everted rim that is bevelled on the interior surface, rounded lip, high ring base. Decoration: red slip on interior and exterior surfaces.

Dimensions: diam. 29 cm; ht. 7.7 cm; th. 0.7 cm; base diam. 10 cm.

g) LA630/8 Torch, tubular handle opening to a mouth with round sides, a direct rim and a slightly bevelled out lip. Decoration: brown (possibly originally orange) slip on exterior surface and possibly interior surface of mouth (heavily eroded), interior of handle is unslipped.

Dimensions: rim diam. 12 cm; handle diam. 7.7 cm; ht. n/d; th. 0.5 cm.

(Howie 2005:574, 599, 600)

See description for LA630/6 above.

DEPOSIT BELOW XUN PLATFORM LOT LA 667

At the **SE corner of the Fifteen platform**, the Xix floor abuts the platform; the platform top is chopped, but the terrace faces are present. Below Xix, which rests on cobble core, is an irregular mortar stratum that caps dark soil with a high sherd yield (= LA-667), over the lower terraces of Fifteen.

At the E end of DOLL/MAYS (check nomenclature with HSL drawings), demolition of the upper zone of N10-28 (Tulip) left stucco lying along the Doll platform face. Beneath the core of the Xun platform, atop mortar associated with the stucco, is a vessel, seemingly deposited intact and broken thereafter, LA 667 (lot includes sherds from the area). Depth: from Mays basal moulding to vessel top 79 cm. Location: from the SE corner of the Doll platform at the level of the vessel to vessel centre 610 cm N X 84 cm E.

LA667/1 Jar, restricted-orifice, N10-15, XIX floor core, massive insloping sides, rising to sharply restricted orifice; lip more or less rounded, base flat. Diam. Max. (base); rim cm; ht. 16.3cm; th.2.2cm body, 1.2cm rim. Int.unsl., v.crude w/heavy lateral finger-drag lines w/raised margins; ext.unsl, gen.well-sm., w/vertical sm.marks; small.unsl. buff-orange thick brown core w/greyish edges; medium, w/somewhat crumbly fracture & tendency to crack longitudinally due to thickness, copious opaque angular fragments, generally minute to small fragments.

XIX FLOOR CORE DEPOSIT EAST OF BAK LOTS LA-644 and LA-645

In the floor of Xix E of Bak there was a clearly cut pit, with no contents; location is shown on plan. A second hole farther E likewise contained nothing, but there were concentrations of sherds in Xiu core, akin to the LA 638-640 material. One lot (LA-644) beneath the hole was excavated by the dog Useless; the second lot, LA-645, lay at depths of 32–43 cm below Xix with its centre 62 cm S of the section line, resting atop a rock and mortar stratum that abutted a wall face that may be the W end of Tulip.

Pierce's Note: Is Xiu core the same as Xix? I think it is.

LA638/1 Bowl, round=side, Plaster of XIX floor N10-15, rounded, thin sides; lip gen. rounded, base convex, Diam.15.1cm; ht.5.8cm; th.0.5cm., Int. prob. completely sl., eroded exc. rim; ext. prob.sl., upper body only, slt. irreg., v. heavy firing cloud one side + base orange (unspecified) fragmentary.

WEST END REFUSE DUMP DEPOSIT LOT LA-678

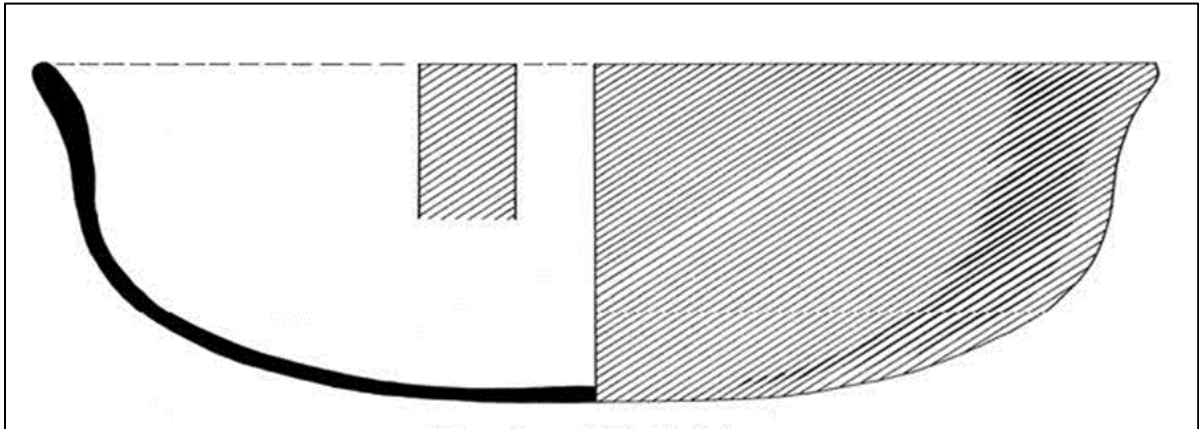


Figure A.55. Illustration of refuse dump deposit vessel LA678/2.

Vessels LA678/2 sampled and described by Howie (2005):

LA678/2 Bowl, out-curving sides, slightly interior thickened rim, rounded lip, slightly rounded base. Decoration: heavily eroded; orange slip on interior and exterior surfaces. Dimensions: diam. 22 cm; ht. 6.3 cm; th. 0.5cm.

(Howie 2005:577, 603)

Pierce's Note: I do not know the precise location of this —if it is in N10-15 or N10-19....The Master Lot List describes the location for Lot LA-678 as this: "Material in fill/dump N of JONNY bench, W end of Mays". Loten does not call anything Jonny Bench in his (1984) notes.

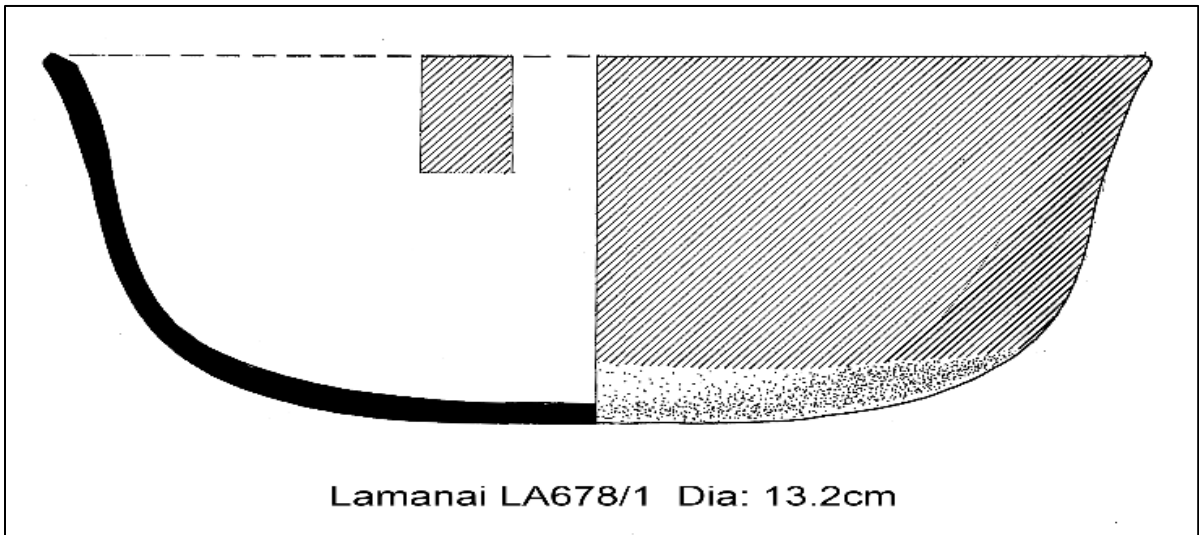


Figure A.56. Illustration of refuse dump deposit vessel LA678/1.

FROM INSIDE A BENCH AT N10-15:



Figure A.57. One of the three shell fasteners (?) from Altun Ha, duplicated by the Lamanai specimen. Actual size. (Pendergast 1982b:3, Fig. 2.)

Lot number unknown.

STRUCTURE N10-15 CACHE AND SPECIAL DEPOSIT CERAMIC VESSEL INFORMATION HAS BEEN TRANSCRIBED (DEC. 2016) INTO AN EXCEL TABLE USING THE FOLLOWING HEADINGS: Field Cat No, Category, Structure, Dates, Period, Phase, Provenience, Size, Description, Surface, Colour, Decoration, Paste, Temper, Appendages, Comp Material, Remarks.

Information below, and in several other parts of this document, is recorded in the order listed above, but the Dates and Period categories were left blank in most cases. In this document these descriptions have been omitted for the illustrated vessels.

These three vessels were recorded on N10-15 ceramic vessel cards, but not noted in Pendergast's field notes:

LA 676/1 Dish, outcurving- side, tripod, Midden E of N10-15 base (under demolition material), outcuring, med-thick sides; lip flattened, with somewhat angular margins, base flat, Diam. Cm; ht overall 5.6, foot ht. 0.9 cm; th. 0.65 cm, body, 0.7 at rim, Int. sl., well-sm. w/slt. lat. sm. marks on body; leached & eroded; ext. exc., Base sl. Med. Burn, some leaching & pitting, Int. burn, med- high to high, red (english red), thick grey core, buff-orange edges; mod. Hard, w/largely angular fracture, minute to small opaque angular frags + minute dark angular frags, 3 solid tapering nubbin feet, Fragment (less than 1/2)

LA 689/1 Bowl, rounded = side, slightly thickened rim, Surf. W. & sends N10-15, Rounded, thin sides, thickened on int. at rim; lip pointed, base convex, Diam. ; ht. 8.3cm; th 0.4 cm body, 0.7 cm rim, Int.sl., well-sm. almost entirely leached & eroded; ext. prob. sl. upper body only, leached, pitted, ; firing cloud (& spall) on base, Red (Vinaceous - Rufous), med. grey core, thick, w/buff edges; med-hard, clinky, w/non-angular fracture, minute to small opaque angular fragments fragment

LA 663/1 Bowl, rounded- side, Refuse, N.face N10-15, Rounded, med- thick sides; lip slightly flattened, w/partly angular margins, base convex (?), Diam.; ht. ; th. 0.55cm, Int. sl., high burn., well-sm., largely leached & eroded; ext. sl. ,lat. sm. marks, med-high/high burn., leached &eroded buff (Pale Orchraceous Buff), Uniform brown; hard, w/non-angular fracture, minute angular calcite & opaque fragments, small amts, fragmentary

SOUTHEAST QUADRANT DEPOSIT LOT LA 661

Moulded-carved vessel: From the SE quadrant of N10-15 topmost core; some sherds at surface, remainder mixed with Terclerp vessels in top 25 cm, more or less of the core that filled the rooms of Fifteen.

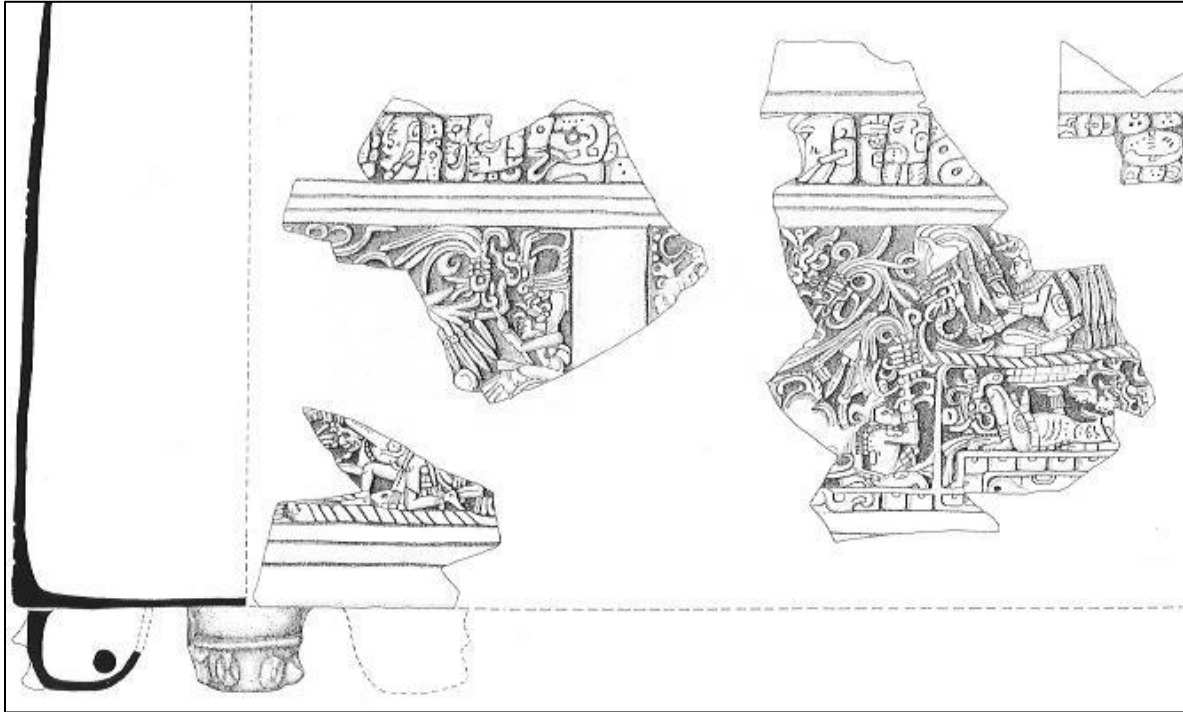


Figure A.58. Illustration of Terclerp phase Molded-carved tripod vase, LA 661/1 (John 2008:119, Fig. 5.4.).

Although this vessel, LA 661/1, may have first been classified as Pabellon Molded-carved ceramic type (Fine Orange ware) (John 2008:119), more recent research has distinguished another type of molded carved vessels, called Ahk'utu' (Helmke and Reents-Budet 2008:40 and 41), and this vessel from Structure N10-15 is clearly of this latter type. The name of this type derives from a glyph that is always featured on the vessels which, succinctly stated, means gift (Helmke and Reents-Budet 2008:38). The glyphs on these vessels tell us that a historical person, Lady Olom—who bore exalted, but not royal titles—is responsible for the incipience of this ceramic type as a gift-giving object. Characteristics of Ahk'utu' molded-carved vessels include hollow tripod feet with a ceramic rattle ball, readable glyphs, a cylindrical to barrel shaped form with a slightly constricting orifice, and registers of three horizontal moldings framing the glyphs and iconographic scene (Helmke and Reents-Budet 2008:40–41). See articles by Helmke and Reents-Budet 2008 and Ting et al. 2015.

LEVINE PIT DEPOSIT LA-656

Located at NE corner of N10-15 (LA-656). Pit dimensions: 91 cm N-S X 85 cm E-W. Upper few cms consisted of loose light brown earth with small limestone blocks piled in the centre to about 25 cm above the floor through which the pit was cut. From about 30 to 50 cm below the floor there was a grey, ashy deposit that contained many sherds. The deposit continued to just above the base of the pit, though at ca 1.5 metres below the floor the material became darker grey and sticky. Just above the pit's base soil was a sandier red stratum (Pierce's Note: we found a similar stratum in 2014 excavations in two areas of the N10-15 2nd "addition" at the north center door area: LA3152 & LA3153—samples saved), that was the product of disintegration of limestone boulders in surrounding core. The pit was dug entirely through boulder core. At ca 170 cm below the floor a structural face was encountered that was oriented approximately E-W.

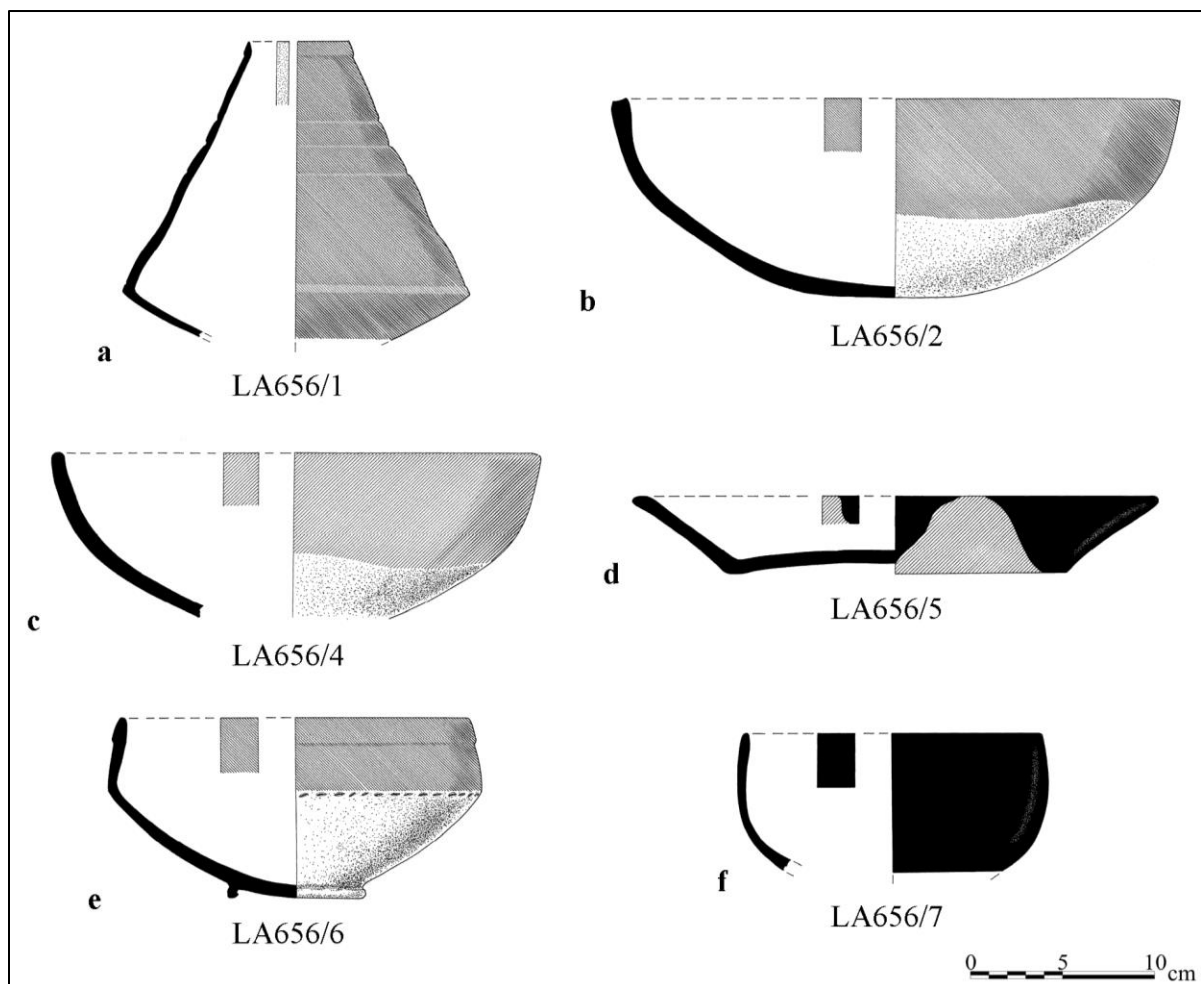


Figure A.59. Illustrations of vessels LA656/1, LA656/2, LA656/4, LA656/5, LA656/6 and LA 656/7 from Levine Pit (Howie 2005:575).

LEVINE PIT DEPOSIT LA-656 Continued

Vessels LA656/1, LA656/2, LA656/4, LA656/5, LA656/6 and LA 656/7 sampled and described by Howie (2005):

a) LA656/1 Bottle, rounded lower sides curving up to a very sharp angle from which upper sides curve sharply inward to a small orifice, direct rim, pointed lip, missing base. Decoration: red slip on exterior surface, unslipped interior surface; preslip horizontal groove-incising on exterior below rim and on upper body producing a stepped effect, plain interior.

Dimensions: diam. 5 cm; ht. n/d; th. 0.7 cm; base diam. n/d.

b) LA656/2 Composite silhouette bowl, rounded sides with a slight medial angle, slightly interior thickened rim, squared lip, flat base. Decoration: red slip on interior surface and exterior surface except lower sides and base.

Dimensions: diam. 32 cm; ht. 10.8 cm; th. 0.8 cm.

c) LA656/4 Bowl, rounded sides, direct rim, rounded lip, missing base. Decoration: red slip on interior surface and exterior surface except lower sides and base.

Dimensions: diam. 26 cm; ht. n/d; th. 0.9 cm.

d) LA656/5 Dish, out-curving sides, direct rim, rounded lip that is bevelled in, angular junction between body and base, slightly in-curved base. Decoration: slipped with a resist effect on interior and exterior surfaces, black and red mottling on interior and exterior surfaces with black as the predominant colour.

Dimensions: diam. 27 cm; ht. 4.2 cm; th. 0.6 cm.

e) LA656/6 Composite silhouette bowl with a ring base, rounded lower sides rising to an angular junction with slightly in-sloping upper sides, bolstered rim, rounded lip that is slightly pointed, ring base. Decoration: red slip on interior surface and on upper sides of exterior surface, lower sides of exterior surface and base are unslipped; a row of preslip impressions (dashes) encircle body at medial angle. Motifs: linear .

Dimensions: diam. 26 cm; ht. 9.7 cm; th. 0.6 cm; base diam. 7 cm.

f) LA656/7 Bowl, rounded sides, direct rim that is slightly interior thickened, rounded lip that is slightly pointed, missing base. Decoration: black slip with some orange mottling on interior and exterior surfaces.

Dimensions: diam. 18 cm; ht. n/d; th. 0.5 cm.

(Howie 2005:575, 601, 602)

LA656/3 Dish, rounded=side, Levine pit, N10-15, Rounded, med-th. Sides; lip rounded, base sltly. flattened, Diam. 47.1cm; ht.10.3-10.8cm; th.0.8cm, Int.sl., prob.med-high burn, almost entirely leached & eroded, heavily pitted, v.well-sm; ext.sl.upper body only, slt.butn., well-sm., pitted, much temper visible, Red (English rose), thick grey core, buff edges; hard, w/mod.angular fracture, minute to small angular calcite, & angular opaque frags, Complete exc. for 3 rim pieces.

RUBEN'S ROOM DEPOSIT LA-662

The W room in the centre rank (this room may be Porter's Lodge, probably aka Ruben's room), with a doorway at the W end filled with material not capped by a floor in the W half of the room, except for a tiny fragment of floor in the SW corner, ca 12 cm below the wall top. Fill in the room is loose brown soil and facing stones, with a large quantity of pottery (=LA-662). The floor in the doorway was cut away. LA 662/1 = tripod bowl at the W end of Ruben's Room: scattered in core from W doorway to ca 125 cm E of doorway.

A hole was encountered cut through the uppermost floor W of the W doorway of Ruben's Room, extending to the level of the lower floor, 37–38 cm below the upper one (37 cm below at the doorway to Ruben's Room). A sherd of a Buk Phase chalice lay about 15 cm down in the material that filled the hole.

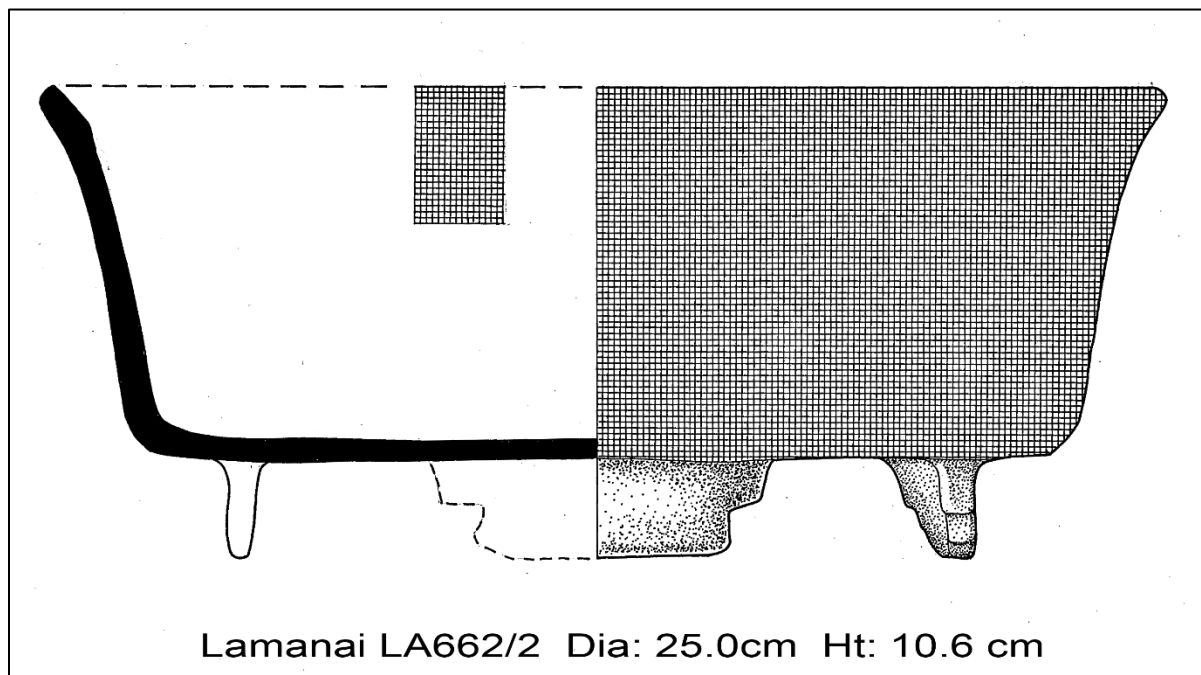


Figure A.60. Illustration of vessel LA 662/2 from Ruben's room.

Vessels LA662/2 sampled and described by Howie (2005):

LA662/2 Tripod bowl, out-curving sides, slightly everted rim that is bevelled on the interior surface and interior thickened, rounded lip, angular junction between body and base, flat base, three 'Ik-shaped' solid slab feet. Decoration: brown-black slip on interior surface and exterior surface except base.

Dimensions: diam. 25 cm; ht. 10.6 cm; th. 0.7 cm.

(Howie 2005:576, 602, 603)

Pierce's Note: I think the vessel above is equivalent to LA 662/1 as reflected in Pendergast's field note above, or else there were two tripod vessels in this lot; however, Pendergast's ceramic note cards only have one vessel for this lot, and it is LA661/2.

SLIT DEPOSIT LA-692

In the COAT room, the unit SLIT was chopped; see plan for chop limits. The chop extended down to the MAMA floor. Sherds (LA-692) are mid-Postclassic or later, as is one nearly complete vessel, LA 692.

LA 692/1 Jar, N10-15 Chop, N. Doorway COAT room, N10-15 Rounded, med-th. Sides, curving in to med. Flaring rim; lip rounded, base convex, Diam. 27.0.max., rim 21.3, or 16.4 cm; ht. 21.8 cm; neck ht. 3.1cm, th. 0.4 cm body, 1.1cm rim., Int. unsl., well-sm., some lat. sm. marks, lower part darkened, soft angular neck joint; ext. unsl., gen. well-sm. but some sagging inward, extensively pitted, darkened col. : unsl. brown. unsl. brown none generally darkened; soft, w/crumblly fracture (much vis. on surfaces) copious opaque angular frags, minute to occ. medium none fragmentary

Pierce's Note: this unit SLIT is located in the same general area as the other major caches for N10-15, but is more to the east on Section CC, although Loten noted it on the west side of the room too—could it have been room-filling at one time?

ROCK PILE CORE DEPOSIT LA-661

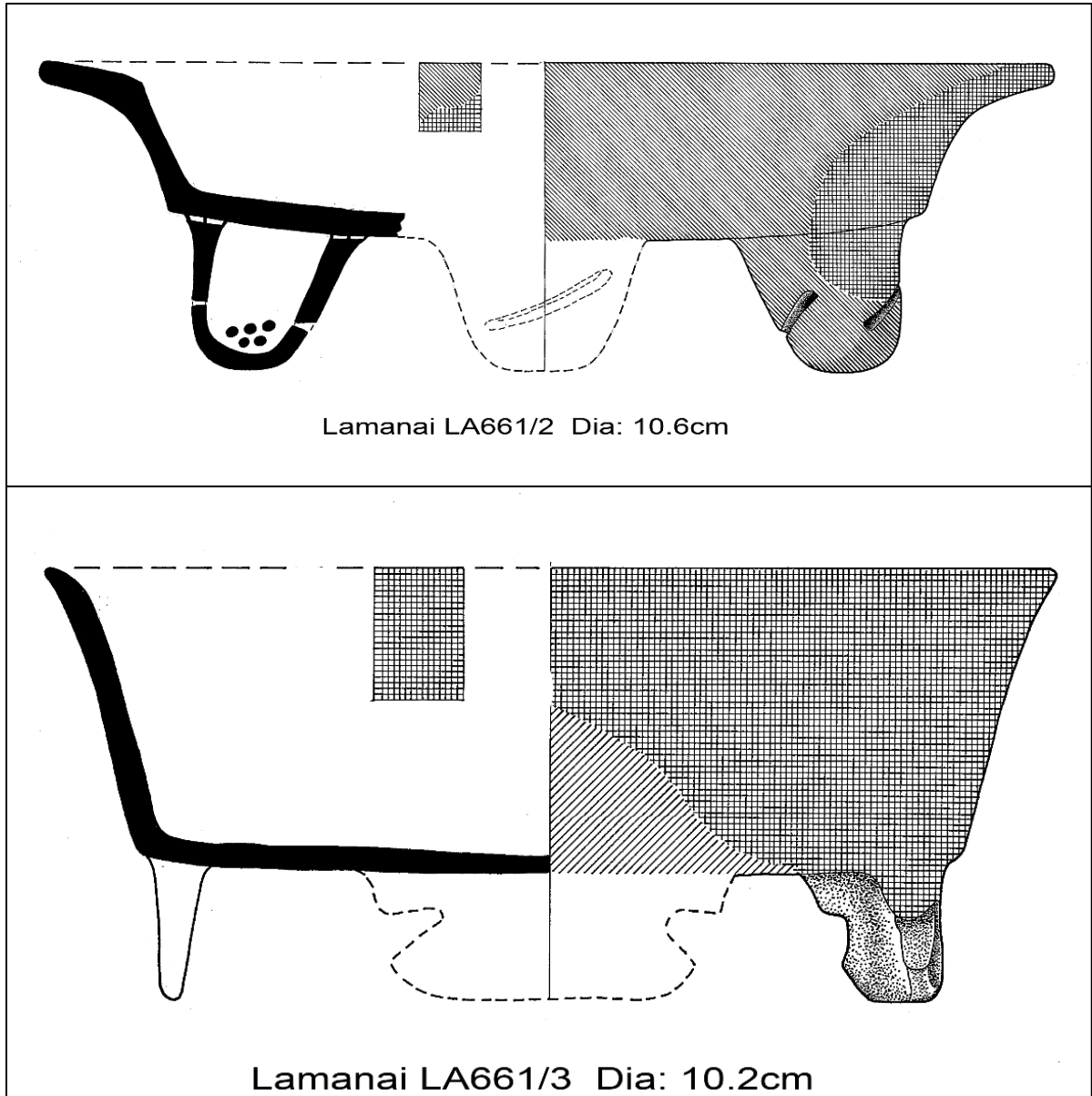


Figure A.61. Illustrations of vessels LA661/2 and LA661/3 from rock pile.

APPENDIX B

ARCHITECTURAL TERMS

The definitions that follow are taken straight from Loten and Pendergast's *A Lexicon for Maya Architecture*, 1984, published by the Royal Ontario Museum. These are terms that directly pertain to the analysis of the architectural sequence of Structure N10-15 and are used within my thesis. Note that it was Loten and Pendergast who excavated Structure N10-15 in 1981 and 1982, with some follow-up by Loten in 1984.

This Lexicon is available online at: <http://lamanai.org.uk/lamanai-publications.html>

AXIS, PRIMARY A line through the centre of a structure from front to rear, generally perpendicular to the exterior front wall face of the Building and bisecting the central front doorway. Other reference lines, such as the front base line of the platform, can be used to determine the primary-axis location when the Building component is absent or insufficiently preserved. The line defined by the positions of axial caches often does not coincide with that calculated on the basis of architectural features; this suggests that the primary axis was a line perceived rather than precisely measured by the Maya.

AXIS, TRANSVERSE A line roughly perpendicular to the primary axis, whether through the centre of a structure or elsewhere. While a structure can have only one primary axis, it may have any number of transverse axes.

BALUSTRADE A ramp-like border or edge treatment at the sides of a stair. A balustrade may form a plane on the line of the tread nosings, but usually it rises above the steps to form a kind of sloping parapet wall.

BASAL MOULDING A moulding at the foot of a feature such as a wall, an outset, a bench, or a terrace.

BENCH A relatively small platform-like feature associated with a Building, usually within a room but occasionally abutting an exterior wall face. Though they are sometimes primary Building features, benches are very often secondary additions. The term "bench" is simply a unit designator, and does not carry with it any implication of specific use; the variety in form, location, and core contents of benches suggests, in fact, that the feature saw a wide range of uses.

BUILDING As a general term, any piece of construction; as a specific term, with an initial capital letter, the component of a structure that incorporates the principal rooms, though rooms may also be present in components other than the Building. To qualify as a Building, the component must have at least one doorway; the location of the doorway is generally the most significant factor in identification of the Building front. The term **SUPERSTRUCTURE** has been treated as synonymous with Building, but it can, and in fact often does, embrace a broader range of components.

CHOP The partial demolition of a structure in ancient times, usually in preparation for subsequent construction. The edge or surface that resulted from the activity is termed the "chop line". Use of the term is restricted to description of ancient activity and should not be extended to dignify the effects of modern looting.

CORE Internal or hearting masonry of a unit such as a platform, wall, bench, vault, stair, or outset. Core was amassed, generally in task units when large quantities of material were involved, and was not dumped into a form created by the unit exterior (see **FILL**). Whereas the core masonry of smaller units generally requires a facing for stability, that of platforms is normally stable in itself.

FACING The body of masonry that includes surface plaster, facing stones, and backing masonry, if present, and forms the complete exterior skin of a structure. The facing normally overlies core faces that approximate or nearly duplicate the form of the structure's exterior.

MASONRY Stonework either with or without mortar, in which the elements are placed individually rather than as a mass.

FILL Loose material, generally placed by dumping, with little or no capacity to maintain its own stability above its natural angle of repose. If fill is to be built up to any appreciable height, it must be retained at the edges, and this appears to be a strategy that was foreign to Maya limestone construction. As a result, the term "fill" is generally applicable only to those instances in which an excavated pit or other feature served as a receptacle for dumped material.

OUTSET A unit that projects horizontally beyond the face of a terrace. Outsets located on the primary axis at the rear of a structure are called "rear centre outsets"; they occur on both Building and roof-comb components, as well as on terraces. Outsets on the sides of the substructure are called "side outsets"; those immediately adjacent to a stair are "stair-side outsets".

PRIMARY Term used to describe part of an original structure, rather than a modification of that structure (see **SECONDARY**).

RISER The vertical face of a step in a stair. The top edge is the "nosing" (or "nose"); the bottom edge is the "toe". The vertical dimension of a riser is given as "height".

SECONDARY Added to a structure as a modification of the primary effort. As secondary elements may be found in several unconnected areas of a structure and hence cannot be related stratigraphically, they are organized for descriptive purposes into levels of modification. The first level is the primary structure; the second embraces all initial modifications to the primary structure; the third comprises all modifications that overlie those of the second level; and so on. This approach provides a workable framework for description when stratigraphic or other evidence does not make clear the actual temporal relationships among non-contiguous secondary elements.

SPINEWALL A major interior wall set athwart the primary axis, and usually running the full length of the Building. In a vaulted Building, the spinewall bears a double-vault mass.

STAIR BLOCK A type of platform or bench-like unit, set in or on a stair or landing, usually athwart the primary axis.

STRUCTURE As a general term, without an initial capital letter, any piece of construction (synonymous with **BUILDING**); as a specific term, with an initial capital, a single complete architectural entity with all its modifications. In a construction sequence, separate Structure designations are used whenever it can be shown that an architectural entity was entirely submerged within the mass of subsequent construction.

SUBSTRUCTURE The complete set of components that support a Building. The same set of components may exist as an entity without a Building at the summit, but in that case the term "substructure" can hardly be applied since there is no superstructure.

SUPERSTRUCTURE The complete set of components that make up and/or are associated with a Building, and are supported by a substructure. The superstructure usually consists of a Building alone, a Building plus roof comb, or a Building plus a second story; it can, however, include free-standing walls, altars, roof-comb-like units without associated Building, terrace or platform-like units without usable upper surfaces, and a variety of other permanent or impermanent fixtures, among which are thatched Buildings and other units.

TASK UNIT A subdivision that is related to the process of construction within a larger unit. Task units are not visible on finished surfaces of structures. The units represent contributory segments into which the total task of construction was divided in order that the effort be manageable. One task unit can be distinguished from another by differences in masonry characteristics and/or mortar colour, and sometimes by the presence of core faces. If delimited by core faces, the units are likely to reflect the arrangement of tasks rather than the plan configuration of the building.

TERRACE A platform-like subcomponent that has the appearance of a large step in a substructure or platform. The bottom edge of a terrace is the "foot", and the top edge is the "verge".

TRANSVERSE WALL An interior wall that parallels the primary axis and runs from front to rear in the Building.

TREAD The roughly horizontal surface of the step of a stair, more or less at right angles with the riser. The front-to-rear dimension of the tread is its "depth".

WALL A vertical linear unit of construction that has two parallel faces; not the facing of a platform, terrace, or other unit. A wall face constructed out of plumb (that is, not truly vertical) is "battered".

APPENDIX C

1981 AND 1982 EXCAVATION PHOTOGRAPHS AT STRUCTURE N10-15

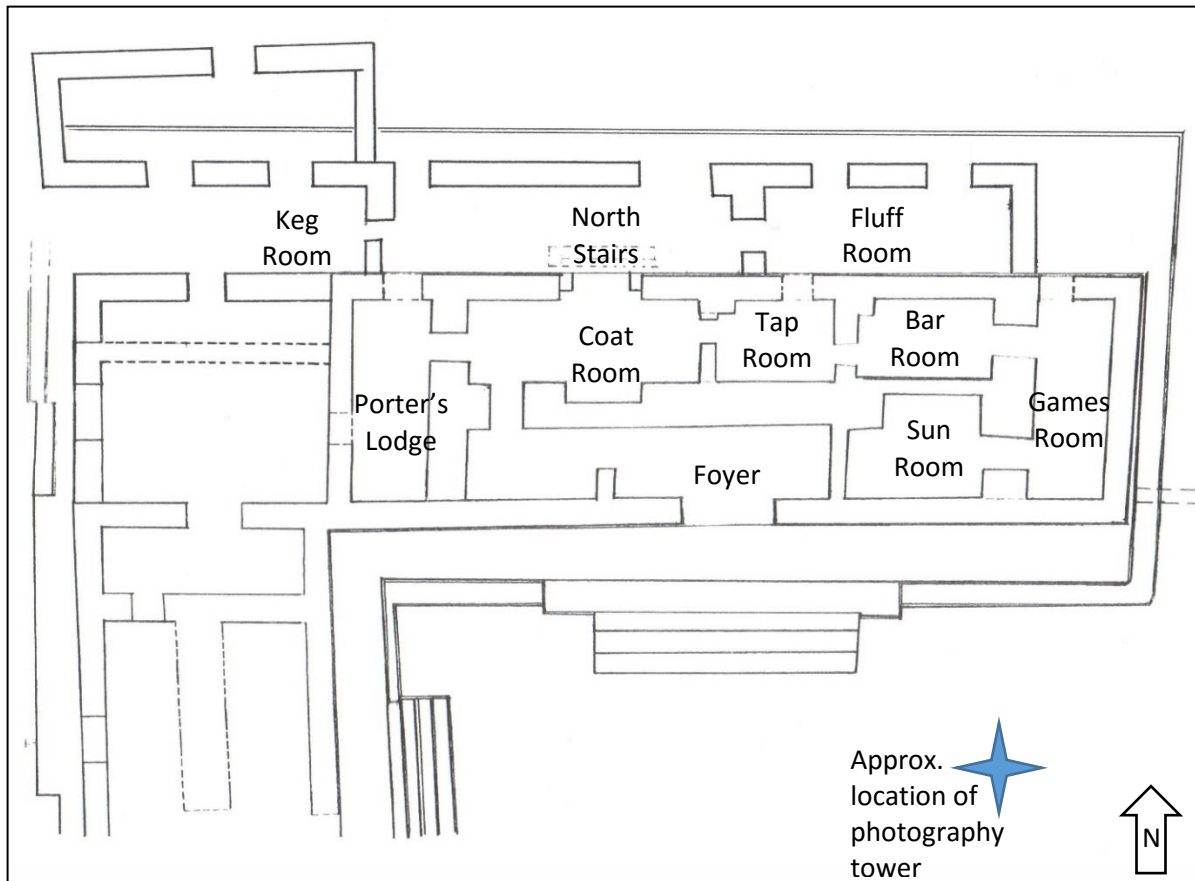


Figure C.1. Structure N10-15 1st and N10-15 2nd room names used in Loten's (1984) field notes and indicating the approximate location of the camera tower from which the photographs were taken.



Figure C.2. Aerial views of N10-15 at initial stage of excavation. Looking north at the east end of Ottawa (photo Ottawa C117-10 by David Pendergast).



Figure C.3. Aerial views of N10-15 following excavation. Looking northwest from the southwest area of N10-15 (photo Ottawa C117-1 by David Pendergast).



Figure C.4. Aerial views of N10-15 following excavation. Looking northwest from the south stairs of N10-15 (photo Ottawa C117-2 by David Pendergast).



Figure C.5. Aerial views of N10-15 following excavation. Looking north to Sun, Games, and Bar rooms from near the southwest corner of N10-15 (photo Ottawa C117-3 by David Pendergast).



Figure C.6. Aerial views of N10-15 following excavation. Looking north to Sun & Bar rooms from near the southwest corner of N10-15 (photo Ottawa C117-4 by David Pendergast).



Figure C.7. Aerial views of N10-15 following excavation. Looking northwest from near the southwest corner of N10-15 (photo Ottawa C117-5 by David Pendergast).



Figure C.8. Aerial views of N10-15 following excavation. Looking north to Sun & Bar rooms from near the southwest corner of N10-15 (photo Ottawa C117-7 by David Pendergast).



Figure C.9. Aerial views of N10-15 following excavation. Looking northeast at the space between Structure N10-15 (left) and N10-28 (right) (photo Ottawa C117-8 by David Pendergast).



Figure C.10. Aerial views of N10-15 following excavation. Looking northwest from the south stairs of N10-15 (photo Ottawa C117-9 by David Pendergast).



Figure C.11. Aerial views of N10-15 following excavation. Looking slightly northwest from near the southwest corner of N10-15 (photo Ottawa C117-11 by David Pendergast).



Figure C.12. Aerial views of N10-15 following excavation. Looking north at the upper terrace face at the east end of Structure N10-15 (photo Ottawa C117-12 by David Pendergast).



Figure C.13. Aerial views of N10-15 following excavation. Looking northeast at the space between Structure N10-15 (left) and N10-28 (right) (photo Ottawa C117-14 by David Pendergast).



Figure C.14. Aerial views of N10-15 following excavation. Looking northwest from near the southwest corner of N10-15 (photo Ottawa C117-15 by David Pendergast).



Figure C.15. Aerial views of N10-15 following excavation. Looking north to Sun & Bar rooms from near the southwest corner of N10-15 (photo Ottawa C117-16 by David Pendergast).



Figure C.16. Aerial views of N10-15 following excavation. Looking northeast at the space between Structure N10-15 (left) and Structure N10-28 (right) (photo Ottawa C117-17 by David Pendergast).