DOMESTIC MEGALITHIC ARCHITECTURE: AN ANALYSIS OF STATUS AND COMMUNITY AT AND AROUND THE ANCIENT MAYA SITE OF UCI, YUCATAN, MEXCIO

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DOMESTIC MEGALITHIC ARCHITECTURE:
AN ANALYSIS OF STATUS AND COMMUNITY AT AND AROUND THE ANCIENT MAYA SITE OF UCI, YUCATAN, MEXCIO

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of the Arts in the Department of Anthropology at the University of Kentucky

By
Joseph Samuel Stair
Lexington, Kentucky

Director: Dr. Scott Hutson, Associate Professor of Anthropology
Lexington, Kentucky
2014

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ABSTRACT OF THESIS

DOMESTIC MEGALITHIC ARCHITECTURE:  
AN ANALYSIS OF STATUS AND COMMUNITY  
AT AND AROUND THE ANCIENT MAYA SITE OF UCI, YUCATAN, MEXICO

Variation in domestic architecture results from the agency households exercise in their daily lives. This study defines the domestic expression of the megalithic architectural style, based on data collected in and around the ancient Maya site of Ucí, Yucatan, Mexico, by comparing it to its expression in monumental structures. It also shows how the analysis and documentation of architectural variability away from the monumental core can locate more than just commoners and elites within the social organization of the Ancient Maya. This analyzes provides evidence for higher social status for households that possess megalithic architecture since they also possess larger platform volumes and more structures in a compound than non-megalithic groups. Concentration of megalithic platforms also indicate potential communities that often share similar orientation ranges. The diversity in style, size, and quality of stones in domestic settings provide archaeologists with clues to how these households differentially utilized their social, economic, and political resources reflecting the degree of power possessed by each household in relation to each other, the larger community, and beyond. The methodology used here can be replicated for other stone architectures, providing a means by which to differentiate households of similar construction on attributes other than size.

KEYWORDS: Domestic Megalithic Architecture, Ancient Maya, Status, Community, Households

Joseph Samuel Stair

May 2, 2014
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May 2, 2014
Dedicated to my wife Angela Marie Stair
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Chapter 1 Introduction

Wherever humans dwell they modify the space they inhabit and that space modifies how they behave (Ingold 1993, Pred 1984). Shelter is more than a physical need; it is a material footprint of past actions. While buildings are seen as unmovable parts of the built environment, architecture changes as families expand, droughts hit, people move, power changes hands, technology advances, resources become available, and traditions continue. Architectural remains provide archaeologists a plethora of data that enhance their knowledge of many aspects of past life and behavior. In this thesis, I will use an analysis of architecture to investigate questions of identity, community, and status at the Maya site of Ucí in the Northern Yucatan peninsula (figure 1, Ucí is circled in red adapted from Mathews and Maldonado 2006:106 Figure 5.2).

Architecture has been a defining realm of material culture for the Ancient Maya. With imposing pyramids, elaborate palaces, sprawling acropolises, detailed ballcourts, and interconnecting causeways they displayed their mastery over stone and plaster. Maya archaeology has often centered research on these engineering marvels. Less intensely studied has been the architecture of non-monumental domestic structures. In the Northern Lowlands, the availability of limestone for building led the Maya to incorporate stone in the majority of their structures. There exists great variation between regions, sites, and within sites of architectural styles and uses of stones. This variation results from the opportunity for individuals and groups to make different choices in each step of the construction process and from differing physical resource availability.
Previously archaeologists interpreted the organization of Maya society into two statuses, elites and commoners. The few elites resided in the monumental centers of sites and controlled and relied on the production of the masses of commoners who resided away from site centers in less formal architecture. Status was inferred from architectural remains based on size and on distance from the site center. This model meshed well with the interpretation of Maya civilization characterized as a complex chiefdom or incipient state, as well as matching the most widespread data set, architecture recorded in settlement survey (Chase and Chase 1992:9). The Late Formative to Terminal Classic site of Ucú exhibits pronounced architectural variation between residential platforms across the site. Specifically, the application of a previously documented monumental

Figure 0-1 Distribution of Megalithic Architecture across the Yucatan Peninsula

and controlled and relied on the production of the masses of commoners who resided away from site centers in less formal architecture. Status was inferred from architectural remains based on size and on distance from the site center. This model meshed well with the interpretation of Maya civilization characterized as a complex chiefdom or incipient state, as well as matching the most widespread data set, architecture recorded in settlement survey (Chase and Chase 1992:9). The Late Formative to Terminal Classic site of Ucú exhibits pronounced architectural variation between residential platforms across the site. Specifically, the application of a previously documented monumental

Figure 1: Distribution of Megalithic Architecture across the Yucatan Peninsula
architectural tradition, the megalithic style, to these platforms indicates that the long upheld two-tiered social hierarchy of commoner/elite is not so black and white at Ucí (Lohse and Valdes 2004:2, Blackmore 2008:3).

The primary objective of this thesis will be to systematically define the domestic expression of the megalithic tradition as one of the choices the Maya could have selected to build residential platforms. The data needed to understand the variation of megalithic stone platforms will provide the information to achieve this goal. Previous studies documenting the megalithic tradition have mostly reported this architectural signature in monumental contexts (Benítez and Parrilla Alburque 2004; Lincoln 1980; Mathews 1995; Mathews 2003; Mathews and Maldonado 2006; Roys and Shook 1966; Sidrys 1978; Taube 1995; Velázquez Morlet, et al. 1991). Ucí and the communities surrounding it and east along the sacbé provide an opportunity to explore different architectural expressions that illustrate one venue for households and communities to express their identity in relation to one another.

My first research question investigates whether these variations in megalithic architecture represent different communities. Namely, how can we recognize architectural patterns within site boundaries and between neighboring sites? What kind of connections (political, kinship, economic, communal, etc.) can we infer about patterns of similar architectural styles? How many different kinds of communities utilized megalithic architecture and what are they? My hypothesis for the data at Ucí is that the patterns of differential use of megalithic stones throughout the site and its surrounding areas may be able to locate different communities or barrios surrounding the core of Ucí.
My second research question probes whether differences in the use of megalithic architecture represent different socioeconomic statuses between individual residential platforms. How can we assess if megalithic architecture is connected with other indicators of status found at Ucí? Does the incorporation of megalithic stones into a structure involve more access to wealth and labor? Were the communities at Ucí organized along status divisions? I hypothesize that different investments and styles in residential architecture can represent different socioeconomic statuses in the communities at Ucí and that megalithic structures may represent higher status if they correspond to larger platform volume and refined stone work.

The site of Ucí is located in the state of Yucatan, Mexico, about 40km east of Merida. Based on Hutson’s recent research, the site of Ucí covers an area of 7.5 km² and potentially held a population of close to 5,000 persons (2009:58-61). Ucí connects to the site of Kansahcab by an intersite causeway or sacbé that runs 18 km to the east. Architecturally Ucí appears to have been mainly occupied between the Late Formative (400 BC to 250 AD) and Early Classic (250-600 AD). Survey data was drawn from the first two seasons of the Ucí project directed by Scott Hutson, which consisted of mapping data for the structures surrounding Ucí and those along the intersite sacbé. During the second field season (2009), I collected qualitative and quantitative data on every megalithic stone from a sample of 54 residential platforms from the east, north and west of Ucí’s center. I documented close to 1600 stones including some from monumental contexts at Ucí, Izamal, and Aké. These data mainly consist of stone measurements and location of platforms and individual megalithic stones and qualitative assessments based
on the shape, texture, edges, corners, and symmetry of each stone. These data provided the information for the analysis that follows in this thesis.

Based on my analysis I argue that there is a marked difference between the quality of monumental and domestic megalithic stones, mainly that the former had superiorly worked and larger stones. Megalithic residences on average have a larger platform volume than non-megalithic residences, if we do not include the monumental platforms immediately around the site center. These volumetric comparisons are not statistically significant, but become so when we compare volumes of megalithic and non-megalithic structures along site boundary lines. Nevertheless megalithic structures run the whole range of volumetric platform sizes (from 1 m³ to 2268 m³) and the volumetric variation for non-megalithic structures is even greater. These variations indicate that different communities used and valued the megalithic tradition differently. Differences in the quantity, quality, and overall distribution of megalithic residences are indicative of specific communities that had differential access to labor, skills, and resources to construct domiciles. Since size of platforms and presence of megalithic stones only relate to one another in specific communities, stone quality appears to be a more secure means of assessing the socioeconomic status of residential platforms at and around Ucú.

This study shows how the analysis and documentation of architectural variability away from the monumental core can locate more than just commoners and elites within the social organization of the Ancient Maya. The diversity in style, size, and quality of stones in domestic settings provide archaeologists with clues to how these households differentially utilized their social, economic, and cultural resources reflecting the degree of power possessed by each household in relation to each other, the larger community,
and beyond. Defining the domestic expression of the megalithic style at Ucí also provides a basis for comparison for other sites that contain similar architecture, illustrating possible relationships between sites. The methodology used here can be replicated for other stone architectures, providing a means by which to differentiate households of similar construction on attributes other than size.

This thesis will adhere to the following presentation to address all research questions and objectives. Chapter two will detail the theoretical considerations in answering questions related to identity, status, community, and architecture. This discussion will focus on the importance of material culture, specifically the built environment, in helping individuals become intelligible social persons by embodying certain meanings and values in specific contexts, providing not only structure by which identity is shaped but a resource through which identity can be crafted.

Chapter three will discuss the previous research done at Ucí and at other major sites in the surrounding region, like Izamal and Aké. This chapter will also provide some background research on the megalithic architecture tradition found across the Yucatan Peninsula during the Late Formative and Early Classic. General results from the first two seasons of recent survey work at Ucí will also be presented.

Chapter four will detail the methodology that I employed in gathering and analyzing my data. The data for this thesis consisted of survey data of residential platforms and a large sample of megalithic stones that detailed their quantity and quality. Analysis was performed using Excel and ArcGIS for organization and statistics.

In chapters five and six I will detail the results of my analysis. The former will formally define the domestic expression of the megalithic architectural style. The latter
will detail results of the assessment of stone quality, connections between platform size and megalithic stones, estimates of cost of construction, and identification of possible communities at different scales. Chapter six will also include a discussion of the proposed use of megalithic architecture as an indicator of status similar to monumental architecture. Differences in concentrations of megalithic structures and structures with stones of higher quality will be discussed as evidence of multiple communities active at Ucí that developed contextually specific and dynamic relationships with their built residences that can be used to infer different levels of status based on access to skill, labor, and resources.

Finally, chapter 7 will summarize my findings concerning the definition of the domestic megalithic architectural style and its potential as an indicator of household and community status. This research will help refine current understanding of Maya social hierarchy in the Northern Lowlands and provide useful comparative data for other sites that have megalithic architecture.
Chapter 2 Theory/Research Question

In order to assess whether or not megalithic architecture indicates different status positions compared to other architectural expressions, I must first discuss how status is one aspect of individual and community identity. To analyze status differences between platforms I must define status in relation to wealth, class, and stratification, terms that are often used in conjunction with one another but hold different meanings. Any discussion of status must also include power and how structures of domination influence the process of positioning status within a specific societal framework. Different sources of power can construct different representations of status. Architecture is one medium through which relations of power are expressed in material form, and its participation in the day-to-day experiences of individuals, households, and communities influences how status and the associated identities are created, maintained, and altered.

Identity

The ability to distinguish differences and similarities between oneself and others is part of being human (Jenkins 2004:5). Humans have agency and choose a multitude of actions in response to a variety of social stimuli. This great diversity of human experience features prominently not only in the present, but has always been an aspect of human existence. Material culture serves as the physical residue of these behaviors and is the subject of archaeological investigations. Material culture also recursively shapes behavior creating different environments and opportunities for subjects. The archaeology of identity attempts to recreate the relational interactions that past actors, in conjunction with their material correlates, found meaningful and significant. “Experience is not more superficial than identity; identity is not deeper than appearance; appearance, experience and a continually shifting sense of self flow together” (Joyce 2008:114). Joyce captures
the relational nature of identification that is context specific to the individual’s place, time, and social group. Thus identity is contingent on the experiences an individual accumulates throughout their day to day existence. Each day individuals emphasize certain aspects of their identity instead of others. Or they may acquire new identities according to the situations that arise as they pursue certain goals and experience different moods. Identity is the individual’s tool to make new relationships with other individuals, a diversified ever shifting field of significance that influences the social life of individuals.

Because of its fluid and contested nature, identity is hard to define in specifics. Geoff Emberling suggested “to define a term is to limit it, to draw a sharp boundary where the set of such phenomena is fuzzy” (1997:301). One could say that definition is a poor model for identity since it has been characterized as “an ongoing act of production – an inherently fluid set of properties under continual construction and revision” (Bruck 2004:311). Identity refers to how individuals define themselves within a social context and the way that social context defines the individual. It is composed of “differences socially sanctioned as significant” and “is inextricably linked to the sense of belonging” (Diaz-Andreu and Lucy 2005:1). Social theory helps us understand how individuals become intelligible to other persons, groups, and things. This takes the form of interactions/relationships between people and people, people and objects, and people and places. These types of engagements occur through dwelling, actions performed that create relationships and influence the relationships of a person with other people, places, and things that produce social beings.
How individuals identify themselves is not detached from objects but is dependent on how that person interacts with objects and other subjects. No human can be objectively isolated from the influence of the relationships he or she accrues during daily life. Although people create objects, objects also shape how people understand themselves in juxtaposition to other actors and objects. The materiality of physical existence deeply influences and guides how subjects interact and relate to one another. Dwelling is key to social identity, the processes by which individuals and collectivities find distinction from others along the lines of age, gender, sexuality, class, ethnicity, and status. Objects, such as domestic architecture, work actively in the creation and materialization of identity, scattering subjectivity across the relations among objects and people. Dwelling translates subjectivity into material terms, thus becoming accessible through the archaeological record. (Hutson 2010:7)

The independence of the style of objects from human cultural forms, their inherent physical properties that exist before human manipulation, allows us to talk about how things themselves create the grounds for our understanding of them. We know them based on their physical characteristics (size, shape, texture, smell, color, etc.), rather than purely in social terms. Material things reflect more than the physical outcome of action, they express the social relations that are requisite for their existence. They are both produced by social relations and part of their structure (McGuire 1992:95). This means that objects’ materiality is vital to understand the relationships between humans since we interact through these objects that we have created and we are constrained by objects that populate our world before we even enter it. “People crystallize out in the interstices between objects, taking up the space allowed them by the object world, with our senses
and emotions educated by the object world” (Gosden 2005:197) We exist in the space between objects that is left open, so the more cluttered a house becomes the less influence we have on the way the house is used and the more influence the objects have. Or if you think of objects of the same shape, they will interact better with each other like crystals in minerals and their symmetrical stacking and packing, books that you pile up, or cups that you can nest. You put like with like because the characteristics of the objects encourage you to do so. Subjects must encounter and negotiate with the materiality of objects in order to find a place in the social milieu. Nevertheless through the repetition of practices, identities find enduring material expression (Stockett 2007:91, Joyce and Hendon 2000:143). This means that although physical objects my constrain certain actions and interactions between individuals, individuals give meaning to these objects not only through object creation but through object use and that these relations are dependent on the social context of the user.

Power relations are important in the process of identification. Julian Thomas explains “power is a relational concept, a network of possibility in the social field. The forms that power takes and the opportunities it creates are historically specific. Power cannot be held only exercised (agency); it produces and enables as much as it restricts” (2002:37). Herein lies the complexity of being a social entity. Even when one wants to pursue a certain identity, for instance a homosexual outdoors enthusiast aspiring to lead a scout troop, that individual might be constrained from that specific identity due to other aspects of his identity (sexuality).

The dialectic between the internal life of the individual and the external realm of society becomes synthesized in the process of identification. Focusing on the social
dimensions of a person will reveal a series of social relations and commitments that define who they are within in a certain community. An archaeology that focuses on people can bridge the gap between the actor and society (Clark and Wilkie 2006:324). Remember that agency insinuates power because it offers a choice, this is echoed by Tammy Stone who argued “which role an individual chooses to perform at any one time and the frequency of that performance is tied to the strategies for achieving personal goals within the social structure in which they live” (2003:61). This means that individuals can pursue goals that might not completely agree with their social milieu, but must at least be intelligible to the rest of society to have salience. The navigation of different aspects of identity is a very political endeavor. Brumfiel reminds us that “human actors are the agents of culture change”…”human goals are relevant to cultural outcomes” (Brumfiel 1992:559).

An archaeology of identity might ask if present identities existed in different contexts of the past. Some primary aspects of identity should be present but other identities that tend to result from specific forms of modern social organization, like nations and globalization, may not have been present. What does remain constant in all time periods is the process of identification through the marking of contrast—separating selves from others (Jones 1996:69). Status is one of the primary axes of identity for human beings, as different individuals and groups become more relatable to others their power over other subjects increases and leads them to esteem their fellows in a different light.

**Status**

Differences that existed between people and communities result not only from their interactions but also from the organizations of local economies, residential patterns,
and political structures (Gonlin 1994, Iannone and Connell 2003, Lohse and Valdez 2004). One aspect of identity that is impacted by these differences is status. Class and status are often conflated, but class references a group of people who have in common similar opportunities in life concerning economic interests and must also take into account the politics and social controls that normalize economic differences, while status is based on an exacting social evaluation, either good or bad, of honor and styles of life (Meskell 2001:191). Saitta favors a more Marxist approach, “the process of producing and distributing surplus labor in society inevitably created differences between people” (Saitta 1994:206). The appropriators, those who receive the surplus, are in a distinct class compared to the producers of the labor.

Politically speaking, societies can be organized in a number of ways. Some are communal groups, where property is owned by all members of the community. In a tributary form, a small nonproductive class exploits surplus and controls labor from a larger class of producers, yet producers maintain access to land and control over their own labor forces (kin) (Patterson 2003). Within a capitalist society, production is privatized and labor power is sold by individuals for a wage. Class formation often coincides with state formation, reproducing the forces that create class differences. Groups who are organized along kinship relations also exhibit inequality and status differences but they are often “offset through time or through claims established by other relationships” (Gailey 1987: x). Ancient Maya society operated under tributary modes of production and class formation can only be understood as a historically nascent process, framed in a context of negotiation and variability through time and space. Despite society reproducing itself through various processes, people exercise their agency and
influence the state’s historical path. Although relying on many historical, social, and political processes, class defines and is defined by a wide variety of social identities (Blackmore 2008:8-9).

Wealth, status, and class are related terms but not interchangeable (Babic 2005:74). If one assumes that wealth is the same as class, they ignore the social ramifications resultant of exploitative processes. Class differences involve more than economic access but must take into account the social and political controls that normalize class differences (Blackmore 2008:7). “The relations of production correspond to the social division of labor that exists in a society. The social division of labor is a reflection of the society’s economic relations” (Patterson 2003:21). The definition of status and how and if it is expressed in material culture will determine whether or not status is more important than or as meaningful as indications of wealth and class. Status is the relative social position of an individual, thing, or group in comparison to other individuals, things, or groups. Status is contingent on the significance and meaning that are accumulated in social life. Wealth can be defined as items used in “display, ritual, and exchange” and can consolidate and reinforce social identities by establishing group membership (LeCount 1999:240, see also Brumfiel and Earle 1987). Wealth can and often does reflect status. Nevertheless differences in status are not always linked to material possession nor do they indicate exploitive class relationships. Social status actively factors into the creation and reproduction of social identities whether we mention a particular class or community (Blackmore 2008:12).

Michael Smith claims that one of the strongest expressions of wealth in agrarian states is the differences in the quality and size of residential architecture (1987:301).
Residential architecture is such a strong indicator of wealth because of the amount of labor and resources that are required in the construction and maintenance of dwellings. Aside from wealth, architecture also expresses differences in status, by presenting architecturally distinct styles, elaboration of symbolic motifs and other iconography, the use/purpose of different structures, their location, their physical components of construction, etc. The different qualities of structures provide multiple venues through which status can be expressed.

In this thesis, I understand class, status, and wealth to be three terms that are related in an almost nested way. Wealth is the simplest term that refers mainly to the economic possessions of an individual or group that can be used in exchange and displays of worth. This is dependent on society’s conventions and norms like status, but is often seen only as the economic measure of one’s status. Status might come from kinship relations, success on the field of battle, respect as an artisan, or even from which day a person is born on. Status gauges a person’s standing in the eyes of the community or society that he/she has membership in, meaning that status can come from many different sources if a person has interactions with multiple communities. Status defined thusly echoes the concept of prestige in order to demarcate high and low status. Class is at the top of these terms because it encompasses wealth and status as well as other features of society (political and social) that serve to normalize and fix class differences in society. Class is more overarching because it incorporates a wider swath of social identities into the different divisions of labor that result from differing political and social organizations. Membership in a class is based on similar economic opportunities in life, for example factory workers who rely on wage labor are members of the working class.
But within a class there is room for variation in status based on individual attributes and other social intersections. One of the factory workers may be a lay clergy at his church and through that position obtain a certain degree of status among fellow class members who are also religious or perhaps one of the factory workers is a skilled hunter noted for his prowess. Of these three concepts, only status is flexible enough to account for the great diversity of building design, size, and quality that exists at Ucíf.

Studies on status and class among the ancient Maya delineate two main reductive categories, commoners and elites. The vast detail about these two segments of the population focuses on elites, despite the fact that commoners make up 90 to 98% of the population of the ancient Maya (Lohse and Valdez 2004:1). Some archaeological indicators of Maya eliteness include “architectural elaboration, monumental construction, access to luxury or prestige goods, presence of hieroglyphic text, iconographic imagery, residence within or near polity epicenters, and elaborate mortuary treatments” (Chase and Chase 1992). Commoners are typified by the absence of these characteristics or the items found with them are lower in quantity and have more variable quality than those in elite contexts (Blackmore 2008:29).

Some Maya archaeologists (Pendergast 1991:61, Chase et al 2002:266) assume that the social order of the Maya is inherently hierarchical and that leadership is a necessary specialization for the division of labor in society. This assumption naturalizes inequality without comprehending the process of conflict that underlies state-level society. It also takes for granted that the elites were the key-players of society and that there was a reciprocal if not peaceful relationship between elites and commoners. If we limit the Maya to two homogenous groups (commoner and elite) we ignore the potential
for internal variation, change, and malleability. Some Maya archaeologists claim that there is an overemphasis on elite research (Tourtellot et al. 1992:80) while others argue we should base our interpretations on elite material culture because they set the tone for the rest of society. (Chase 1992:14, Gillespie and Joyce 1997:205). In order to fully understand the role of either elites or commoners within Maya society, both must be examined to glean how the actions of one class may or may not affect the actions of other classes. To successfully garner support from the rest of society elites must attune their justification for their special status in terms that are acceptable and comprehensible by the commoners upon whom they may rely for their wealth, prestige, and status.

Mayanists seek to understand how Maya society was organized through making inferences to ethnographic and ethnohistoric sources. Primarily we rely on indicators of wealth and access to labor to be able to distinguish between different statuses and/or classes, specifically burial treatment and architectural construction (Sharer 1993; Smith 1987). While information on these types of data might indicate an elite status, they also contain enough variation to indicate multiple statuses (A. Chase 1992; A. Chase and D. Chase 2003; Haviland and Moholy-Nagy 1992). A. Chase suggests that an emergent “middle class” may indicate a decreasing distance between social classes during the Late Classic and overall a greater distribution of wealth across all segments of Maya Society (1992:41). Even elite structures where Maya courts resided would practice a flexible court composition to give them options in maintaining authority or establishing alliances, thus making the archaeological remains of a court express greater heterogeneity of social status and occupation. (Inomata and Houston 2001). This means that different classes could have been attributed status through association with the court’s material remains,
and would have reflected the social power of the court by exhibiting diversity in relations and influence across the social spectrum. Becker argues that structure size may not be the best indicator of status, but that structure group arrangements or architectural grammars show a reflection of social behavior and activity that serve as a better indicator of social difference (like plaza plan 2 at Tikal) (2004). He claims that these patterns might indicate heterarchy rather than hierarchy at Maya sites.

Much evidence from the Maya world indicates a stratified social order. Martin and Grube utilize ancient text to illustrate that relationships of subordination existed between rulers and nobility in terms like yajaw, “the lord of”, and usajal, “the noble of” (2000). Haviland (1988:21) claims that birth-order dictates the differences in status among both commoner and noble families. Many archaeologists agree that volume of architecture can be tied to the amount of labor and building resources at the disposal of the group and can thus represent an indirect measure of wealth and power (Abrams 1994, Carmean 1991). Power refers to the ability of an individual or group to influence/control the decisions and behavior of others. This makes wealth one avenue to power where services and resources can be purchased, but other types of power exist, such as political, social, and religious. Differences in size may not always indicate status and wealth, but could indicate social distinctions, particularly those related to ritual activity. Becker (2004:132-133) points to the wide range of sizes that some plaza plan arrangements possess. Another explanation for increased structure size is that architectural elaboration represents accumulation, over time, of features rather than differences in status (Tourtelllot 1988). Ritual and religious practices like ancestor veneration, agricultural rites, and feasting were opportunities where communities reinforced social ties and
community unity (McAnany and Plank 2001). Nevertheless these traditions enabled elites to link themselves and their families to Maya cosmology. Unequal sharing of knowledge can create different subjects. Specifically what one knows about their ancestors illustrates the strength of the connection to them, and that special knowledge can be used in the negotiation of identity (Hutson 2010:98, 101).

Power in Maya rulers lays in appropriating rituals already used and known by the Maya masses, like ancestor veneration and in dedication and termination rituals. By referencing ritual traditions already accepted as meaningful and potent by the masses, emerging leaders could have more effectively legitimized their claims to rule (Stockett 2007:92). Ringle (1999:186) reminds us to “remember that religious rationales for inequalities of wealth and status are usually embedded in a larger version of social cohesion”. It is important to note that not just elites had power but the commoners did as well. “If power is heterogeneous in nature then it is not limited to a single area of society. It is not simply a quantity that elite dole out to or exercise over an acquiescent subservient” (Paynter and McGuire 1991:6). Power then is a constant engagement of choice, resistance, and coercion that comprises how people negotiate their place in society.

Efforts have been made to try and combine multiple lines of evidence to better define the social stratum of the ancient Maya (e.g. Lohse and Valdez 2004). Instead of limiting the range of socioeconomic status to elites and commoners, gradients have been suggested to characterize the social landscape of the Maya to account for the variation in the traditional ways of assessing status among the Maya (Carmean 1991, Palka 1997). These gradients have been suggested based on the presence of “elite” material cultural found in
non-elite contexts, such as more elaborate architectural components (vaults, megalithic stones), the presence of prestige items (jade, obsidian, certain kinds of prestigious pottery) and the evidence for feasting and ritual behavior. Hence rather than there being two simple categories to explain the range of social organization, there are commoners who show greater wealth than other commoner residences, or who may have access to ritual paraphernalia and structures. On the other hand there may be elites who may live in the larger structures but do not possess the same wealth as other elite contexts. So these gradients still use the basic commoner/elite class divide but acknowledge that some elites were more wealthy, powerful, and influential than other elites and the same goes for the commoners. The difference between a wealthy commoner and a low ranking elite lies in the inability of the commoner, despite their wealth, to become a part of the ruling class (normally determined by birth and inheritance). This provides a useful way to account for the diversity of the social complexion of the ancient Maya without having to define a middle class. Lohse and Valdez (2004:5) believe community analysis is a method that accounts for how the value and importance of material things to communicate social status varies locally. The values and meaning of local material things also depends on the historic tradition of each cohesive group.

Community

Similar to households but on a larger scale “the community leaves material signatures that reflect the repeated inscription and citation of its inhabitants” (Yaeger and Canuto 2000:8). This materialization of people’s thoughts concerning community identity is rooted in the place, time, and people that dwelled in it. Archaeologists often assume that a site equals community, but a community “is not a spatial cluster of material remains to be observed, but rather a social process to be inferred” (Yaeger and Canuto
The site refers to the physical and functional aspects of settlement organization, while community results from the social interactions of community residents (Yaeger and Canuto 2000). A site can be thought of as a “spatial or geographic unit made up by an aggregate of households, neighborhoods, and/or settlement clusters” (Blackmore 2008:49). Some scholars (Bartlett and McAnany 2000:102) see the community, as the fundamental unit of Maya society linking political, economic, and social action. An understanding of community dynamics will illustrate how change occurs within the overarching society.

Like individual identity, community identity becomes apparent through material media. Communities form in the daily navigation through material settings, including buildings (Bourdieu 1973). The activities and identities that are channeled through the material world are incorporated in the body through “repetition, or citation, of the practices of others who move through the same spatial locations carrying out the same range of practices” (Joyce and Hendon 2000:147). These shared practices performed in the same location are what constitute community identity. Maya society presents an opportunity to recover traces and practices through which identities were negotiated and community solidified in the “more formalized circulation through more visible large-scale and small-scale spatial settings, patios and plazas, timed by regular, shared calendars and periodic life-cycle events” (Joyce and Hendon 2000:156). In other words, community identity embeds itself into public places that echo identity not only in their physical creation but also in their actual use. This portrait of community makes it more complex than saying that shared material culture equals shared identity.
Communities can come in many shapes and sizes, but are generally considered to be bigger than a household and not as big as a region. For the purpose of this thesis I define community as people interacting with people, places, and things in close enough proximity to one other to encounter each other on a regular basis to such a degree that common meaning and understandings form among the participants of the community. Communities are often considered to reach beyond kinship relations. What follows are some useful distinctions between different sized groups of people who could make up an entire community or just part of a community. Mound groups at the Chan site in Belize refer to “1 or more architectural features in which individual features are ≤ 25 m distant from another and all other features are > 25 m distant” (Robin et al. 2002:10). Demographically, mound groups contain households but they can also be non-residential. Households can be defined as the smallest social unit of settlement organization that admits members based on real and fictive kinship ties, co-residence, and shared activities (Ashmore 1981; Wilk and Ashmore 1988, Wilk and Netting 1984). Archaeologists need to adapt the definition of household to the archaeological record: How does one identify a household archaeologically? In the material record an archaeologist would consider the built and vacant spaces of a houselot as evidence of the household (Hanks 1990; Killion 1992). These house lots are categorized as domestic space based on the presence of material remains suggesting food preparation and consumption, sleeping, domestic tool production, and residence of other kin at the same location. These include mano and metates, utilitarian ceramics, evidence of a hearth, chemical signature of cooking, features that suggest sleeping (benches), non-intensified tool production for household use. Neighborhoods are a collection of households in a
hamlet-like cluster of 5-12 structures (Bullard 1964:281). They often possess little formal spatial organization; nevertheless neighborhoods were organized on the basis of lineage, status, and occupation location (where similar segments of society lived) (Blanton et al. 1981, Pybyrn 1997, Vogt 1976).

Ideally, larger and more integrated social groups should correspond with greater amounts of stylistic behavior in order to communicate the many vying claims of identity (Wobst 1977, Bartlett and McAnany 2000:103). Stylistic traits used to signify community affiliation provide material points of reference for the individual or group in negotiation of identity within a social order (Preucel 2000). “The notion of style tries to probe the tension between similarity and difference which maintains and creates both” (Gosden 2005:196).

In conjunction with built and natural landscape, the many different forms of social organization create places that are specific to certain individuals and groups. “A place owes its character to the experiences it affords to those who spend time there—to the sights, sounds and indeed smells that constitute its specific ambience. And these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people’s engagement with the world, in the business of dwelling, that each place draws its unique significance” (Ingold 1993:155). Places possess multilocality meaning that many different places exist in the same location caused by the distinctions among the different people who dwell in them and through that process giving that location a multiverse of meanings (Joyce et al. 2009:70). Places can be attached to communities as people physically move in between them. More than just a setting for human action, places contain their own history and culture that may or may not be known
to the actor. This difference in knowledge and experience of places combined with the identity and history of a person, group, community, or region could reproduce present meanings associated with the place, create new meanings and associations, or even revert to or cite old meanings and associations. The knowledge or lack of knowledge an individual has of the history of a place may create unintended meanings through their actions that are attached to that place by others present during said action that possess different knowledge of the place. In other words some meanings are attached to places intentionally while others are attached unintentionally, and future experiences can either sustain or change those meanings. As Pred claims “places are not merely the evidence that something happened; they are the thing itself in the process of happening” (1984:282). The repetition of events of varying importance over an expanse of time “form a background of expectations that become part of the fabric of the place for each participant” (Joyce et al. 2009:69-70), contributing dispositions to the habitus.

Any discussion of power must account for whether or not status differences run along class divisions or whether they cross-cut other forms of social organization (kinship, lineage, corporate groups). Are we seeing variation in the deposition of material culture because of class differences or because of status differences, or perhaps both? The literature seems to portray the Maya as a patrilineal society, with a few lineages representing the noble/royal class and the rest belonging to the commoner class in the overall Maya sphere. Differences in status between classes are stark and based on the elites being related to the supernatural in their ancestry while commoners have less illustrious ancestors. Within these classes there are status differences between lineages as well as within lineages based on wealth, prestige, and accomplishments.
Maya archaeologists have proposed different models of social organization for the Maya world, especially during the Late Classic. McAnany argues that the primary form of organization was the lineage because of the prevalence of ancestor veneration in Maya texts and iconography. She details how the commoner population did not resemble a homogenous mass but instead included many distinct factions and lineages which had complex structures of many different statuses unto themselves (McAnany 1995:147). Some evidence of the Maya as a lineage based society comes from the Chilam Balam of Chumayel where lineages and lineage names were primary means to define descent and inheritance of land, resources, and status (Roys 1957, 1972 [1943]). Status in lineage structures was reflected in settlement distribution of people, where more powerful lineages lived in central areas and lesser lineages lived in rural areas (McAnany 1995:25). Major lineages legitimized their claims through the Principle of First Occupancy, in which founders and their descendants occupy the oldest and usually most productive land of a community (Fash 1983, McAnany 1995, and Hanson 2002). Ancestral history tied the lineages to the landscape preserving their status and providing the symbolic links that gave their family power and access to their land and economic resources (Blackmore 2008:32). Kinship maintenance of genealogical connections was vital to the continued power of a lineage. This would be accomplished through ancestor veneration, ideally in the form of burial placement and treatment. Being related to deified ancestors can provide the rationale for the power of some over others. These powerful bonds would connect the commoners to the elite and any other class distinctions that existed within a lineage, but also had the potential to be usurped by ambitious groups seeking power if that knowledge could be controlled and manipulated. These groups could be a branch within the lineage
that would like to gain power and influence over the other members of the lineage and possess knowledge to make competing claims to closeness of relation to key ancestral figures. These groups would thus usurp the leadership of the lineage by claiming the legitimation of rule from the ancestors from those currently in power.

Hendon (1991:911) connects the lineage model with the idea that each patio area represents a corporate social group based on shared residence and kinship. She also argues that differences in indications of wealth inside an elite architectural group are evidence of servants that worked for a noble household. Based on colonial period knowledge of social organization, Farris (1984:133) argues that the basis of the group was the extended family unit who formed an economic unit. Restall (1997:2), on the other hand, thinks that Yucatec Maya self-identity also relied on the Cah, or an individual’s relationship to the communities that they dwelled in.

Nevertheless, the multiplicity of the forms of social organization used to explain Maya society points to a diverse population that most likely varied over time and by place in the ways that they related to each other, to their communities, and to their places. A model that features many aspects of different types of social organization is Levi Strauss’ house-society model.

Gillespie (2000a) specifically argues that lineage models should be replaced with Levi Strauss’s “house societies”. These are defined as “a corporate group maintaining an estate perpetuated by the recruitment of members whose relationships are expressed ‘in the language’ of kinship and affinity and affirmed by purposeful actions” (ibid). This model entangles genealogy with political and economic groups and emphasizes their integration and interaction (Blackmore 2008:42). A key difference between house
societies and lineages is that a person can be member of more than one house, and those relationships can shift, and are not always determined by kin relations. (Hutson 2010:137). Because houses ranked differently in the hierarchy of society, house membership influences how people respond to members of certain houses based on their own allegiances. Being a member of two different houses with competing interests would generate conflict between that individual and the houses in question. The physical territory of a house and the structures itself link the social group to not only a place on the landscape but also to a position in society, “integrating the social with the material life in its pragmatic and semiotic aspects” (Gillespie 2000b:2). Wilk claims that the household is the fundamental social unit throughout the Maya region and in every class of society, even commoners (1988). Using Levi-Strauss’ understanding of a house society, each house contains several households that work for a common interest and have been rallied to that purpose either through kinship or affinal relationships. Wilk would perhaps disagree with Levi-Strauss by placing importance on each individual household as its own institution of social organization that deals with larger entities like houses and polities. Some critics of the house-society model argue that the model “flattens” the hierarchical structure by not fully accounting for corporate groups, like commoner family compounds (Houston and McAnany 2003). Despite its inclusiveness of differently privileged portions of society, the house society model is heuristic by highlighting the political nature of social organization. The house society model is useful in allowing for multiple strategies for group identification but it is limited to corporate groups which do not characterize every sector of the ancient Maya throughout all time.
Jackson details Maya courtly life as depicted on painted ceramic vessels, an elite item, and emphasizes how these images had to have been built on a “shared knowledge system, controlled by elites but also comprehensible to non-elites, thus providing mutually intelligible ideas of power and difference” (2009:71). Yet I question how well exposed “commoners” would have been to these prestige items, since they were only circulated among those of high status. These ceramic vessels could have carried messages for elite eyes only. A more public manifestation of shared ideas of power and difference can be found in architecture. Being open to the public’s view, architecture relies upon shared understanding of style and design to assess status. As stylistic messengers, buildings are more visible than fancy serving vessels, allowing more people to assess normal or non-normal behavior (Wobst 1977:327). The built environment also is the backdrop for most human interaction, that is defined not solely by its locations but by the activities that are performed there, and hence forms part of the context in which other material objects are produced, used, and understood (Babic 2005:78). As part of the landscape, architecture offers polyvalent configurations of identity, the same landscape can be used by different classes for different purposes, providing an arena for the interaction of different identities (Casella 2004: 186). For example take the plaza at the center of a large urban center like Chichén Itzá. The elite use the plaza as seating for spectators to observe the rites and grandeur of the palaces, temples, and monuments that line the plaza. Commoners could have used plazas as a meeting place, as a location to sell their produce and crafts, or as a place of worship. Each activity would provide different experiences for different individuals and classes, but at the same time overlap and bring
in to relieve the division of power within society. For this reason one of the main forms of material culture used to gauge status at Ucíf will be architectural elaboration.

**Architecture**

Buildings play a highly active role in the creation of people because of the manner in which they “mediate relations between people and create embodied dispositions” (Hutson 2010:97). Buildings do this by storing knowledge upon which individual and group identities rely (Joyce 2008:2) and by engaging subjects in a dialogue with the materials, size, texture, and floor plan of a building that due to its durability can provide postures and sensibilities that are reproduced in future actions and create a basis for difference between subjects (Hutson 2010:97). Does this mean that architecture equals status? No, because rather than having a passive role reflecting status, buildings participate in the creation of society, greatly influencing identity (Bourdieu 1973, Hutson 2010:105, Miller 2005).

Studying the spatial arrangement of built environments is a vital part of interpreting social complexity and stratification because it is a visible expression of cultural attitudes (Kent 1990a, 1990b). Architecture is a medium to communicate cultural norms and conventions, as well as the demonstration of power, status, and identity (Rapoport 1990:11; Moore 1996). Of particular importance are the labor expenditures required for construction that indicate a household’s ability to control labor beyond the household or kin group (Abrams 1994; McGuire 1983; Smith 1987).

Environments that people experience during their formative years incubate a set of spatial and social rules that are powerful because these rules were followed unconsciously rather than being explicitly taught. They become part of the habitus of those individuals and strongly influence future behavior. These unspoken rules can be
cited when a child becomes an adult and creates and interacts with material culture in similar ways that they did during childhood (Hutson 2010:107). If an adult was raised in a house where maintaining a spotless house was rarely the state of things, then that person will not feel as compelled to maintain a home that is clean with everything nicely in its place. This inclination formed during childhood can change as the individual is exposed to competing experiences of house maintenance and as that individual’s identity becomes dependent on other persons and groups’ standards for intelligibility. Nevertheless the power of lived experience that architecture frames and the meanings and values connected to that place by those in power (parents in this case) will greatly influence an individual’s identity. Bruck points out that each different subject interacts with a building with a different collection of experiences, so that not just the body of the subject enters the building but the accumulation of relations that the subject has amassed during their life that qualify it as a subject and reach beyond the body (Bruck 2001, Hutson 2010:115). Encountering a finite mound of architecture can have its range of experience, but each subject’s history of relations and experiences will make each dialogue with that mound a little different.

The residence is often the center of local political activity that influences other groups and individuals’ identities (Bowser 2000: 20). “House form can serve as a symbol of ethnic affiliation in prehistory and history” and echoes its political vitality (Brumfiel 1994:96). Residences also are a primary component of the habitus, drastic changes to house form, for example the material components of construction, can bring change to the habitus and the identities contingent upon it (Dietler and Herbich 1998:238). Architecture is important to archaeology because “the effects of a sequence of consistent
practices within a circumscribed space creates salient and archaeologically recognizable material patterns that structure and reflect interaction therein” (Canuto and Yaeger 2000:11). Architectural features, such as walls, floors, hearths, altars, activity areas, and sleeping areas, chronicle the history of repeated quotidian activities that have an important impact on the identity of the inhabitants and visitors that experience them. Archaeologists read this data by documenting the location, size, and spatial layout of these features, as well as any decorative element. They also collect any material remains found in context with these features to further identify the uses of the building. Buildings mark continuity of place and are used as resources for the creation of particular histories by the subjects who live in those places. The history of buildings and people intersect in the continual process of social reproduction. Architecture is dynamic because it can mean different things to different people at the same moment of encounter, and if individual unique experiences are shared they can then combine and create new meanings attached to that building and place (Joyce and Hendon 2000:144). Non-perishable buildings can be used to craft specific identities since they permanently mark the landscape and hence serve as an anchor and reference point for histories and experiences. (Joyce and Hendon 2000:155).

Changing the actual material components of a building will alter the types of identities and subjects created when people interact with them; this is especially true when changing from a perishable to non-perishable structure. Gosden discusses how new building materials like stone, brick and tile gradually spread during the first century AD in the Roman Empire, creating a different sensory universe. These buildings presented new smells, sounds, and appearances “creating previously unknown sensory worlds,
helping to create human subjects of new types and attaching unforeseen values to the older materials of wood, thatch and daub. The temporal rhythms of life also played out differently, with buildings in brick or stone requiring more labor initially, but having greater durability thereafter” (2005:202).

Stone’s intrinsic qualities of durability, solidity, and weight would unconsciously imbue structures with similar properties and could support a non-discursive understanding of class differences (Hutson 2010:206). All of the governing structures of authority in the Maya world are built of stone, and this imbues stone with a sense of authority. David Stuart (1996) suggests that worked stone itself is holy, receiving similar services a king does, like wrapping and binding, and that stelae can take the place of gods and kings. Stones that have been smoothed and worked into symmetric shapes represent the hard, and even specialized, labor that went into its creation, augmenting the inherent power that stone signifies to the Maya.

In conjunction with possessing the inherent power of being made of stone, Maya buildings of authority are also monumental in their dimensions. Barbara Stark (1999:306) argues that the monumentality of these constructions constitutes conspicuous consumption that objectifies the social power used to mobilize human labor in violation of the “principle of least effort”. “Monumental sculptures and constructions are material symbols in an accessible, universal language of physical size, weight and durability” (ibid). Monumental structures change the face of the landscape, and in order to alter them an individual would have to enlist social power equal to that which was required to assemble it in the first place.
Domestic structures contain many of the daily activities and settings that shape individual and group identities. Joyce (2007) argues that as houses become more durable and started outliving the people who built them, this quality of enduring was an extension of the desire to make a materially impressive point of reference on the landscape by building and repairing the same perishable structure in the same place multiple times. This activity predates the practice of burying one’s ancestors in the floor of the house which also gives the house a special connection to the genealogical history of those who live in it. Joyce posits that the social context for a more durable house was one where the endurance of social houses was at stake (2007:60). She implies a progressive chain of developments that lead individuals from being mobile bands to sedentary groups that selected a niche on the landscape that they could use to anchor themselves not only in the physical world but in the social as well. She uses her example of Formative sites from Honduras to illustrate that the house society model helps us understand the importance of participation in house construction as members of social houses. “The persons whose work was invested in these materially visible sites came to share a new consciousness of time and its passage and a new value on durability and endurance, in house structures,…and the identification of persons with their living sites after the end of their mobile corporeal existence, as ancestors conserved within house confines” (Joyce 2007:67).

Kelli Carmean’s study on labor investment of the architecture at Sayil concludes that “economic wealth is convertible, via agricultural surplus and construction labor, into public displays of social status, e.g., elaborate architecture. The range of labor expenditure, then, can be seen as reflecting an expression of the range of social inequality
within the community” (1991:155). Building with megalithic stones could represent elaborate architecture at Ucíf, requiring a greater expenditure of labor.

We expect Megaliths to denote higher status in the platforms that possess them for several reasons. First, the presence of megaliths in monumental civic buildings connects megaliths with the prestige of Maya high society. Second, megaliths require more labor as well as specialized labor to quarry large stones, often of higher quality than smaller stones. Third, megaliths, due to their greater weight and size, required more people to transport stones to construction sites, representing increased access to labor. Finally, stone megaliths’ durability compared to the perishable nature of other residential platforms material components represent a lasting investment, spanning more than one generation preserving the expenditure of labor and resources in material form shaping the future claims and contestations of status. Rather than representing a presence/absence 2-tier hierarchy of platforms with or without megalithic stones, the variation in the quantity and quality of stones from platform to platform can illustrate the social history of individuals, families, households, and communities as fortunes flourished and waned in the great drama of dwelling one with another.
Chapter 3 Background on Ucí and Megalithic Architecture

This chapter details the previous research that has been done at and around Ucí, as well as providing background information on the megalithic style. Also, I will provide a summary of the results from the first two seasons of the Ucí Cansahcab Regional Integration Project (UCRIP), directed by Scott Hutson.

Previous Research at Ucí

In Ucí there exists a tradition about an ancient causeway that connected it with Izamal (Roys 1957:80). Based on the analysis of aerial photographs, the Atlas Arqueológico del Estado de Yucatán discovered this causeway, but determined that it went 18km to Cansahcab, as opposed to continuing all the way to Izamal (Garza and Kurjack 1980). The sacbé that connects Ucí and Cansahcab is one of at least 5 regional networks of sacbeob in the Maya world. These causeway systems are considered regional because they physically connect two or more sites that distinctly lay outside of each other’s site boundaries. Ucí is primarily known for this intersite sacbé. The other multisite sacbé systems include Cobá to Yaxuná, Izamal to Aké, Uxmal to Labnah, and the network connecting sites across the Mirador Basin in the Northern Petén.

Kurjack and Andrews (1976) report the presence of two sites along the sacbé from Ucí to Cansahcab (figure 3.1). The first site, Kancab, is found 8 km east of Ucí. UCRIP research in 2011 shows that Kancab has a site extent of 1.2 km². The second site, Ukaná, is found 13 km east of Ucí. Using the same method of analysis, they found that Ukaná has a settlement coverage of 2 km² (Kurjack y Garza 1981). Field seasons in 2008 and 2009, directed by Scott Hutson, were dedicated to the systematic survey of the structures at the center of Ucí, to the west and north of Ucí, and along the sacbé between Ucí and Kancab, located 8 km west of Ucí. This survey data included a
Figure 0-1 Sites along the Sacbé between Ucí and Cansahcab

detailed topographic map of the site centers at Ucí and Kancab as well as a 400 m length of the sacbé. With this settlement data, Hutson was able to estimate the extent of Ucí itself and document a large settlement to the north of Ucí as well as a smaller settlement to the west. Settlement is continuous along the sacbé but decreases in density about 2.5 km from the site center. With a clear boundary 1.65 km to the west and 1.35 km to the north and two possible boundaries to the east, one at 1.65 km and the other at about 2.5 km from site center, Hutson estimates the size of Ucí as 7.5 km² or 11.2 km² (Figure 3.2). Both of these estimates are larger than the 4 km² proposed by Kurjack and Andrews (1976). However, Ucí has suffered a lot of damage because of the construction of the highway between Motul and Telchac (during the presidency of Miguel Aleman) and the expansion of the modern town of Ucí and the city of Motul (Maldonado 1982). An estimate of the size of Cansahcab, 18 km to the east of Ucí, was not possible because construction of the modern town of Cansahcab destroyed much of the ancient center. Yet, Kurjack and Andrews believe that Ucí was larger than Cansahcab. Taking into
account the volumetric quantity of the monumental architecture, Ucí with 136,000 m³.

**Figure 0-2 Proposed site boundaries for Ucí (the dashed line), the shorter diameter is 7.5km² and the longer diameter is 11.2 km²**

was 7 times larger than Kancab (20,000 m³) and Ukaná (Kurjack 2003). It is important to note that the ruins of Cansahcab extend beyond the actual town’s boundaries (Maldonado 1982).

In 1979, the first investigations focused specifically on Ucí and the sites along its causeway were started by the Aké project (Maldonado 1979). The Aké project would also focus on the nearby sites of Aké and Izamal. Today, the Aké project, directed by Betty Quintal focuses on Aké alone, with a separate project focusing on Izamal, led by Luis Millet and Rafael Burgos (Millet and Burgos 2006; Burgos et al. 2004).
In the first field season, Maldonado (1979) and his team began mapping Ucí and excavated three test pits at this site. They also made a map of the pre-Hispanic buildings at the center of Kancab. In 1980, Maldonado and his team undertook investigations at Cansahcab for a month and three months more at Ukaná. At both sites, they performed test pits, and in Ukaná they finished mapping a significant part of the site (Quintal 1984).

In 1981 and 1982, the archaeologists returned to Ucí for three months to continue with mapping the site and to undertake excavations (Maldonado 1982). The coverage of the final map approximately extended .2 km² around the site center.

In the following seasons, the Aké project focused on the site of the same name (Maldonado 1984) as well as Izamal (Maldonado et al 1985). Thanks to the contributions of 1979, 1980, 1981, and 1982, we find ourselves with information from test pits (and chronological data) at three of the four sites located along the sacbé (Ucí, Ukaná y Cansahcab), and partial maps of Ucí, Kancab, and Ukaná.

Recently, a salvage archaeology project, directed by Benjamín Osorio, investigated prehispanic monuments before the construction of a highway between Motul and Cansahcab, to the south of Ucí, completed in 2007. Furthermore, the researchers from the Izamal project have begun a regional project with attention to the lands of the known conquest period province of Ah Kin Chel. The late province of Ah Kin Chel is to the west of Ucí, but in previous periods the zone of Motul was integrated into the socio-political system dominated by Izamal (Burgos et al 2004, 2005, 2006).

Ucí has previously been investigated for the sacbé that connects it to the site of Cansahcab. The current UCRIP project, directed by Hutson, aims to investigate how the regional integration that took place through its construction from Ucí to Cansahcab
affected local communities. Uci’s center sits just southwest of the modern town of Uci. The large monumental structures at the center of the site are built around several large natural depressions (Figure 3-3). These are not cenotes but are more like rejolladas, or dry, broad pits, usually with deeper soils that are humid because they are closer to the water table. These depressions are different in that they do not hold much soil at the bottom and they are not circular like other rejolladas. The northern depression is also longer than any other rejolladas. There are also two caves in the largest depression that hold a little water year round. There are no signs of quarrying to indicate that these depressions are man-made and they are a unique feature of the landscape with nothing like them for miles around.

Many of Uci’s remaining monumental structures were badly damaged when a local road construction project used the mounds as a source of fill in the 1950’s. Villagers claim that the site’s tallest mound, structure 14, has been reduced to a 4 m high shapeless lump. Yet this structure and its compound remains the largest at the site by volume, and are connected by a causeway to the second largest compound, structure 1. Structure 1 appears to be the best preserved compound at the site. It possesses a 5 m high platform measuring 77 by 72 m, on top of which sits an 8 m high temple measuring 40 by 25 m at its base. This temple has a megalithic staircase similar to ones found at the nearby sites of Aké and Izamal. Another monumental structure that uses the megalithic style is a 12 m high pyramid that has corbel apron molding overhanging the sub-apron wall, again similar to structures at Aké and Izamal.

Sacbé 1, the 18 km sacbé from Uci to Cansahcab does not actually connect with any of the large architecture at the site center. It falls short by about 315 m. Two other
sacbéob were recorded on the map. One which runs for about 100 m and ends at a platform complex that

![Figure 0-3 Site center at Ucú highlighting the depressions (in dark blue) around which the monumental architecture was built.](image)

reaches a height of four meters. The other runs about 700 m out to a complex that is even smaller.

**Ucú in Regional Perspective during the Late Preclassic and Early Classic**

The megalithic architectural style in the northern lowlands of the Yucatan peninsula dates primarily from the Late Formative to the Early Classic (250 BC – 400 AD) from sites on both the west (Andrews IV and Stuart 1968: 80; Roys and Shook 1966: 49-50; Sidrys 1978: 157; Velazquez Morlet et al. 1991: 61; Webster 1979:156-157) and east (Fedick and Taube 1995: 14; Mathews 1998: 85) of the peninsula based on
chronology from ceramics found in test units in contexts next to the megalithic edifices at Tumben-Naranjal (Boucher and Dzul 1998) and architectural associations, namely a triadic groups (Mathews 1995) and a corbelled vault (Mathews 1998). Mathews has confirmed these estimates with AMS carbon-14 dating of charcoal found trapped in mortar on two megalithic structures at El Naranjal (2001:398).

The Late Formative marked a time of increased growth, change, and greater regionalism in the Northern Maya lowlands. In the Chikinchel, Ek Balam, and Yalahau regions over half the sites recorded in each had a Late Formative occupation. The Puuc region may also have a significant number Late Formative occupations that are hard to detect due to the overburden of later occupations. Ceramic evidence, with the Cobá and Ek Balam complex beginning to contrast with Komchen and other western sites, indicate increased regionalism. This period also saw a rise in the construction of major civic-ceremonial architecture. One clear example of this is found at Komchen, where by 300 BC it had become a major center that incorporated other sites nearby including Dzibilchaltún. Yaxuná reached the height of its monumental construction programs during the Late Formative. Other sites that experience growth in civic architecture complexity at this time include Ek Balam, Kiuic, Paso del Macho, Xocnaceh, and many of the Costa Maya sites. This expansion of construction also widened the architectural diversity in types of structures and monuments being built. Not all areas in the northern lowlands experienced growth in the Late Formative, the North West area experienced a decline in settlement and activity compared to the Middle Formative (Bey 2006).

Causes for the increased population suggested by the development of the architectural complexity of the Northern Lowlands during the formative period include
the economic importance of salt (Dunning 1992) and religion and ideology as a method to remedy organizational challenges brought on by population increase and maybe scarcity of land (Ringle 1999:211). Ringle focuses on the integrative and cooperative aspects of religions rather than coercion or oppression. Religion and ideology could have played a key role in gaining access to the labor and support of the increasing population. Stanton argues that the increase in elite behavior across the northern lowlands represents behavior typical to elite factionalism and that the increase in large ceremonial construction is the result of competing factions.

Although the Early Classic witnessed decline in population at the sites of Dzibilchaltún and Komchen, this was not a peninsula wide trend. A major development of this period was the spread of the Megalithic style seen primarily in the monumental civic-ceremonial structures at sites across the region. Many of these Megalithic structures match the size and scale of like structures being constructed in the southern lowlands at the same time. The two most famous examples of this style hail from Izamal and Aké, sites to the south east and south of Ucí, respectively. Ucí’s greatest architectural expansion seems to coincide with this tradition and time period. Some elements of the Megalithic style appear at sites that typically connected to the southern lowland’s architectural traits, like Chunchucmil, Oskintok, Chac II, and Yaxuná (Bey 2006).

Stanton argues that the Megalithic constructions at Yaxuná represent a period in which a possible hegemony emanated from Izamal across the Northern Lowlands, but that by 250-400 AD Yaxuná reconnects to the polities of the southern lowlands. Izamal represents one of the largest sites in the Northern Lowlands. In the Yucatan Archaeological Atlas it received the highest rank in their settlement hierarchy (Garza and
Kurjack 1980). First occupied during the Middle Formative period Izamal’s history extends all the way to the present. The Early and Late Classic period mark the apex of development at Izamal, marked by the construction of enormous monumental structures as well as complicated networks of causeways. Burgos et al. estimate that this site encompassed a settlement area of 53 km² (2004:256), this is close to 5 times the size of the area that Ucí covered. Connected to Aké in the east and Kantunil to the south by sacbeob that total a length of 50 km, Izamal surely influenced the rest of the northern lowlands in the Early and Late Classic. Ucí is one of the other few sites that have an intersite sacbé system, but of only 18 km long. Izamal most likely possessed great influence and power over Ucí during the Early Classic. Evidence for this assertion comes from the prevalence of the same megalithic style in the monuments at Ucí, the use of a intersite sacbé system, and the relative proximity of Ucí to Izamal’s dominion, only about 35 km to the northwest.

Chunchucmil is one of the few sites in this region with marked growth in the Early Classic that does not possess evidence of Megalithic architecture. Combining this fact with what we know from Oskintok and Yaxuná it would appear that the Megalithic style was not prevalent at the edges of the northern Maya lowlands and it did factor as part of the dynamic growth of this region at the end of the Early Classic Period. Some sites reported structures with a mixture of Megalithic and Petén-style construction, like Xcambo. This site was an important mercantile center involved in the production and distribution of salt. The wide distribution of Early Classic centers throughout the northern lowlands indicates that this was a period marked by its in-situ cultural developments. Since not every structure erected in the Early Classic was megalithic, the regional
variation represents the dynamism that was present before the supposed migration from the southern lowlands at the end of the Late Classic.

Besides Stanton’s theory of a spreading hegemony based out of Izamal as the impetus behind the spread of the Megalithic style, Mathews argues that it represents an interaction sphere. This information exchange network started at a local and regional level between elites for greater access to scarce or vital resources. The key to power in this model is that the regional integration is essential to perpetuate local economic integration, the elite control the distribution of raw materials and final products but not the means of production. Yet ceramic data during the Early Classic demonstrates greater differentiation within the region than the integration suggested by Mathews (Bey 2006).

The architectural and ceramic complexity of the Late Formative and Early Classic Period in the Northern Maya Lowlands challenges the perceived lack of complexity in comparison to the iconography and texts that covered monuments in the southern lowlands during the same time periods. The northern Maya area developed unique local cultural traditions just as complex as their southern neighbors that are less understood due to the lack of research and hieroglyphic texts (Bey 2006).

**Megalithic Architecture from Monumental Contexts**

Aside from the Chenes, Puuc, and Rio Bec architectural styles found in Maya sites across the Yucatan peninsula, Megalithic architecture is beginning to be recognized as a fourth style. Raymond Sidrys (1978) performed one of the first architectural analyses based on the presence of megalithic stones in architecture throughout the Maya world (especially in eastern Mesoamerica) and also stand-alone monuments made from a single stone (like a stela). Rather than looking at style and quality of stones, he mainly looked at the size and weight of stones comparable to discussions of megaliths in Europe. Sidrys
(1978:155) defines a megalith (or monolith) as “a large stone with a mass of at least 500kg (1/2 metric ton) that has been transported by ancient man to serve a cultural function” (Figure 3-4). Of the two categories of megalith use, we are interested in the presence of megaliths in architecture. Sidrys (1978:156) notes that megaliths are incorporated most often into architectural features such as stairways and platform facings, and less frequently in free-standing walls, doorway jambs, and columnar supports. Sites with megalithic staircases (Figure 3-5) include Copan, Quirigua, Lubaantun, Dos Pilas, Tamarindito, Hatzcap Ceel, Naranjo, Cobá, Aké, Izamal, Palenque, Ucí, and other sites. Causeways are also constructions that evidence megalithic stones (Figure 3-6). On the facing of the sacbé connecting Izamal and Aké were found stones measuring more than 2 m in length (Roys and Shook 1966:45, 49). One stone in the Ucí sacbé measures 1.5 meters long. Megalithic facades (Figure 3-7) have been reported in a number of Early Classic structures at Aké, Izamal, Kizil, and Oxlintok (Sidrys 1978:160). Even at Tikal, the terraces of Str. 5C-54 (a large Late Preclassic Pyramid) had megalithic-sized stones measuring about 2 m long (Coe 1969:90). Sites that have free-standing walls with megalithic masonry are Ikil, Aké, Izamal and Dzibilchaltún (Sidrys 1978:161). While most of the examples of megalithic architecture are found in monumental contexts, at Dzibilchaltún a small (with a base of 6.5 by 3.6 m) unvaulted building possessed a jamb
Figure 0-4 Example of a megalithic stone from STR 1
Figure 0-5 Example of a megalithic staircase from Aké

Figure 0-6 Example of megalithic stones in the sacbé at Ucí
Figure 0-7 Example of a megalithic facade found at Aké Str 1

stone 1 m high, 1 m long, and 50 cm wide (Kurjack 1974:54). Sidrys (1978:162) concludes that megalithic architecture is uncommon and not as well developed as later architectural styles and that it had few if any residential functions, yet still communicates a sense of power in the labor needed to create buildings with megalithic stones.

Other evidence for megalithic architecture comes from the El Mirador basin at the sites of Nakbe and Tintal according to research done by Hansen (1992). These stones are not only similar in size to the ones in the Yucatan, they have diagnostic traits that date them to the Preclassic and Early Classic, namely the presence of cornice stones that are more than 1.2 m long. The construction method of these structures are similar with megaliths comprising the exterior wall of monumental structures holding back a rubble fill, although the rubble used in structures in the Northern Lowlands is much larger than
the rubble used in the El Mirador basin (Figure 3-8) (Benitez and Albuere 2004:18). Hansen notes that towards the end of the Middle Preclassic that masonry blocks increase in size for sites in the Mirador Basin reaching up to a meter long and half a meter wide (1998:71). Also appearing at sites in the southern lowlands at this time are apron moldings similar to the ones found in Megalithic buildings in the Northern Lowlands as well as rounded corners on platforms and structures. Megalithic stones at Ucí are very similar in their dimensions as those found in the Mirador basin, except in their thickness where they are about 10 cm thinner on average. (Hansen 1998:97). There is a potential connection between these two regions during these time periods based on their architectural similarities.

What Sidrys depicts is a trend to use large stones in Maya architecture, based on this single criterion and the fact that his examples come from disparate areas and time periods of the Maya world we could not call megalithic architecture its own style. An architectural style must possess a non-random geographic distribution, belong to a contemporaneous time period, and possess more similarities than solely the size of stones. The distribution of an archaeological style suggests social, cultural, and economic forces involved in promulgating its popularity. Stylistic characteristics that are used over a specific region during a certain period of time indicate that contact between powerful parties occurred that influenced the adoption of the architectural style. An architectural style is instantly recognized due its defining characteristics, while variation will occur in its execution, it must possess certain elements to pertain to that style. Some of these elements often were surviving bits of other styles that came before the current fad, likewise one style may inspire future styles with some of its elements. Yet wherever the
style is most widely used and most closely adhered to indicate the center of its influence and potential origin. When parts of it appear in foreign lands we then speculate as to the behavior that

![Figure 0-8 Comparison between Structure 10 at El Naranjal and Structure 35 from Nakbe](image)

lead to the possible cultural interchange of styles or investigate the possibility of parallel developments.

While Sidrys’ concept of a megalithic tradition spans too much time and space, we can define a more localized version, focused on Northern Yucatan during the Late Preclassic and Early Classic period, of megalithic style. Because of the abundance of sites with megalithic structures found throughout the Yalahau, and especially around the site of Victoria, a finer definition of the megalithic style has been established (Mathews 2003). This update to Sidrys characterization includes qualitative and stylistic traits, instead of just the size of the stones. Karl Taube has characterized the megalithic style as “large well-dressed stones with rounded edges overlaying a rubble core. Many of the blocks of stone are over a meter in length, pillow-shaped, and stacked with roughly broken chinking stones placed in between” (1995) (figure 3-9). The stones are often laid horizontally. Also remains of plaster have been found on facing stones, thickly coated to
form a smooth exterior. In addition to the large stones, megalithic buildings often have rounded corners, and may have corbeled vaults (Aké, Kantunikin, El Naranjal, Siho, and Yaxhom) and/or corbeled aprons (figure 3-10) (Glover et al. 2005). The megalithic style is also commonly linked with large basal platforms with a triadic grouping of superstructures (Aké, Huntichmul, El Naranjal, Site 38, and Yaxuná) (Mathews 1995). The literature on the Megalithic style (Benítez and Parrilla Alberne 2004; Lincoln 1980; Mathews 1995; Mathews 2003; Mathews and Maldonado 2006; Roys and Shook 1966; Sidrys 1978; Taube 1995; Velázquez Morlet, et al. 1991) indicates that it is primarily utilized in monumental architecture and dates to the Late Formative (400 BC to 250 AD) and Early Classic (250-600 AD) (Mathews and Maldonado 2006; Mathews 1998; Taube 1995). The site of Ucí provides a large number of examples of the Megalithic style as used in domestic architecture (Hutson 2008). I will discuss domestic megalithic architecture in chapter 5.

Despite being concentrated in the western Northern Lowlands, the Megalithic style has a more complicated history than we thought at first glance. The Yalahau region in the eastern part of the Yucatan Peninsula has also yielded a large number of sites with megalithic architecture. El Naranjal more than others has many structures that boast megaliths. More and more megaliths have been found in architecture across the Northern Lowlands and beyond (See Figure 1-1), leading Benitez and Alberne (2004) to see it as a hallmark of regional power, attributing sites with a high density of Megalithic structures, like El Naranjal, a powerful influence across the Northern Lowlands.

Mathews and Maldonado report 29 sites with the megalithic style in the Northern Lowlands. Survey data around Izamal and Ucí indicate that dozens of smaller sites not
known to Mathews and Maldonado also have megalithic buildings. Mathews and Maldonado also state that only Aké, Izamal, and El Naranjal make extensive use of the megalithic style, this statement would need to be revised once domestic structures are taken into account (Mathews and Maldonado 2006:106-107). Aké boasts 12 megalithic structures and a settlement zone with megalithic

![Example of typical megalithic constructions according to Taube's definition, from Aké Str 1](image)

platforms. At Izamal 14 of the 23 structures that date to the Early Classic possess megalithic stones. 16 of 25 of El Naranjal’s monumental structures are megalithic. Taube states that this megalithic masonry is not limited to public monumental buildings and that large quadrangular blocks have been found on the facing of wells and house-platform
groups (1995). Megalithic stones are also often found in the retaining walls of sacbeob. Nevertheless, very few studies of the megalithic style have reported it on domestic structures (exceptions are Yaxhom (Mathews and Maldonado 2006), San Cosme, and El Naranjal (Taube 1995)). This could be the result of a reporting bias towards monumental structures or that megaliths are more visible in these
Mathews and Maldonado (2006) argue that because of the extent of sites that hold megalithic architecture, this style represents an interaction sphere centered at Izamal during the Late Preclassic and Early Classic. An interaction sphere is a model that explains how interaction between different groups will cause influence and innovation to spread to both participants in the interaction representing a regional identity. These innovations and influences will cross-cut ethnic and environmental areas. Taube (1995) argues for a less prominent position for the megalithic style. He calls it “an evolving developmental phase” instead of a “hard-and-fast horizon style”. In the Late Classic, he sees traits in Puuc architecture at sites like Uxmal that may have had their origin in megalithic architecture. Vaulted passageways under stairways and apsidal building platforms in the Pyramid of the Magician at Uxmal are similar to features in El Naranjal’s structure 10. In addition, the House of the Governor sits on a broad and narrow building platform on the west side of a massive, two-tiered basal platform, similar to structure 19 at El Naranjal, (Kowalski 1987: figure 12). Due to its regional spread; Taube believes that megalithic architecture does not mark a specific polity or alliance. This notion is strengthened by the fact that the sites of El Naranjal, Izamal, and Aké all demonstrate a lack of Late Classic construction. This common period of decline could indicate that El Naranjal, Izamal, and Aké shared political connections that resulted in all three declining around the same time. Both Taube (1995) and Mathews (2003) have mentioned the presence of intersite sacbé systems (Izamal to Aké and Cobá to Yaxuná) between sites that possess megalithic architecture and imply that the construction of these causeways could have spread the megalithic tradition to other sites.
Taube has identified a difficulty in the use of surface survey to detect the presence of megalithic architecture. He cites for example Structure 2 at El Naranjal, where if part of the superstructure was not preserved then the megalithic style would never have been detected. This results from the megalithic style being just a thin veneer, which contributes only a small quantity of stone to the overall structure. When this veneer collapses it can be covered by the rubble and debris from the core of the structure (Taube 1995). While this presents a problem for accurately locating all examples of megalithic architecture at a site, the example Taube uses is one of the largest structures at El Naranjal. Most of the recorded megalithic structures at Ucí are low residential platforms that exhibit megalithic stones in their substructure rather than the superstructure. Since most of these platforms at Ucí had perishable superstructures, there is very little risk of the substructure being concealed by collapsed rubble.

Another problem in the analysis of the megalithic style is the difficulty in generating accurate chronologies. Mathews and Maldonado express that this is part of a more common problem characterized by a “lack of monumental texts, difficulty of obtaining ceramic samples and burials from within larger structures, inability to date architecture through ceramic chronologies” for the Late Formative and Early Classic in the Northern Lowlands (2006). Research at Ucí may be able to address this issue through excavation of megalithic buildings and recovery of datable material.

**Preliminary Results from the UCRIP**

While Maldonado reported the use of megalithic stones in monumental structure 3 at Ucí (1979, 1995), in 2008 Hutson discovered that 31 of the 94 platforms recorded in the survey east of Ucí had at least two megalithic stones in their retaining walls (Hutson et al 2008). Subsequent survey at Kancab and Ucanha and smaller sites around the
causeway indicate that megalithic architecture was very common in domestic platforms. Combined with the data from 2009, a total of 123 of 501 residential platforms have megalithic stones in all the areas that were surveyed during the two field seasons. Of the 243 platforms within Ucí’s site boundaries, 78 of them were megalithic. The best recognized megalithic structures normally are monumental buildings, like the Kinich Kak Moo at Izamal and Structure 1 at Aké. At Ucí megaliths are much more visible in domestic contexts except for the stairway on structure 1a. Although the volumes of the ML platforms at Ucí vary greatly in size most do not approach monumental proportions and for this reason I call them domestic megalithic architecture.

In the areas outside of the defined boundary of Ucí’s settlements, architectural volume for megalithic platforms is larger than non-megalithic platforms. To the north, ML platforms have an average volume of 360.96 m³ and non-ML platforms have an average volume of 56.09 m³. The area to the west of Ucí had no megalithic platforms and had an average volume of 25.67 m³. To the east of Ucí and along the sacbé, the average volume of ML platforms was 94.18 m³ and 84.02 m³ for non-ML platforms. The average volume for platforms of the actual settlement area of Ucí varies depending on which platforms one considers monumental, but in both instances the non-ML platforms are larger. Without limiting the volume size of platforms the average volume for non-ML platforms is 405.87 m³ and 234.19 m³ for ML platforms. After considering anything with a volume 2000 m³ or greater monumental (all bordering or in the site center), the volume for non-ML platforms is 279.60 m³ and 226.65 m³ for ML platforms. Because of Ucí’s proximity to the major sites of Aké and Izamal and their use of the megalithic style in much of their architecture, an analysis of the variation in the use of megalithic stones
in all their contexts will contribute greatly to the understanding of not only regional politics but also local social organization.
Chapter 4 Methodology

This chapter will detail the types of data that I used in my analysis of megalithic architecture. I will also describe the methodology that I used to collect these data. And finally I will indicate the method of analysis that I used.

Data

Information from the first field season of surveying and mapping indicates that all examples of megalithic stones have been found in walls of retention. Only stones more than 60 cm in length were categorized as megalithic. A stone that measures 70cm by 30 by 30 would not be considered megalithic by Sidrys because it would weigh less than 500kg. The stones are placed in a horizontal position, with their long side aligned with the orientation of the structure. Structure 4n1 (Figure 4-1) exhibits megalithic stones that are well defined, with rounded edges, but there are examples of large stones in other structures that do not share these traits. Some of the megalithic platforms at Ucí exhibit rounded corners, a consistent trait of the megalithic style in other sites (Hutson 2008:88).

There are four types of structures at Ucí that contain megalithic stones in their retaining walls, namely monumental structures, domestic platforms, nivelaciones, and also the sacbeob. This analysis only focuses on monumental structures and domestic platforms.

Quantitative data comes in the form of stone and platform measurements, and platform and stone locations. Length, width, and height of each stone and platform were measured with a measuring tape and also sketched on graph paper. In the case of platform height, it was estimated compared to the height of field crew members. Each structure received GPS coordinates and all the sketches of the stones and platforms were then digitized and geo-referenced in ESRI ArcGIS.
Qualitative data of the stones includes the stone’s shape, the smoothness of the stone’s faces, the presence of clearly discernible edges (straight or curved) and corners (rounded, square, or angular) of the stone, the symmetry of the stone’s shape, and the location of the stone (whether the stone is aligned with other stones). A photograph was taken for each stone, in order to access these qualitative details out of the field. Each stone was also mapped in a sketch on graph paper. The stones orientation in respect to the orientation of the platform is noted in these sketches.

I took stone data from both monumental and domestic contexts at Ucí, as well as some monumental structures at Aké and Izamal. At the last two sites I documented stones in different contexts, for example the stones in the stairway, cornices, and the steep walls of the structures. By comparing the monumental and domestic data I was able to note differences in size and quality of the stones. I was also able to note differences between...
the monumental stones from the different sites. This allowed me to define the domestic vein of the megalithic architectural tradition and also compare data sets between three different communities at and around Ucí, being the structures around Ucí, structures east of Ucí along the sacbé, and structures to the north of Ucí.

**Data Collection**

To collect the data for the domestic platforms at Ucí, I used a stratified sampling strategy based on structures previously found in the 2008 and 2009 field seasons documenting the size, shape, and location of structures and megalithic stones that are visible at the surface. My initial sampling size of 72 platforms (2 platforms for each of the 35 days I was in the field) was over ambitious and I ended up only documenting 54 platforms, 24 on the east transect, 15 on the north transect, and 15 on the west transect. Some of the platforms contained so many stones to document that they took me multiple days to properly document. I split up the platforms into three ranges of structure volume in order to sample stones from different size constructions. This yielded a good distribution of data with 18 platforms in the small range (0-100 m³), 14 platforms in the medium range (101-200 m³), and 22 platforms in the large range (201+ m³).

This sample had a coverage of 44% (54 of the 123 megalithic platforms) of all of the megalithic platforms in the east, north, and west transects. I based the three size ranges off the recorded platform volumes along the east transect recorded in 2008. The 24 platforms from the east transect came from the 2008 data and the 15 from the north and west transects were located during the first few weeks of the 2009 field season. 8 platforms were selected randomly from three ranges of architectural volume for the east transect, and 5 platforms were selected for each range of volume on the north and west transects. If one of the three areas of the survey did not have enough platforms for each
range of volume then platforms from the adjacent range were selected randomly to compensate for the lack of platforms in that particular range. This explains the unbalanced spread of platforms across the three categories above. Only stones more than 60 cm in length that were quadrangular were categorized as megalithic, although all stones of large size (except for bedrock) were recorded whether or not they meet these criteria. Every stone that fit this criteria was included in my survey, a total of 1506 stones were recorded from the domestic platforms.

The process of documentation included counting the number of megalithic stones visible in the structure, assessing the degree to which the stone had been worked and the presence of plaster (none found), collecting of any temporally sensitive surface artifacts around the structure (none were found in my survey of the architecture), measuring the length, width, and height of each stone and structure associated with it and the orientation of the structure, and sketching and photographing both structures and stones to record their shape. Field data was transferred into Excel worksheets and ESRI ArcView files for analysis. Data on the location, shape, size, orientation, and composition of non-megalithic structures was collected by other members of the field crew during the summers of 2008 and 2009. This serves as data to compare with the megalithic structures in order to ascertain the possible existence of different communities and markers of status that result from the architectural variability of the Megalithic tradition at Ucí.

A megalithic stone’s quality was assessed in 5 categories: shape, face, edges, corners, (Figure 4-2) and symmetry. Each category had a set number of responses that correspond to numbers on a gradient from lowest to highest quality. Table 4-1 illustrates
the possible responses and their connected numbers, while figures 4.3 to 4.7 provide photos of stones that correspond to each of the possible responses.

**Figure 0-2 How to distinguish between a face, edge, and a corner**

**Table 0-1 Qualitative Assessment Categories of Megalithic Stones**

<table>
<thead>
<tr>
<th>Shape</th>
<th>Faces</th>
<th>Edges</th>
<th>Corners</th>
<th>Symmetry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 can't tell</td>
<td>1 rough/bumpy</td>
<td>1 can’t tell</td>
<td>1 can’t tell</td>
<td>1 can't tell</td>
</tr>
<tr>
<td>2 amorphous</td>
<td>2 partially smooth/bumpy</td>
<td>2 ill-defined</td>
<td>2 amorphous</td>
<td>2 no</td>
</tr>
<tr>
<td>3 roughly rectangular</td>
<td>3 relatively smooth/bumpy</td>
<td>3 1 defined</td>
<td>3 Combo (all three types present)</td>
<td>3 semi</td>
</tr>
<tr>
<td>4 elliptical, circular, or trapezoidal,</td>
<td>4 smooth/bumpy</td>
<td>4 2 defined</td>
<td>4 Only two types angular/round, angular/square, or round/square</td>
<td>4 almost</td>
</tr>
</tbody>
</table>
Shape refers to the shape of the stone as a whole, faces indicate the texture on all the faces (mostly the top and bottom faces of the stone, being faces with the greatest surface area) and how uniform or partial (bumpy) that texture is (these two variables are combined in the assessment of the face since the later variable assesses the quality of the texture of the stone, rather than two separate measurements that directly assess the quality of the stone), edges indicates how many distinct edges (the lateral faces of the stone if the stone is laid horizontally) the stone has (this means a cylindrical stone would have one continuous edge while a rectangular stone would have four, this measurement is to gauge to see how detailed the stone was worked, if the mason worked all the edges of the intended shape or just one or two), corners indicate whether a distinct corner is present and what shape they are (round, square, or angular but they can also appear in combination), and symmetry refers to how evenly crafted the stone was (see Figures 4-3 to 4-7 for examples of the qualitative assessments found in Table 4-1). 

Data on monumental megalithic stones was taken at Ucí, Aké, and Izamal. I spent one day on structures E1N1-15 and E1N1-1 at Ucí recording 40 stones from many different portions of the structures. At Aké, 20 megalithic stones were recorded from structure 1, in the brief afternoon I visited the site. I was able to record 53 stones at
Izamal from a day long visit from the Kinich Kak Moo. My sampling technique for these structures was more opportunistic, as I
Figure 0-3 Different shapes found among the megalithic stones found in table 4-1, starting from left to right: can’t tell, amorphous, roughly rectangular, elliptical, circular, trapezoidal, triangle, rectangle, square, and round rectangle.
Figure 0-4 Different qualities of faces found on megalithic stones listed in table 4-1, starting from left to right: rough/bumpy, partially smooth/bumpy, relatively smooth/bumpy, smooth/bumpy, rough/uniform, partially smooth/uniform, relatively smooth/uniform, smooth/uniform
Figure 0-5 Different quality of edges found among the megalithic stones found in table 4-1, starting from left to right: can’t tell, ill-defined, 1 edge, 2 edges, 3 edges, 4 edges
Figure 0-6 Different quality of corners found among the megalithic stones found in table 4-1, starting from left to right: can’t tell, amorphous, combo, angular/round, angular/square, square/round, angular, round, square
Figure 0-7 Different quality of symmetry found among the megalithic stones found in table 4-1, starting from left to right: can’t tell, no, semi, almost, yes
could only access certain portions of these massive structures and I had limited time to collect data at each site. Nevertheless, I was able to collect data on stones in similar contexts at the three sites, namely from staircases, retaining walls, corbel aprons, and
cornices. Data collected was identical to the suite of observations and measurements made for the domestic megalithic stones. Photographs were taken, but no maps were made of stone location on each monumental structure. These monumental megalithic stones serve as a comparison to the domestic stones to help define the domestic expression of the architectural tradition.

Data Analysis
In order to delineate the variation observable through the use of megalithic stones in residential platforms, I first noted the use of megalithic stones in each structure mapped in the three transects of the survey. Volume of residential platforms was calculated from reported measurements of length, width, and height and the shape of different platforms. Structures of larger volumes should correspond to a greater cost of construction than smaller volumes. Comparing the volumes of megalithic and non-megalithic structures will determine if there is a relationship between the size of a structure and its use of megalithic stones. I do this by performing a t-test between the platform volume for megalithic and non-megalithic platforms, to see if there is a significant difference between the two. This test is performed for the overall sample, but also as different communities, namely the structures within the proposed site boundary of Ucú and the structures to the north, east, and west of the boundary.

Different techniques to calculate the cost of construction for architectural features have been proposed by multiple archaeologists for the ancient Maya. One of the first comprehensive attempts came from Charles Erasmus who performed experiments in Yucatan to estimate the amount of time it would take to construct the basic components of structures. He gauged these different tasks in person-days per cubic meter or square meter, in other words how long and how many people would it take to produce this
quantity of finished product. His estimates were 5.25 pd/m³ for platform fill, 12.25 pd/m² for masonry wall, 30 pd/m² for masonry veneer and vaulted roof, and .05 pd/m² for floor preparation (1965). These person days are based on 5 hour long work days. Arnold and Ford borrow heavily from Erasmus’ estimates keeping the exact figures for masonry veneer and vaulted roofs as well as for floor preparation (1980). They lower the figure for fill to 2.25 pd/m³, since in the southern lowlands less stone appeared in their fill. They also lessen the measurement for wall construction to 7.00 pd/m² due to the fact that the walls for their region are not as thick as the ones Erasmus based his estimates on. They also incorporate an estimate for the construction of perishable structures based on the estimates provided by Wauchope in his 1938 study of Maya houses; this is 1 pd/m² of floor area. At Ucú, many of the platforms do not have observable foundation braces on top of them. This means I do not know for sure how many perishable superstructures rested on top of platforms nor how much surface area these would cover.

Kelli Carmean utilizes estimates from both Erasmus and Ford and Arnold in her calculation of labor investment at the site of Sayil in the Yucatan, but modifies some of them to include the vaulted architecture of that site. She breaks down the cost of construction into three different building types: vaulted building, stone building without vaults, and foundation brace. For the first two of these she uses Arnold and Ford’s estimates for wall construction and Erasmus’ figures for the vault, decoration, and floor construction. The vault calculation is not performed for structures that do not possess them. For the foundation braces she again uses the same figure for the walls and flooring and adds Arnold and Ford’s estimate for perishable structures. The major difference
between Carmean’s approach to the previous three is that she does not incorporate any labor assessment of the fill of the structures based on its observed volume (1991:14).

Abrams tries to move beyond estimates of construction cost based primarily on volumetric assessments by separating the construction process into these four operations: procurement of raw materials, transport, manufacture, and actual construction or assembly (1994:43). He tailors his estimates to the variation found in the specific context at the site of Copan: estimating all costs for volcanic tuff rather than limestone, knowing the distance to the closet quarries, including cobbles as a separate category from masonry, basing the perishable structure cost estimate on wattle and daub houses the modern analog in the present community of Copan, and accounting for the act of sculpting found on many of the structures. He measures cost according to how much of an activity can be performed in a single person-day. Abrams first assesses the combined sum of all the materials found from the different components of the structure and then estimates how much it would cost to procure, transport, process, and then assemble that material at the building’s location. He compensates the amount of tuff procured for the raw material loss in the reduction process of shaping stones for that particular structure.

He estimates that earth, cobbles, and tuff can be procured at a rate of 2.6 m³/pd, 7200 kg/pd, and 750kg/pd respectively (Abrams 1994:44). For transport estimates Abrams borrows a simplified version of a formula developed by the UN for estimating the labor required to manually transport earth, it is Output = Q * (1/(l/v+l/v')) *H where Q is the quantity of earth per load, L is the transport distance, v is the velocity loaded, v’ is velocity unloaded, and H is hours per day. In his example he uses 3 km for v or distance traveled with load and 5 km for v’ or distance traveled without load. For manufacture
costs he estimates that each cubic meter of dressed masonry will require 11.6 pd, rough cobbles 1.16 pd, and plaster 43.9 pd. Estimates for sculpted features are broken down into simple and complex, 321 cm²/ph (person hour) and 89 cm²/ph respectively. Construction estimates are as follows: fill = 4.8 m³/pd, all walls = 0.8 m³/pd, cobble subflooring = 9.6 m³/pd, plastering 80 m²/pd, and wattle and daub superstructure PD = -13.838 + 1.832(area).

For this project cost of construction for each platform was calculated by combining three different estimates: cost of construction of the wall, cost of construction of fill, and cost of construction of perishable superstructures. The equations for each of these three estimates are: Wall=perimeter*height*7 pd (person days) per square meter, Fill=volume*5.25 pd per cubic meter, Perishable Structures=area*1 pd per square meter of the floor. These estimates of labor expenditure come from Arnold and Ford’s (1980) study of cost of construction of residential units at Tikal. One difference, in my estimation is that I do not use their figure of 2.25 pd for each cubic meter of fill, since their data comes from an area with much less available stone. Instead I use Erasmus’ (1965) estimate of 5.25 pd per cubic meter because the rocky terrain around Uxmal where he performed his experiments is similar to the stone laden ground at Ucí, where stone composes a larger percentage of the fill. To extract stones from the ground rather than just dirt requires greater effort. It would also take less effort to transport dirt than stone due to the greater ease in packing dirt into a container, while stones normally have to be altered before you could pack them in an efficient manner. The increased time required to excavate and transport stone rather than earth accounts for the higher labor estimate for this task.
I decided not to use Carmean’s (1991) formula for construction cost since it relied on the vault area, vaulted structures being absent in my sample of domestic platforms at Ucíf. She also does not include platform volume in her labor value calculations. At Ucíf, platform volume is one of the few quantitative characteristics recorded for each structure that we possess, since we have not yet performed excavations at the site. Lacking the stratigraphic information to estimate the amounts of different materials in the composition of the fill, I could not apply or modify Abrams figures for procurement. Since his figures were based on structures made from volcanic tuff, not only are the procurement figures for tuff non-applicable to the structures at Ucíf, this also invalidates the manufacture estimates for masonry stones because these structures are made of limestone. For this reason I went with Erasmus and Arnold and Ford’s numbers because they also analyzed limestone based masonry. Unfortunately since the location of Ucíf was not located near any rivers, the information on cobbles from Copan does not match. This is also the case of lime plaster floors and sculpture; there is no evidence of either in the structures included in my sample. The same can be said for why I did not apply his measurements to the structures at Ucíf for the construction process. In addition no evidence has arisen that indicate that the perishable superstructures at Ucíf were made out of wattle and daub like at Copan. They were likely made of wood for the walls and a thatched palm roof (De la Garza 1983:71-73). Because of their perishable nature we have no surviving evidence of what these superstructures were made of at Ucíf, and hence have to rely on ethnohistoric accounts for possible descriptions of indigenous houses. So these superstructures could have been made of wattle and daub at Ucíf, as many house in modern Yucatan are made, but we have no specific evidence that suggests this. Having
only the volume of the platform without knowing its stratigraphy it is impossible to apply Abrams’ figures for wall and fill construction to the data at Ucíf, and hence I used the composite figure found in the Arnold and Ford article. I also did not use Abrams (1994) transportation figures, since stone sources at Ucíf are often readily at hand located in the surrounding area of most potential construction sites.

Cost of construction calculated in this manner appears to be a function of volume, having the greatest impact on overall cost, followed by platform height. After calculating cost of construction with the above proposed formula and then observing how it correlates with the platform volume, there is almost a 1 to 1 positive correlation. It is by far the most determining attribute of cost of construction. Even though the height of the platform is more costly to construct, generally speaking the platform volume is many times larger than its height and will influence the final determination of the cost of construction in like magnitude. Out of the platforms from the project area only about 14% of them have an average elevation greater than one. This means the majority of platforms have heights that would lessen the overall cost of construction once plugged into the formula.

For residential structures I recorded shape, size, number, and the placement of megalithic stones within the structure recorded. Quantity of megalithic stones should relate to the cost of construction and hence to the hypothesis that megalithic stones denote differential socioeconomic statuses than structures that do not use the megalithic style. In this aspect I had to rely on platform volume and the percentage of that volume that was made up of megalithic stones, since weighing each individual stone was impossible without destroying the structure. Megalithic stones would only be more costly
if the stones required greater man-power to transport, manipulate, and place the stones. But if the megalithic platform required fewer stones than a non-megalithic platform of the same volume then the labor cost of the platforms would be approximately the same since with larger stones you would make fewer trips but you would need more laborers to lift each stone and with smaller stones you would make more trips but need less laborers to lift the stones. At the same time quarrying megaliths would require specialists and hauling them would require coordination of multiple laborers at the same time. Furthermore, not all quarries are good for megaliths, so you might need to have access to special quarries that are further away. Nevertheless, if megalithic stones are more common at platforms with greater height and volume, then they do possess a sense of increased status. The amount of labor invested in a residential structure is a reflection of the social status of the individuals who control that labor (Arnold and Ford 1980:716). Since residences represent one of the biggest labor investments a household makes, they are one of the best indicators of status between households (Seibert 2005:243). Perhaps the quality of the craftsmanship of megalithic stones is a better indicator of status. To create a measure of overall stone quality for each individual stone, I used the values attached to the qualitative assessments in Table 4-1 and added them together for each stone. In the Shape and Corners category I combined the categories that had similar values of quality but different labels (for example in the Shape Column, triangle, square, and rectangle are considered equivalent in degree of quality and each contribute 5 points to the total score of the stone). The lowest possible score a stone could receive was 5 while the highest possible score was 30. A platform then had all the quality values of its megalithic stones averaged to give the overall quality assessment of its architecture a
value. This measure of quality was then compared with other platforms and other communities throughout the survey area.

I also ran correlation coefficients between the measures of cost construction, stone quality, percent of platform perimeter taken up by megalithic stones, and the percent of volume of the platform taken up by megalithic stones. I did this to see if different indicators of status are connected to megalithic architecture.

Aside from these statistics, I also perform spatial analysis within ESRI ArcGIS, looking for patterns in location of megalithic platforms in relation to their size, orientation, and proximity to other features at Ucí. I also look at the distribution of stone quality and then compare and contrast structures between different communities, following the proposed boundary limits put forth by Hutson (2009). I also attempt to identify household compounds based on concentration of architectural features, providing the smallest social unit that allows me to analyze intra-community status negotiations through data analyzed in this research.

This analysis explores the physical variability of the production and use of megalithic stones in the domestic context at Ucí. This variation in material culture permits archaeologists to explore questions of social heterogeneity and conformity as different actors experience the consequences of their unique or similar decisions (Brumfiel 2002:252-253). The physicality of residential platforms built with megalithic stones manifests the subjectivities and dispositions of both the passive and active participants of their creation. These moments of construction are “intersubjective experiences that shape the ways we think about others, objects, and the spaces of experience” (Pauketat and Alt 2005:216). The variation in domestic megalithic
architecture at Ucíf is not random; it represents different individual household experiences with an architectural tradition that had obviously been utilized in contexts of prestige and power in the monumental structures at sites across the Yucatan. By deciphering the patterns created by these different groups, I hope to be able to expand our knowledge of the social and cultural history of the people who once lived at and around Ucíf, as it relates to the world that they were part of in the past.
Chapter 5 Results Domestic Megalithic Architecture

In this chapter I will formally define domestic megalithic architecture by displaying the results of both the quantitative and qualitative data analysis for the sample at and around Ucí. My initial assumptions posited that monumental megaliths would be larger and more finely worked than stones from domestic contexts. The variation in both stone size and quality makes it difficult to characterize stones based on simple visual observations alone. Fortunately, I recorded detailed data for the stones in each structure and I will be able to see which combinations of traits are most common. This chapter will first present the data from monumental contexts at Izamal, Aké, and Ucí. I will then present the data for the domestic stones and compare that data to the monumental megalith stone data. My conclusions will be supported by images of stones from both contexts.

Monumental at Izamal

As mentioned above I only documented stones at Izamal from the largest structure at the site, the Kinich Kak Moo. The base of this structure is approximately 200 m by 200 m and is 17 m high. On this base rests a pyramid that measures 30 by 50 m at its base, and is 18 m high for a combined height of 35 m (Lincoln 1980:62). This structure is the largest one considered in this study, boasting a volume of 700,000 m³. This structure conforms to what has been documented previously as the megalithic style with large, well-dressed blocks, rounded corners, and apron moldings with enormous stones (figure 5-1) (Mathews 1998).

Stones at Izamal (see figure 5-2 for an example) are on average 99 cm long, 71 cm wide, and 29 cm thick (see table 5-1 for rest of the descriptive statistics). They are
usually quadrangular, (mostly rectangular, rarely trapezoidal, and two stones that are

Figure 0-1 SW corner of the Kinich Kak Moo at Izamal (taken by Joseph Stair)
Figure 0-2 Stone 39, a typical megalithic stone from Izamal

Table 0-1 Mean of Length, Width, Thickness, and Quality of Megalithic Stones at Izamal

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>98.96226</td>
<td>70.68421</td>
<td>28.64151</td>
<td>19.5283</td>
</tr>
<tr>
<td>Standard Error</td>
<td>5.401242</td>
<td>4.090913</td>
<td>1.045446</td>
<td>0.557053</td>
</tr>
<tr>
<td>Median</td>
<td>84</td>
<td>61</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Mode</td>
<td>65</td>
<td>52</td>
<td>33</td>
<td>15</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>39.32163</td>
<td>25.21808</td>
<td>7.61096</td>
<td>4.055404</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>1546.191</td>
<td>635.9516</td>
<td>57.92671</td>
<td>16.4463</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.756916</td>
<td>3.397511</td>
<td>0.150995</td>
<td>-0.98086</td>
</tr>
</tbody>
</table>
especially pillow like), possess relatively smooth and uniform faces (only 17% of the stones had a non-uniform finish), at least 1 defined edge to each stone with over 50% of the sample having 3-4 defined edges, a third of the sample had homogenous corner types (round or square) another third had a mixed corner types (angular/square, round square, or a combination of the three), and a third of the sample was hard to determine the corners since the stone was observed from a single exposed face in a vertical wall, and over 80% of the stones were not symmetric with only 4 stones showing definite symmetry and 7 showing semi-symmetry (figure 5-3). The overall stone quality for stones at Izamal was 20.

<table>
<thead>
<tr>
<th></th>
<th>1.585092</th>
<th>1.758286</th>
<th>0.193693</th>
<th>-0.07828</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skewness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>149</td>
<td>114</td>
<td>34</td>
<td>16</td>
</tr>
<tr>
<td>Minimum</td>
<td>61</td>
<td>38</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Maximum</td>
<td>210</td>
<td>152</td>
<td>47</td>
<td>27</td>
</tr>
<tr>
<td>Sum</td>
<td>5245</td>
<td>2686</td>
<td>1518</td>
<td>1035</td>
</tr>
<tr>
<td>Count</td>
<td>53</td>
<td>38</td>
<td>53</td>
<td>53</td>
</tr>
</tbody>
</table>
Figure 0-3 Distribution of Shape, Faces, Edges, Corners, Symmetry, and Quality for Stones at Izamal
There were also differences between stones measured from different contexts. I took measurements from the following contexts: the first (ground level), second, and third tier of the western edge of the basal platform, backside of the western edge of the third tier, from the round Southwest corner of the basal platform, southern edge of the third tier, the western edge staircase, the first tier on the northern edge, the northern edge staircase going up, eastern edge hanging apron stones, and finally the staircase leading to the top of the upper plaza (Table 5-2). It appears that the first tier on the western side of the platform has much higher quality stones than the same tier on the north side. The staircases appear to possess stones that are on average of higher quality and size than stones from other parts of the structure. The exception to this observation of greater sized stones in staircases is the three stones from the southern edge’s third tier; these are all corbel apron stones (hanging over the edge of the wall). These stones measure close to 2 meters in length and are over a meter wide and about 34 centimeters thick. These measurements are larger than the average for corbel apron stones for the whole structure (length 126.7 cm, width 97.1 cm, and thickness 26.4 cm). Overall, the largest stones are used on the southern edge of the Kinich Kak Moo, the side facing the plaza, and most likely the front of the pyramid.

The lack of a width estimate and the low quality assessment for the 1st tier on the north side of the structure are a result of the stones being examined sitting in a vertical wall with only one face exposed in the wall, preventing the width of the stone from being measured and the corners and symmetry of the stone from being observed. The same can be said for the north and south side stones of the western staircase, and to a lesser degree the 3rd tier on the west and the back portion of the third tier (only 2 stones with width
measurements for the former and 3 stones for the latter). Regardless of their smaller size, stones from the 1st tier on the west side of the structure have the highest average quality (23.8). I think staircases generally have higher quality values than other contexts for stones because they would have been areas of greater traffic and more visible for the public transmission of messages of power.

**Table 0-2 Average Quality, Length, Width, and Thickness for stones from different contexts on the Kinich Kak Moo at Izamal (cm)**

<table>
<thead>
<tr>
<th>Context</th>
<th>Quality</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st tier (west)</td>
<td>23.8</td>
<td>77</td>
<td>60.2</td>
<td>29.8</td>
</tr>
<tr>
<td>2nd tier (west)</td>
<td>18.8</td>
<td>86</td>
<td>51.25</td>
<td>22.2</td>
</tr>
<tr>
<td>3rd tier (west)</td>
<td>15.8</td>
<td>83.4</td>
<td>51.5</td>
<td>25</td>
</tr>
<tr>
<td>back of 3rd tier</td>
<td>17.4</td>
<td>101.2</td>
<td>96</td>
<td>31</td>
</tr>
<tr>
<td>from round SWC</td>
<td>20.6</td>
<td>89.6</td>
<td>56.6</td>
<td>32.2</td>
</tr>
<tr>
<td>southern edge, 3rd tier</td>
<td>20.6667</td>
<td>181.667</td>
<td>137.667</td>
<td>34</td>
</tr>
<tr>
<td>Side stones of the west stair case</td>
<td>15.4</td>
<td>73.8</td>
<td>49</td>
<td>24</td>
</tr>
<tr>
<td>1st tier on north side</td>
<td>14.2</td>
<td>74.4</td>
<td>?</td>
<td>27.2</td>
</tr>
<tr>
<td>northside staircase going up</td>
<td>22.2</td>
<td>110.8</td>
<td>67.6</td>
<td>33.4</td>
</tr>
<tr>
<td>east side of platform</td>
<td>23</td>
<td>93.8</td>
<td>71.2</td>
<td>21.2</td>
</tr>
<tr>
<td>ML staircase on upper plaza (south</td>
<td>23.4</td>
<td>150</td>
<td>70</td>
<td>37.2</td>
</tr>
<tr>
<td>ML staircase on upper plaza (southern</td>
<td>21.3</td>
<td>126.7</td>
<td>97.1</td>
<td>26.4</td>
</tr>
</tbody>
</table>

**Monumental at Aké**

Similar to Izamal, I only had enough time to document some stones from one structure at Aké; I chose the Acropolis or structure 1 (figure 5-4) (although some 12 monumental structures boast megalithic architecture). Standing at a height of 8.5 m, this building is constructed completely of megalithic masonry. It is apsidal in shape with softly rounded corners similar to structure 10 at Tumben-Naranjal (Mathews 1998). It possesses massive stones in its apron corbels as well as its enormous staircase that measures 46 m across with 20 steps. Unlike other monumental megalithic structures, the
Acropolis possesses 36 columns on the platform base that measure 4.6 m high and are made of megalithic stones (ibid. 1998:104-105). Due to limited time of the visit to the site I was only able to document about 20 stones from 4 different contexts from the structure, namely corbel apron stones, stones in the wall beneath the apron, stones from the southeast corner of the cornice, and stones from the staircase.

Overall monumental megalithic stones from Aké on average measure 123 cm long, 50 cm wide, 31 cm thick, and have an average stone quality of 24 (Table 5.3). Every stone was distinctly rectangular in shape, with a relatively smooth and uniform faces (except for 2 stones), 3-4 well defined edges, with an almost equal split of stones with only round corners and stones with only square corners, and only 5 stones being symmetric with the other 15 unable to ascertain symmetry. (Figure 5.5 and 5.6)
Figure 0-4 Structure 1 (Acropolis) at Aké

Figure 0-5 Rounded corner and good example of corbel apron and megalithic stones at Aké Structure 1

Table 0-3 Descriptive Statistics for Monumental Stones of the Acropolis at Aké

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>122.8</td>
<td>50.4</td>
<td>30.95</td>
<td>23.65</td>
</tr>
<tr>
<td>Standard Error</td>
<td>9.642722917</td>
<td>9.345638</td>
<td>1.304799</td>
<td>0.52453</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Median</td>
<td>108</td>
<td>38</td>
<td>30.5</td>
<td>23</td>
</tr>
<tr>
<td>Mode</td>
<td>101</td>
<td>20</td>
<td>32</td>
<td>23</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>43.12356786</td>
<td>36.19555</td>
<td>5.835238</td>
<td>2.345769</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>1859.642105</td>
<td>1310.114</td>
<td>34.05</td>
<td>5.502632</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.84629451</td>
<td>-1.28077</td>
<td>0.924348</td>
<td>0.199195</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.242225563</td>
<td>0.584097</td>
<td>0.736416</td>
<td>-0.07414</td>
</tr>
<tr>
<td>Range</td>
<td>159</td>
<td>101</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Minimum</td>
<td>71</td>
<td>11</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Maximum</td>
<td>230</td>
<td>112</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>Sum</td>
<td>2456</td>
<td>756</td>
<td>619</td>
<td>473</td>
</tr>
<tr>
<td>Count</td>
<td>20</td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

**Figure 0-6 Distribution of Faces, Edges, Corners, Symmetry, and Quality of stones at Aké**
The megalithic stones of the Acropolis at Aké are remarkably similar to one another even from different contexts, except for the stones used in the staircase, where the stones are greatly larger and of higher craftsmanship (Table 5.4). I collected data from four different areas of the structure, the apron stones overhanging the retaining wall, stones beneath said overhang, stones from the southeastern corner of the cornice, and stones from the ascending steps in the staircase. Again some discrepancy must be mentioned for the varying width averages since all the stones of the 20 documented except for 2 were located in the masonry where either no width measurement could be taken or only a partial measurement was recorded, since the terminating edge of the stone was laid towards the interior of the structure. Again stones from stair cases are not only larger but of higher quality (similar to Izamal).

Although Izamal possessed much larger buildings and perhaps held dominion over a wider expanse of territory, the megalithic stones at Aké are on average of higher quality. This refinement in architecture could have been the masters of Aké displaying their own regional power or it could have been an emulation of Izamal’s style. The former suggests that Aké resisted the spread of the Izamal variant of the architectural style, the latter situation suggests that they emulated the style and then tried to make it appear even grander.

**Table 0-4 Average measures of Quality, Length, Width, and Thickness of stones from different contexts at Aké’s Acropolis**

<table>
<thead>
<tr>
<th></th>
<th>Quality</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>overhanging cornice stones</td>
<td>23</td>
<td>100.4</td>
<td>39.4</td>
<td>30</td>
</tr>
<tr>
<td>Beneath the overhanging cornice</td>
<td>22.4</td>
<td>106</td>
<td>15.5</td>
<td>29.4</td>
</tr>
<tr>
<td>SEC of Cornice</td>
<td>22.2</td>
<td>102</td>
<td>20</td>
<td>32.8</td>
</tr>
<tr>
<td>Step stones</td>
<td>27</td>
<td>182.8</td>
<td>95.4</td>
<td>31.6</td>
</tr>
</tbody>
</table>
Monumental at Ucí

The monumental architecture at Ucí has been heavily damaged from looting. The two structures that I choose to sample for megalithic stones are E1N1-1 and E1N1-15 (Figure 5.7). E1N1-1 is a pyramid that rests on the south side of a basal platform measuring 77 m by 72 m and rises from the ground 5 m. E1N1-1a itself measures 40 by 25 m and has an elevation of 8.2 meters, making the total height of the compound 13.2 m. This pyramid has a well preserved megalithic staircase on its west side that is 5 meters wide. There are two smaller mounds that share the basal platform, one on its south and west edges, the total volume for the entire compound is estimated to be 31,000m³ (Hutson et al 2009). I collected data from 24 stones from this structure.

Structure E1N1-15 is also a pyramid but in a worse state of preservation than E1N1-1. Having its base covered in tumbled stone makes estimating its size difficult, but a good approximation is 40 by 40 m. The pyramid reaches a height of 12.2 m. The west side of the pyramid has been severely damaged, but there are many megalithic stones throughout the rubble of the structure and even a few stones that seem to be in their original context (Figure 5.8) (Hutson et al 2009). I collected data from 16 stones from this structure.

On average monumental megalithic stones at Ucí are 83 cm long, 67 cm wide, 24 cm thick, and have an overall quality of 23 (Table 5.5) (Figure 5.9). They are typically quadrilateral blocks (with one triangular shaped stone and about one fourth of the stones not having a distinct shape), with faces of a smooth and uniform texture (with only 2 or 3 of the stones not having a uniform finish, and no stones being rough), many of them having at least 1 well defined edge as well as more than half of the sample possessing 4...
defined edges, with 75% of the stones having distinct uniform corners and more than half being round, and generally being not symmetric but with

Figure 0-7 Map of center of Ucí (taken from Hutson et al 2009), emphasizing structures E1N1-1a and E1N1-15
Figure 0-8 Megalithic stone in situ on structure EIN1-15, perhaps a hanging cornice

Table 0-5 Descriptive Statistics of monumental megalithic stones at Uci

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>82.7</td>
<td>54.55</td>
<td>24.15</td>
<td>23.2</td>
</tr>
<tr>
<td>Standard Error</td>
<td>2.657645</td>
<td>3.153132</td>
<td>0.918855</td>
<td>0.797593</td>
</tr>
<tr>
<td>Median</td>
<td>79.5</td>
<td>56.5</td>
<td>23.5</td>
<td>23.5</td>
</tr>
<tr>
<td>Mode</td>
<td>79</td>
<td>88</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>16.80842</td>
<td>19.94216</td>
<td>5.811351</td>
<td>5.044418</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>282.5231</td>
<td>397.6897</td>
<td>33.77179</td>
<td>25.44615</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.673617</td>
<td>1.254999</td>
<td>0.7295</td>
<td>-0.78183</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.292778</td>
<td>0.033597</td>
<td>0.922676</td>
<td>-0.57273</td>
</tr>
<tr>
<td>Range</td>
<td>81</td>
<td>105</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Minimum</td>
<td>61</td>
<td>3</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Maximum</td>
<td>142</td>
<td>108</td>
<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Sum</td>
<td>3308</td>
<td>2182</td>
<td>966</td>
<td>928</td>
</tr>
</tbody>
</table>
Figure 0-9 Distribution of Shape, Faces, Edges, Corner, Symmetry, and Quality of Monumental Megalithic Stones at Uci
close to 30% of the sample being symmetric (Figure 5.10). Overall stone quality for megaliths in a monumental context at Ucí was 23.

Most of the stones documented from these two structures were not in their original context and had been in the tumble on the basal platforms. Nevertheless there were a few stones in their original location, specifically stones from the staircase and a retaining wall from E1N1-1 and single apron stone and wall stone from E1N1-15 (Table 5.6). Ucí follows the patterns established at Aké and Izamal where the largest stones are often the stones of highest workmanship like those found in the corbel apron and in the megalithic staircases. Despite only two stones coming from original contexts from E1N1-15, the stones catalogued from the tumble around this structure were of very high quality, higher than even Aké and Izamal’s average stone qualities. This is mainly due to the stones from Ucí having greater symmetry, more defined edges, smoother and more uniform faces. This suggests that the masonry of this structure must have been exceedingly fine if the scraps left over from looting still contained stones of higher craftsmanship, then the stones that had been removed for use in modern structures may have been of equal or better quality.

In summary, the stylistic traits of the megalithic tradition were consistent between Izamal, Aké, and Ucí in the monumental context. These traits are similar to those put forth by Taube and Mathews (Mathews 1998, Taube 1995) which include large quadrangular stones laid horizontally that are finely worked (distinct edges and finished faces) and possess rounded corners (or “pillow-shaped”). Monumental structures
constructed in this style often have large staircases and corbel aprons made of megalithic stones as well as the retaining walls of the structure that cover the interior rubble core.

Figure 0-10 An example of an average monumental megalithic stone from Str E1N1-15 at Ucí

Table 0-6 Averages for the Length, Width, Thickness, and Quality of different contexts for monumental Megalithic stones at Ucí

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1N1-1a Overall</td>
<td>79.75</td>
<td>51.75</td>
<td>23</td>
<td>20.95833</td>
</tr>
<tr>
<td>E1N1-15 Overall</td>
<td>87.125</td>
<td>58.75</td>
<td>25.375</td>
<td>26.5625</td>
</tr>
<tr>
<td>Stones from stairs E1N1-1a</td>
<td>81.5</td>
<td>48.875</td>
<td>25</td>
<td>23.375</td>
</tr>
<tr>
<td>wall stones from east side of E1n1-1a</td>
<td>65.8</td>
<td>22.2</td>
<td>21.6</td>
<td>19.2</td>
</tr>
<tr>
<td>apron stone from E1N1-15</td>
<td>110</td>
<td>62</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>wall stone from E1N1-15</td>
<td>79</td>
<td>56</td>
<td>39</td>
<td>23</td>
</tr>
</tbody>
</table>
There are certain differences between the expressions of this architectural style between the three sites (See Table 5.7). One difference is the average sizes of stones for each site. Aké has the longest stones on average with Izamal taking second place and Ucí with the shortest stones, yet for width Izamal has the widest stones with Ucí coming in second and Aké having the narrowest stones. The thickness measurements follow the same pattern as the length measurements with Aké having the thickest Izamal coming in second and Ucí having the least thick stones. Looking at overall average stone quality Aké barely has a higher mark than Ucí with Izamal coming in third. This might be a result of not being able to assess the edges, corners, and symmetry of stones that were located in vertical walls at Izamal and only exposed one face of stone for consideration (15 of the 53 stones). Yet if we break up Ucí’s average stone quality between the two structures from whence we recorded data, Structure E1N1-15 has the highest quality (27) of any building at all three sites.

Based on sheer size in both monumental structures as well as the site, it is obvious that Izamal was the dominant political force in the region. The differences in the execution of the megalithic style at Aké and Ucí in comparison with Izamal indicate that

### Table 0-7 Comparison of average values for Quality, Length, Width, and Thickness between all monumental contexts

<table>
<thead>
<tr>
<th></th>
<th>Quality</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ucí</td>
<td>23.2</td>
<td>82.7</td>
<td>54.55</td>
<td>24.15</td>
</tr>
<tr>
<td>Aké</td>
<td>23.65</td>
<td>122.8</td>
<td>50.4</td>
<td>30.95</td>
</tr>
<tr>
<td>Izamal</td>
<td>19.5283</td>
<td>98.96226</td>
<td>70.68421</td>
<td>28.64151</td>
</tr>
<tr>
<td>E1N1-1a</td>
<td>20.95833</td>
<td>79.75</td>
<td>51.75</td>
<td>23.33333</td>
</tr>
<tr>
<td>E1N1-15</td>
<td>26.5625</td>
<td>87.125</td>
<td>58.75</td>
<td>25.375</td>
</tr>
</tbody>
</table>

Based on sheer size in both monumental structures as well as the site, it is obvious that Izamal was the dominant political force in the region. The differences in the execution of the megalithic style at Aké and Ucí in comparison with Izamal indicate that
although the overall style was adhered to at all three sites that certain details indicate different thinking and behavior. This could result from direct political control of Ucíg and Aké by Izamal or perhaps emulation and/or competition with Izamal in architectural expression. Ake’s greater average length, thickness, and quality than Izamal and Ucíg is probably a function of the monumental staircase found on the front of the Acropolis. The stones in this feature are larger and of greater quality than most stones recorded at the other two sites. Its location in a place of prominence in conjunction with its well-cut massive stones serves Aké as an advertisement of power and refinement to the region. This bold statement of power could indicate that Aké was either emulating Izamal monuments but understanding that it could not match the sheer scale of its structures compensated for that lack of resources by executing the staircase at a higher quality and with larger monumental stones. Uci’s stones are smaller than either Izamal or Aké, but possess a degree of refinement almost equal to the stones at Aké, and for some structures (such as E1N1-15) it is of greater quality. This could be the result of emulation of Izamal and/or Aké, or perhaps Aké had greater control over Uci’s monumental construction techniques suggesting greater political control. Unfortunately the chronological acuity required to assess these claims is not available from these three sites.

Since the only salient differences between the expressions of the monumental megaliths were the size and quality of the stones, a question that needs to be answered is whether or not these stones were visible to the public or covered in lime plaster? We know that both at Izamal and Aké that the Kinich Kak Moo and the Acropolis had at least part of if not all of their exterior surfaces covered in lime plaster and stucco masks. At Ucíg we have found no evidence of any surviving lime plaster on the two structures in
consideration, although there are some plaster floors found in structure E1N1-2. If these enormous stones were covered up by lime plaster then what function did building with such large stones serve? Perhaps it was easier to make fewer trips to the quarry, or maybe they did not cover the entire exterior with stucco and wanted the public to see the enormity of the stones. The material nature of the megaliths suggests visible potency through their size, shape, and color to observers of a finished structure (Scarre 2004:142). If those structures are covered in a shell of plaster that obscure these attributes, then that material potency is contained to the labor group and architects that collaborate to produce the structure.

Heather Lechtman’s research in prehistoric Andean metallurgy reveals that the actual composition of the metal objects was not as important as the final surface color of the object. These craftsmen developed advanced technologies to gild copper with thin surfaces of gold and silver, two colors incredibly important to the dominant cosmology of the time period (Lechtman 1984a:63). The technology that developed around the production of metal objects in the Andes focused on non-utilitarian aspects of the metals, in this example malleability, durability, and color that would permit the production of symbolically potent items. Lechtman views “technologies as performances” in that they seek out material components that possess the structural qualities that best transmit meaningful messages to the intended audiences, participants, and recipients of these technologies within their sphere of influence (be it local or regional) (Lechtman 1977:13). Lechtman also notes that the gold and silver used to coat the copper objects is drawn from the natural occurring copper alloys, from within the material itself. The surface color is the external manifestation of the internal condition of the metal.
“Surfaces are, after all, boundaries between an inner condition and an external reality or environment. The surface is where the two meet. It is the place of communication, the seat of greatest information content” (Lechtman 1993:269).

This suggests that even if Megalithic structures covered their exteriors in lime plaster, that the design, content, and color of this surface would express some of the hidden characteristics of the stones used to build the structure. The presence of color, the thickness of the plaster layer, and the presence of stucco masks on the surface could reflect the values associated with the materiality of the stones and their design. Thinking of technology as a performance or process, the erection of a Megalithic structure displays the skill of masonry, the knowledge of architectural principles, and the organizational efficiency evident in the labor and resources wielded in its execution. So despite the stones and their quality being visually obscured by a plaster surface, their materiality influenced the performance that created the structure. A structure that due to its permanency can serve as the structural element for further performances and as a repository for the memories of the community and individuals who encounter it.

Viewing architecture as a continual process of construction, maintenance, renovation, and demolition. The individuals who participate in a structure’s physical creation and upkeep would encounter the megaliths in this process either at the stone quarry, in their transportation to the building site, or in their placement in the masonry. Those who take part in these activities witness through their own sweat and time the planning and resources consumed in such projects and thus provide the shared experience upon which meaning and significance rests. These participants can then transmit these values attached to the stones to the buildings that contain them, despite being covered
with plaster, by sharing their experience and knowledge with those that do not participate directly in the physical and social milieu of these structures.

Now we will turn to the domestic aspect of the megalithic tradition I have documented in and around Ucú, making comparisons to the relatively homogenous monumental context described above.

**Domestic Megalithic Architecture at Ucú**

All of the structures for which I analyzed stones appear to be residential platforms. This was determined by their smaller size compared to the monumental structures, their location in relation to other platforms of similar size (suggesting household groups) as well as their location at the site outside of the monumental core area, and the paucity of artifacts found on their surfaces that indicate living areas for the Maya. Of the 54 platforms, 42 of them are rectangular, 3 apsidal, 2 square, 2 circular, 2 L-shaped, 2 compound (more than one rectangle), and 1 trapezoidal in shape. Eleven of these platforms also supported superstructures on their platforms. The typical construction for these platforms consists of a perimeter of large stones (usually megalithic but not always) that follows the contours of the shape of the structure with the interior behind the retaining wall of the perimeter filled with small stones and earth (figure 5.11). Most of the platforms only had one course of stones around the perimeter (figure 5.12), with one exception in structure W38, which had 2-3 courses standing. The majority of these stones were laid horizontally, but there were a handful of stones that were placed vertically. Some platforms had stones that were in their original alignments (figure 5.13), but most had stones strewn every which way and many stones from multiple platforms have been removed by modern inhabitants of the area to build houses and albarradas to separate their fields.
Compared to monumental megalithic platforms domestic megalithic structures are much smaller in volume and height. Many of the latter would have solely served as platforms for perishable structures while the former possessed megaliths in the walls of its platform and the buildings erected on it as well as architectural features such as corbel aprons and vaults. There is greater evidence for the presence of lime stucco on monumental buildings and next to none evident for domestic platforms. Similarities between the two categories include structures and stones with rounded corners and the use of basal platforms in their construction. Before I present the statistics for the central tendencies for the domestic megalithic stones, I should remark that many of the stones that were recorded only had exposed a portion of their width, length, or thickness and therefore yielded partial measurements, knowing that the stone was at the minimum a certain size. This situation resulted from stones being covered in smaller rubble, dirt and sediment (partial buried), or by thick vegetation in the later weeks of the field season. I tried accepting the partial measurements as the actual measurements (all 1507 stones) and compared the results with the central tendencies of the stones whose full
Figure 0-11 Structure W41 looking north showing type of mound fill and part of a superstructure

Figure 0-12 Str W135 looking Northwest, shows an overall look of a megalithic platform
Figure 0-13 Str 27N2 looking west down the alignment of stones on its southern edge measurements were known (818 stones). The differences between the two data sets were 3 cm or less in the mean length, width, and thickness measurements. This difference for the length measurements was not statistically significant between these two options (T-Test: t Stat=0.144256, t Critical=1.645787, P(T<=t) one-tail=.442658 df=1633).

However the width and the thickness measurement differences were significant (width T-test: t Stat=5.814291, t Critical=1.645787, P(T<=t) one-tail=3.59E-09 df=1816) (thickness T-test: t Stat=8.245401, t Critical=1.645787, P(T<=t) one-tail=1.55E-16 df=1830).

As consequence of this test I choose to accept the partial measurements for the length dimensions using the whole sample of stones but used the stones with only full
measurements for the width and thickness dimensions in computing the following statistics.

The average size of the stones measured was 78 cm long, 52 cm wide, and 29 cm thick (Table 5-8) (Figure 5-14 for qualitative measurements distribution) (Figure 5-15, 5-16, 5-17 for distribution of quantitative measurements). Observing the distribution of length measurements in the histogram in figure 5-15 reflects that the recording of stone lengths used an arbitrary number (greater than 60 cm long) as a criteria and does not represent the true distribution of all the stone lengths. The average stone quality was 18 (figure 5.18). When these stones are not amorphous or

| Table 0-8 Descriptive statistics for the Length, Width, Thickness, and Quality of Domestic Megalithic Stones |
|---------------------------------------------------------------|-------------------------------------------------|---------------------------------|------------------|
|                  | Length          | Width           | Thickness                   | Quality         |
| Mean              | 78.09622        | 52.75672372     | 28.55012225                 | 18.30922        |
| Standard Error    | 0.413819        | 0.476657311     | 0.287533248                 | 0.10557         |
| Median            | 75              | 51              | 28                          | 19              |
| Mode              | 61              | 56              | 30                          | 19              |
| Sample Variance   | 258.0684        | 185.8513929     | 67.62845164                 | 16.79542        |
| Kurtosis          | 4.990668        | 0.627482606     | 0.946917687                 | -0.05254        |
| Skewness          | 1.533248        | 0.667504997     | 0.56423172                  | -0.23186        |
| Range             | 188             | 82              | 63                          | 23              |
| Minimum           | 0               | 25              | 8                           | 6               |
| Maximum           | 188             | 107             | 71                          | 29              |
| Sum               | 117691          | 43155           | 23354                       | 27592           |
| Count             | 1507            | 818             | 818                         | 1507            |
Figure 0-14 Distribution of Shape, Faces, Edges, Corners, Symmetry and Quality of domestic megalithic stones at Ucí
indistinct (41% of the sample) they are usually quadrilateral (49% of the sample), specifically rectangular, but of a less distinct form than the monumental megaliths. These stones vary greatly in texture and finish, but seem to be split between being rough to partially smooth and bumpy and rough to partially smooth and uniform. About 80% of the sample has at least 1 defined edge with over half of the sample having 3-4 defined edges; this is similar to the monumental megaliths. Over 60% of the sample had stones with only rounded corners with the rest of the sample being made up of combinations of different corner types on individual stones. Close to 85% of the megaliths were either not symmetric or their symmetry could not be determined. The overall quality value for these stones has an almost normal distribution (see figure 5.14) with 19 being the most common quality value, but nevertheless much variation exists in the sample.
Figure 0-15 Distribution of Length Measurements for domestic megalithic platforms
Figure 0-16 Distribution of Width Measurements for domestic megalithic platforms

Figure 0-17 Distribution of Thickness Measurements for domestic megalithic platforms
When we compare the average length, width, thickness and quality of stones found on the edges, on top of, at the corners, and off of the platforms, there is little variation between the different contexts (table 5.9). The corner stones have the highest average quality and the greatest size, but the margin of difference is very small. Stones found at platform edges and corners were most likely close to their original place when the structure was built. Stones on top and off the platform are more likely to have been moved or disturbed.
Table 0-9 Average Length, Width, Thickness, and Quality for platform edges, on top of the platform, off of the platform, and corner stones of domestic platforms at Ucí

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<thead>
<tr>
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<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Quality</th>
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<td>79.76819</td>
<td>50.60811</td>
<td>25.95114</td>
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<td>73.26316</td>
<td>45.38947</td>
<td>24.35439</td>
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<td>18.36154</td>
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<td>Corner Stones</td>
<td>79.72603</td>
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Comparison of Monumental and Domestic Megalithic Architecture

The above data and details presented for both monumental and domestic stones illustrate that they share enough characteristics to be considered the same architectural style, for example they are normally large quadrilateral stones that possess 3-4 defined edges and often exhibit corners that are rounded and that are rarely symmetric. The two contexts do differ in the size and quality of stones used, not just between monumental stones and domestic stones but between the individual sites as well. T-Tests require a normal distribution to return valid results. Although if the sample size is large enough (around 30) it approximates the normal distribution according to the central limit theorem, and thus most of the length assessments in table 5-10 are fine despite not being normally distributed for the t-tests, except comparing the length of stones from Aké since it only had a sample size of 20. I used T-Tests to compare mean length, quality, width, and thickness of monumental megalithic stones from all three sites and domestic megalithic stones at Ucí showing that the greater means of length, stone quality, width, and thickness of monumental stones compared to domestic stones to be statistically significant for only the first two of these characteristics (length and stone quality). This means that in general monumental megalithic stones are longer and of higher quality than
domestic stones and that there is indeed grounds for separating domestic megalithic stones into their own architectural type or sub-type (see table 5.10, also see same table for the following comparisons).

If we get more specific in our comparisons, we can create a hierarchy of stone work based on stone size and quality between these three sites even within the monumental context. First if we do the same t-test on length, width, thickness, and quality of stone for domestic megaliths and monumental megaliths only at Ucí, does the general pattern hold? As can be seen in table 5.10, the results are similar to t-tests of the monumental stones from all three sites together in that monumental stones at Ucí are significantly larger and of higher quality than the domestic stones, yet there is no significant difference between average width and thicknesses. When we compare the same categories for Monumental stones at Ucí and at Izamal, the stones are indeed significantly longer, wider, and thicker at Izamal, but the monumental stones of Ucí are of higher quality. When we compare stones from Izamal to Aké, megaliths at Aké are significantly longer and of higher quality, but stones at Izamal are significantly wider, and there was no significant difference between thicknesses. A comparison between monumental stones from Aké and Ucí, indicate that Aké’s stones are significantly longer and thicker than Ucí’s stones, but there is not a significant difference between their width and average quality.

**Table 0-10 Series of T-test between Domestic, General Monumental, Ucí Monumental, Aké, and Izamal in the categories of Length, Width, Thickness, and Quality**

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<th>Test Category</th>
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<th>Variance</th>
<th>Observations</th>
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<th>t Stat</th>
<th>P(T&lt;=t) one-tail</th>
<th>t Critical one-tail</th>
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| T Test Length | Monumental Ucí | Domestic |  |  |  |  |  |  |
| T Test Width  | Monumental Ucí |  |  |  |  |  |  |  |
| T Test Thickness | Monumental Ucí |  |  |  |  |  |  |  |
| T Test Quality | Monumental Ucí |  |  |  |  |  |  |  |

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<td>0.08709</td>
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<td>1.724718</td>
<td></td>
<td>1.679427</td>
<td>1.6739427</td>
</tr>
</tbody>
</table>
Surprisingly Izamal doesn’t have the highest values for the four categories in consideration. It being the largest site with the greatest volume of architecture, one would think that it dominated these other sites in the Early Classic. But the prevalence of megalithic buildings throughout the region shows that others had access to the knowledge required to adhere to this style. Nevertheless the sheer mass of the structures at Izamal indicate their political economic might through their control over vast amounts of labor. In order to express their dominance we would expect them to incorporate both larger and more finely constructed edifices compared to their neighbors. Yet the sample indicates that both Ucí and Aké had on average stones of higher quality and Aké even possessed stones of greater average length than Izamal. This indicates that while Izamal possessed the economic power to employ greater amounts of labor and resources into constructing much larger buildings, they did not have a monopoly on the type of specialized masonry skills that produced the highest quality stones. This situation means that while they exercised the dominant economic influence in the region, they had rivals in the political realm that controlled specialized labor that matched or outshone the masons at Izamal. This could mean that political power perhaps relied more on ideological symbology rather than sheer economic might. Also interesting is that there is no significant difference between the stone quality of monumental megaliths from Aké and Ucí.

Despite differences in site size it appears that both sites had similar access to monumental architecture. Nevertheless there is a clear and statistically significant difference between monumental megaliths and domestic megaliths in half of the categories considered both with all the monumental contexts combined and with just the monumental megaliths from
Ucíf being compared to the domestic dataset, width and thickness possessing no
significant difference.

If we look at photographs of stones of the lowest and highest quality from each
site in both domestic and monumental contexts, we can see that stones of many different
values were used in each structure and at each site (See figures 5.19-5.26). It is
interesting to note that the lowest quality of a monumental megalith is 11, while the
lowest quality for a domestic structure is 6. This indicates that the monumental structures
had a higher base of expected stone quality designed into their construction.

Summary
In the end, it appears that monumental megaliths and domestic megaliths share
enough attributes to be considered the same architectural style, yet differ enough to
distinguish them as two separate sub-styles. Both megaliths in domestic and monumental
contexts tend to be quadrilateral stones, laid horizontally, with rounded corners, 3-4 well
defined edges, and not symmetric. Monumental megaliths differ from domestic
megaliths by being on average longer and wider as well as being more finely crafted and
thus having a higher quality rating. Monumental stones are used throughout the exterior
façade of the structure, while domestic megaliths are usually only found on the perimeter
of the platform, although a few domestic platforms did have evidence of megalithic
superstructures. Monumental stones tend to be more homogenous in terms of shape and
finish in comparison to the greater range of variation in domestic megaliths, due to the
hundreds of different household that would have crafted megaliths. Now with the
monumental and domestic contexts of the megalithic tradition defined, I can turn to the
question of whether or not the presence of megalithic stones in a structure indicates
differences in socio-economic status and whether or not concentrations or the absence of megalithic structures could indicate different communities at Ucí.

Figure 0-19 Izamal Stone 44, Quality 26
Figure 0-20 Stone 38 from Izamal (with the plants in it), Quality 11

Figure 0-21 Step stones from Aké Structure 1, Quality 27
Figure 0-22 Stones Beneath the corbel apron at Aké, Quality 19

Figure 0-23 Monumental Stone 38 from Str. E1N1-15 at Ucí, Quality 29
Figure 0-24 Stone 13 from Structure E1N1-1a at Ucí, Quality 13

Figure 0-25 Stone 2118 from domestic context Str W132, Quality 28
Figure 0-26  Stone 285 from Str 5S3 at Ucí, Quality 6
Chapter 6 Results and Discussion of Status and Community

In this chapter I present a comparison between the shape, size, and location of megalithic platforms and non-megalithic platforms. I will also discuss the delimitation of a number of potential communities within and around Ucí, according to the site boundaries delineated by UCRIP. I will also present some calculations that estimate the cost of construction of both types of residential platforms, as well as some correlations between stone quality and the degree of adherence to the megalithic style (percent of the perimeter and volume of platforms taken up by megaliths). Using this information I will argue that the use of megalithic stones in the construction of residential platforms was consciously deployed to communicate status by consistently being associated with the larger platforms and hence requiring more control over labor and resources. Both individual households and communities participate in this architectural tradition that uses stones that are not only larger but of higher quality than other structures. The use of these stones in both monumental and domestic settings indicate a complex and integrated architectural history.

Distribution of Megalithic Platforms

Figure 6.1 illustrates the distribution of megalithic platforms in comparison to non-megalithic platforms. 110 of the 382 platforms are megalithic (29%). The dashed line represents one of the site boundaries based on a drop in settlement density. West of this line the presence of megalithic platforms completely drops off supporting the idea that this represents a different community with possibly a different function than Ucí, since the size of the platforms are smaller to the west and contain a higher number of nivelaciones (leveled spots), perhaps representing an agricultural community due to the lower amount of settlement.
Figure 0-1 Map showing the distribution of megalithic and non-megalithic platforms (yellow circle odd lack of megaliths due to modern Uc'i overlap and looting
Another interesting pattern is seen around the northern edge of the site boundary, where there appears to be not only a dip in settlement density but a paucity of megalithic structures for a stretch of 720 meters within the survey area. If the presence of megalithic platforms indicates persons of higher socioeconomic status, then the decrease of such platforms in between sites would indicate that megalithic platforms are often found closer to the center of sites where the larger structures are often found.

The area inside of Ucí site boundaries would most likely have the highest percentage of overall megalithic platforms, if we keep in mind the discrepancy of the looting of megalithic stones for albarradas and the disruption of modern construction in the eastern half and monumental core of the central area. As it is, 27% of the formal platforms are megalithic. To the east along the sacbé there is lower density of formal platforms, but it retains a similar percentage (29%) of megalithic platforms (see Table 6-1). Along the sacbé megalithic platforms seem to appear in clusters among the segments with higher overall settlement density, this reflects the pattern of megalithic scarcity at the northern border of Ucí. Figure 6.1 also shows that more megalithic structures are located south of the Sacbé rather than north of it, almost four times as many.

We can see in table 6.2 that megalithic platforms are more often rectangular than non-megalithic. This pattern is seen across all four areas, with the biggest gap in rectangular platforms between megalithic and non-megalithic seen in the north area. This relationship goes in the other direction for square and round platforms: non-megalithic platforms have a higher
percentage of their total made up of square and round platforms than megalithic platforms. Yet the only area where rectangular platforms do not make up at least half or more of the non-megalithic category is the north area. The apsidal, indeterminate, and other (shaped like squares or round platforms) shapes for the different contexts follow the overall context pretty closely, where not much variation exists between the two architectural patterns.

**Table 0-1 Distribution of Platforms according to site boundaries and presence of megaliths**

<table>
<thead>
<tr>
<th></th>
<th>ML</th>
<th>nml</th>
<th>Total</th>
<th>Percent of ML</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>26</td>
<td>77</td>
<td>103</td>
<td>25%</td>
</tr>
<tr>
<td>East</td>
<td>20</td>
<td>49</td>
<td>69</td>
<td>29%</td>
</tr>
<tr>
<td>Center</td>
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<td>135</td>
<td>199</td>
<td>32%</td>
</tr>
<tr>
<td>West</td>
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<td>11</td>
<td>11</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>272</td>
<td>382</td>
<td>29%</td>
</tr>
</tbody>
</table>

**Table 0-2 Distribution of platforms according to shape and presence of megaliths according to site boundaries**

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<th>shape</th>
<th>apsidal</th>
<th>round/circular</th>
<th>rectangular</th>
<th>square</th>
<th>indeterminate</th>
<th>other</th>
<th>total</th>
</tr>
</thead>
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<td></td>
<td></td>
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<td></td>
<td></td>
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<td>88</td>
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<td>126</td>
</tr>
<tr>
<td>percent</td>
<td>3%</td>
<td>2%</td>
<td>70%</td>
<td>13%</td>
<td>3%</td>
<td>8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The use of megaliths in monumental structures at Ucú and elsewhere paint this architectural style as prestigious. Aside from their presence in the monumental context, we expect megaliths to denote higher status because of their increased labor costs for production, transportation, and construction. Also the specialized labor executed by the mason to craft stones of superior quality and of larger size denotes prestige through the time and training required to gain expertise in stonework, but to also have influence over
and individual with said skills denotes greater status. The permanency of stone medium compared to perishable structure also permits longer legacy of messages of prestige and status over time. Domestic platforms are a category of structures that should cross-cut status differences, but what I attempt to investigate here is whether or not these status differences are expressed through domestic megalithic architecture. In order to do this I have two lines of evidence; platform volume in relation to megalithic structures and stone quality.

As stated in chapter 3, these calculations are based upon platforms that are considered to have a domestic function, so platforms with pyramidal structures or of length and width uncharacteristic of domestic contexts were not included. Table 6-3 shows us that the average platform volume for domestic megalithic structures is greater than non-megalithic domestic platforms by 31 m³. Yet in table 6-4, the t-test shows that there is no significant difference between the variability in volume between megalithic and non-megalithic structures. Looking at the distribution of megalithic platforms across the survey area, there is a distinct lack of megalithic structures around the monumental center, the area that holds the most platforms with the largest volumes. This area largely overlaps with the modern town of Ucí, perhaps the cause of the lack of platforms with megaliths. Additionally the surveyor who documented structures within the modern town of Ucí did not note the presence or absence of megaliths. This is probably the result of opportunistic looting of megalithic stones (the biggest and best shaped) for use in construction of albarradas and modern houses. In areas where the modern and ancient towns do not overlap there are many more megalithic structures. Many of the largest structures in and around the monumental core probably possessed megaliths. These elite
residences probably used the largest, highest quality, and most visible megaliths that made them prime candidates for reuse by the people who now occupy the land. The lack of recorded megalithic platforms in this region could also be the result of difficulty surveying on land that is being occupied by modern-day residences. This point is further proven when I compare platform volume of domestic structures in areas outside of the Ucí settlement boundary.

Only north of Ucí’s site boundary do we find the difference in average platform volume between megalithic and non-megalithic platforms to be statistically different (table 6-4). On average, megalithic platforms in this region are 305 m³ larger than non-megalithic platforms. East of Ucí’s settlement boundary, megalithic structures are on average 7m³ larger, but this difference is not significant. Within Ucí’s boundaries non-megalithic platforms are on average 63 m³ larger than megalithic structures, again the difference is not significant. This reversal of the expectation of megalithic structures being larger in volume for the center of Ucí again relates to the fact that many of the largest platforms surrounding the monumental core were probably looted of their megalithic stones over the years for use in modern day construction projects or simply not recorded by the surveyor. (Figure 6-1 yellow shape).

Table 6-3 Descriptive statistics for Volume of megalithic and non-megalithic platforms for the whole sample as well as for the different areas broken up according to the site boundary.

<table>
<thead>
<tr>
<th>Volume (m³)</th>
<th>All Domestic Platforms</th>
<th>North of Ucí Boundary</th>
<th>East of Ucí Boundary</th>
<th>Ucí</th>
<th>West of Ucí</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-megalithic</td>
<td>Megalithic</td>
<td>Non-megalithic</td>
<td>Megalithic</td>
<td>Non-megalithic</td>
</tr>
<tr>
<td>Mean</td>
<td>196</td>
<td>227</td>
<td>56</td>
<td>361</td>
<td>82</td>
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<tr>
<td>Standard Error</td>
<td>15</td>
<td>21</td>
<td>14</td>
<td>69</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>153</td>
<td>18</td>
<td>269</td>
<td>20</td>
</tr>
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<td>-----</td>
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<td>-----</td>
<td>-----</td>
<td>-----</td>
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<tr>
<td>Median</td>
<td>400</td>
<td>400</td>
<td>8</td>
<td>#N/A</td>
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<tr>
<td>Mode</td>
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<td>239</td>
<td>120</td>
<td>354</td>
<td>180</td>
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<tr>
<td>Standard Deviation</td>
<td>84430</td>
<td>57272</td>
<td>14394</td>
<td>125186</td>
<td>32573</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>9</td>
<td>2</td>
<td>13</td>
<td>-1</td>
<td>26</td>
</tr>
<tr>
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<td></td>
<td>4</td>
<td>1</td>
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<tr>
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<td>1008</td>
<td>617</td>
<td>1006</td>
<td>1150</td>
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<td>Maximum</td>
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<td>1008</td>
<td>619</td>
<td>1008</td>
<td>1150</td>
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<td>28640</td>
<td>4319</td>
<td>9385</td>
<td>4042</td>
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<tr>
<td>Count</td>
<td>352</td>
<td>126</td>
<td>77</td>
<td>26</td>
<td>49</td>
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</table>

With data on individual stones from 54 separate platforms, I have come up with several measures to explore further the relationship between platform volume and megalithic architecture. One measure is the percentage of the perimeter of a platform made up of megalithic stones. This calculation may represent the degree of adherence to the megalithic architectural style/the ability to use more or exclusively megalithic stones in the retaining wall of the platform, but may be heavily affected by the amount of modern stone robbing. I think the first situation is more likely in remote areas away from modern residence activity, while the second situation is
just as likely in areas within and close to the modern town. This measure is calculated by
summing the lengths for all the megalithic stones resting on the perimeter in a platform
and dividing it by the perimeter of that platform and then multiplying by 100%.

A similar measurement is the percentage of the platform volume taken up by
megalithic stones. This measure accounts for both the stones along the edges of the

<table>
<thead>
<tr>
<th>T Test Volume</th>
<th>Domestic Platform</th>
<th>Mean (m³)</th>
<th>Variance</th>
<th>Observations</th>
<th>df</th>
<th>t Stat</th>
<th>P(T&lt;=t) one-tail</th>
<th>t Critical one-tail</th>
</tr>
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<tr>
<td>General</td>
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<td>227.30</td>
<td>57271.8</td>
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<td>0.14</td>
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<td></td>
<td>Non-ML</td>
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<td>84429.7</td>
<td>352.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>ML</td>
<td>360.96</td>
<td>125185.9</td>
<td>26.00</td>
<td>27.00</td>
<td>4.31</td>
<td>0.0001</td>
<td>1.70</td>
</tr>
<tr>
<td></td>
<td>Non-ML</td>
<td>56.09</td>
<td>14394.1</td>
<td>77.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>ML</td>
<td>89.90</td>
<td>7758.34</td>
<td>20.00</td>
<td>67.00</td>
<td>0.17</td>
<td>0.43</td>
<td>1.67</td>
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<td></td>
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<td>49.00</td>
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<tr>
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<td>Non-ML</td>
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<td>107289.7</td>
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<td>38407.6</td>
<td>80.00</td>
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</tr>
</tbody>
</table>

Table 0-4 Results of T-test for average volume of both megalithic and non-megalithic platforms
platform (59% of the sample) and the stones on top of the platform (19% of the sample) (see table 6-5). Nevertheless, this calculation has more room for error because we only documented the stones that were on the surface and did not observe any megalithic stones in the fill of the platform. The same issue of modern looting of megaliths applies to this measure too. The percentage of the platform volume taken up by megalithic stones is calculated by summing the volume of all the megaliths in the platform and then dividing that sum by the volume of the platform and then multiply it by 100%.

The method to calculate the cost of construction in person-days has been detailed in chapter 4. This measure of status is a bit redundant as it has an almost perfect positive correlation with the volume of the platform (see table 6.6 and Appendix A for values for each platform from the sample). The greater the volume of the platform the more costly it is to build the structure. Maya builders often erected new platforms on top of pre-existing platforms saving construction costs by incorporating the old structure into the new to facilitate the construction of a larger platform with less labor and resources needed to build the platform from the ground up. This means that the group occupying the platform does not necessarily represent high status, but rather successive accumulation of volume perhaps based on social ties and inheritance rather than pure economic might.

The final line of evidence to connect megalithic architecture to status, is the average stone quality for each platform. This measurement reflects the overall craftsmanship employed in the production of the platform and the builder’s access to perhaps specialized stone-working labor. This calculation takes the sum of the recorded quality for each megalith in the platform and dividing this by the number of stones in the platform.
Calculating the correlation coefficient between these different measures (table 6.6) will further determine if the presence of megalithic stones in domestic platforms denotes greater socioeconomic status. Looking at volume, we see that it has a strong positive correlation with construction cost ($r=.99$), but this is to be expected since construction cost is dependent on platform volume. There seems to be no significant correlation between volume and percent of the perimeter made up of megaliths ($r=-.07 p=.641$). However, there is a moderate negative correlation between platform volume and percent of the volume made up of megaliths ($r=-.38 \ p=.005$), meaning that as platform volume decreases more of the platform is composed of megalithic stones. This result reflects the fact that most of the megalithic stones line the edges of the platform (see table 6-5) rather than make up the fill of the platform, and a bigger platform means that there are fewer overall stones in the platform because there is more fill than stones. There is a weak positive correlation ($r=.13 \ p=.359$) between volume and average stone quality. This supports my hypothesis that stone quality on larger platforms should be higher if larger platforms denote higher socioeconomic status. It is interesting that the total length and total volume of stones has a moderate positive correlation to platform volume ($r=.40 \ p=.002$). There is also a moderate positive correlation between the sum of quality values and the number of megalithic stones in the platform ($r=.38 \ p=.001$). The average elevation ($r=.43 \ p=.001$) plays an important part in the calculation of platform volume and has a moderate positive correlation to volume.

**Table 0-5 Distribution of stones at different parts of the platform**

<table>
<thead>
<tr>
<th>Location on platform</th>
<th>Total number of stones in sample</th>
<th>Percent of Total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>off platform</td>
<td>260</td>
<td>17.25%</td>
</tr>
<tr>
<td>on platform</td>
<td>285</td>
<td>18.91%</td>
</tr>
<tr>
<td>edge</td>
<td>889</td>
<td>58.99%</td>
</tr>
</tbody>
</table>
Table 0-6 Correlation Matrix between different measures to determine the concentration of megaliths in a platform (TL=Total lengths of stones in platform, AL=AVERAGE length of stone, AW=AVERAGE length of width, AT=AVERAGE thickness of stone, PP=percent of perimeter taken up by MLS, VS=Volume of stones, PV=percent of volume taken up by MLS, CC=Construction Cost, TQS=Total quality score of stones, AQS=average quality of stones, VOL=platform volume, AE=Average Elevation, NMLS=number of megalithic stones in platform
<table>
<thead>
<tr>
<th></th>
<th>TL</th>
<th>ALS</th>
<th>AW</th>
<th>AT</th>
<th>PP</th>
<th>VS</th>
<th>PV</th>
<th>CC</th>
<th>TQS</th>
<th>AQS</th>
<th>VOL</th>
<th>AE</th>
<th>NMLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL</td>
<td></td>
<td>1</td>
<td>0.13</td>
<td>0.218</td>
<td>0.002</td>
<td>.771**</td>
<td>.963**</td>
<td>-0.156</td>
<td>.428**</td>
<td>.993**</td>
<td>.365**</td>
<td>.403**</td>
<td>0.132</td>
</tr>
<tr>
<td>ALS</td>
<td>0.13</td>
<td>1</td>
<td>.544**</td>
<td>0.122</td>
<td>-0.003</td>
<td>0.209</td>
<td>-0.048</td>
<td>0.149</td>
<td>0.076</td>
<td>0.189</td>
<td>0.137</td>
<td>0.005</td>
<td>0.052</td>
</tr>
<tr>
<td>AW</td>
<td>0.348</td>
<td>0.114</td>
<td>0.987</td>
<td>0.000</td>
<td>0.261</td>
<td>0.001</td>
<td>0.007</td>
<td>0.002</td>
<td>0.342</td>
<td>0.000</td>
<td>0.179</td>
<td>0.711</td>
<td>0.000</td>
</tr>
<tr>
<td>AT</td>
<td>0.114</td>
<td>0.122</td>
<td>0.125</td>
<td>0.000</td>
<td>0.125</td>
<td>0.000</td>
<td>0.007</td>
<td>0.007</td>
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<td>0.007</td>
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</tr>
<tr>
<td>PP</td>
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<td>0.003</td>
<td>0.023</td>
<td>0.047</td>
<td>1.702**</td>
<td>0.69</td>
<td>0.125</td>
<td>0.432**</td>
<td>0.955**</td>
<td>0.397**</td>
<td>0.407**</td>
<td>0.084</td>
<td>0.947**</td>
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<tr>
<td>VS</td>
<td>0.963**</td>
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<td>0.361**</td>
<td>0.159</td>
<td>0.702**</td>
<td>1.000</td>
<td>0.000</td>
<td>0.000</td>
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<td>0.000</td>
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<td>0.369</td>
<td>0.734</td>
<td>0.000</td>
<td>0.300</td>
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<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>CC</td>
<td>0.428**</td>
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<td>0.17</td>
<td>-0.006</td>
<td>0.304**</td>
<td>1.000</td>
<td>0.000</td>
<td>0.000</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>TQS</td>
<td>0.993**</td>
<td>0.076</td>
<td>0.208</td>
<td>-0.013</td>
<td>0.779**</td>
<td>0.955**</td>
<td>0.000</td>
<td>0.000</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>AQS</td>
<td>0.365**</td>
<td>0.189</td>
<td>0.329*</td>
<td>-0.034</td>
<td>0.340*</td>
<td>0.397**</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>VOL</td>
<td>0.403**</td>
<td>0.137</td>
<td>0.156</td>
<td>-0.013</td>
<td>0.065</td>
<td>0.407**</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>AE</td>
<td>0.342</td>
<td>0.179</td>
<td>0.008</td>
<td>0.786**</td>
<td>0.947**</td>
<td>0.315**</td>
<td>0.000</td>
<td>0.000</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>NMLS</td>
<td>0.995**</td>
<td>0.052</td>
<td>0.179</td>
<td>-0.008</td>
<td>0.786**</td>
<td>0.947**</td>
<td>0.315**</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

** CORRELATION IS SIGNIFICANT AT THE 0.01 LEVEL (2-TAILED).
* CORRELATION IS SIGNIFICANT AT THE 0.05 LEVEL (2-TAILED).
Correlations between platform volume and number of megalithic stones in a platform and between platform volume and the percent of volume taken up by megalithic stones mean that the greater the volume of a megalithic platform, the higher the number of megalithic stones, but that less of the fill of the platform will be made up of these megaliths. Platform volume does not appear to influence the percent of the perimeter made up of megalithic stones. While perhaps the most important correlation is the weak positive link between platform volume and average stone quality suggesting that the platform volume does not strongly indicate the quality of stone workmanship, platform volume has a moderate positive correlation with total stone quality for the platform. This means that larger platforms usually will have more megalithic stones present and have higher sums of stone quality, providing evidence that stone quality is another indicator of socioeconomic status since it tends to increase when platform volume increases. A comparison of stone quality between megalithic stones and non-megalithic stones in domestic platforms would further support this interpretation, but I only collected information on megalithic stones. Another interesting correlation is the moderate positive correlation between the percent of perimeter taken up by megaliths and average stone quality (r=.34 p=.012). This suggests that when platforms have a higher percentage of megalithic stones in their edges, the higher the stone quality will be for the platform overall. While this correlation provides possible evidence that stone quality and platform size are dependent on the socioeconomic status of the platform’s inhabitants, the lack of correlation between the percentage of megalithic perimeter taken up by megaliths and platform volume do not support this conclusion.
Higher quality stones also appear to be larger or in other words more megalithic. The average length of stones displays a weak positive correlation with average stone quality ($r=.18 \ p=.17$). The average width of stones has a moderate positive correlation with average stone quality ($r=.33 \ p=.015$). There is no correlation between mean stone thickness per platform and mean stone quality per platform ($r=-.03 \ p=.806$) (see table 6-6). Since only width correlates positively to a significant degree with average stone quality I posit that the wider a stone is the better crafted it will be.

**Community**

Following Robin’s criteria (less than 25 m between features included, greater than 25 m away excluded) to identify possible mound groups that provided a dwelling for a household, I constructed a 25 m buffer around each platform to observe how well this distance serves to delineate possible groupings (2002). In instances where the structure density makes the buffers overlap and obscure the boundaries, I examined the boundaries and extended the lines to their logical end. For example in figure 6-3, the red circle just beneath the blue circle looks like it should belong to large cluster north of it, but once we trace the lines that pertain to its buffer we can see that in reality the buffer does not intersect with the structure closest to this platform and that they are in excess of 25 m apart. Throughout all of the images that follow for the different parts of the survey I have designated groups with multiple structures as “MS” and groups with a single solitary structure as “S” in the images. To facilitate visualization I present the data in the four groups created by the site boundary in figure 6.1, labeled West, North, East, and Ucí.

**West**

In the area west of the site boundary there is only one megalithic platform (Figure 6-2). This collection of structures represents the site of Ticopo 2. I include this area
despite its lack of megalithic platforms as a comparison to the other areas examined, where part of the variation results in almost no megaliths present. There are about an equal number of platforms and other structures (nivelaciones and cimientos). There appear to be 8 groups of structures that are close enough to one another to pertain to the same household. Structures within these groups appear to share common orientation further suggesting residence by a corporate group. Richard Wilk argues that households belonging to a collaborative entity construct houses close together and in compliance to a shared plan (1983, 1984) At Ucí this could take the form of platforms that share the same orientation, are aligned to one another at right angles, or that share the same platform (Lohse and Hudler 1997). The social coherence exhibited by the proximity and shared spatial organization of structures aids us in accessing how integrated and unified individual families were with other families of the group (Hutson et al. 2006:84). There is variation in the combination of different structures between the groups, some only have platforms, some only nivelaciones and cimientos, and others have both as well as chiich mounds (the structures without dots). There are 7 structures that stand alone, both platforms and nivelaciones and cimientos, and could have been occupied by younger families.

One explanation for the differences in the size of residential structures claims smaller structures may correspond to the house at the conception of a new family unit (marriage with no or few children) and that large houses represent the later stage of the developmental cycle with many children, grandchildren, and perhaps extended or non-kin family members residing in the residence (Tourtellot 1988). Another way to apply this model is to look at the number of structures in a household group, as the family develops
they build additional structures in their compound to accommodate children as they reach adulthood and get married. Both strategies were probably used to fulfill the needs of a growing household. So the larger platforms represent families who have accumulated more people and resources over time. An interesting feature of these groups is that many of the nivelaciones appear to have larger dimensions than most of the platforms. The largest cluster (red circle) with the most structures only possesses two small platforms. Yet they are the closest to the two largest nivelaciones, and perhaps the nivelaciones served as the site to build their perishable dwellings rather than the smaller features in this group. The number of structures and the large area that they occupy could indicate that this group was one of the first households to establish this area as a home, having progressed farther in the development cycle of the group. Beyond this central group little evidence exists to claim that this group of structures west of Ucí function as a community besides the proximity to one another and their isolation from other structures.
Figure 0-2 Area West of Ucí Boundary showing 25 m Buffers around platforms (red circle group with highest concentration of structure) (only platforms, chiich mounds have no buffers)
North

The area north of Ucí holds the best evidence for a link between socioeconomic status and megalithic architecture. The group of structures located at the northern part of this transect pertains to part of the site 16Q-d(5):14. The buffers in figure 6-3 show that there are a total of 45 groups of architecture, 23 with more than one structure and 22 with only a single structure. Of the 23 multi-structure groups 13 of them have at least 1 megalithic platform, leaving 10 groups with only non-megalithic structures. Of the 87 structures in these groups 20 of them were megalithic (23%) Only 4 (18%) of the standalone structures were megalithic platforms, while 18 of them were regular structures. These comparisons indicate that groups with multiple structures are more likely to incorporate megalithic architecture in their constructions. We also discovered that groups with megalithic structures have more than one structure in the group 76% of the time, while non-megalithic groups have more than one structure only 36% of the time. Of the 17 compounds with megalithic architecture, 15 of them had megaliths in the main structure (largest platform). In other words, for the area north of the site boundary when megaliths are present in the household group, 88% of the time the largest structure will be megalithic. Besides the two groups where the megalithic platform is one of the smaller structures, there are 7 other groups that possess auxiliary megalithic platforms but they also possess a main structure that is megalithic.

Like the western area, there are several platforms that appear to have very similar orientations. These can be seen in the green and red circles in figure 6-3 (also see table 6-7). Red and green orientations differ by about 90 degree which makes some of the groups possess structures with different orientations but at right angles from one another, which may indicate greater social cohesion. The green circles include platforms that have
Figure 0-3 Area North of Ucí Boundary showing 25 m Buffers around platforms
orientations between 350-20/170-200 degrees (22% of the platforms), while the red circles represent platforms with orientations between 80-110/260-290 degrees (24% of the platforms). 39% of the platforms had no orientation recorded for the northern area. Only 18% of the platforms with the green orientation used megaliths while 67% of the red orientation platforms possessed them. Both of these orientations cross-cut architectural diversity and violate the 25 m buffer used to group structures into compound units. Because of this variation and the apparent lack of a pattern I believe that orientation may not signal community cohesion. In some instances it may appear that certain groups adhered to the same orientation (red circles more than green), but in other cases platforms in close proximity possess different orientations. (see the blue circle for an example).
Just east of Platform N196, the largest structure north of the Ucí site boundary, is a 200 m by 200 m empty gap between the clusters, which could have served as a plaza (see purple square). This is more likely the case than for the gaps farther south where there is less structure density and smaller structures in general. Just south of this proposed plaza space is the highest concentration of structures at this site. Also the structures that surround this area appear to be oriented towards this open space, much more so than the space to the south. Some of the platforms lining the edge of this space appear to be oriented towards this space. This plaza could have served as a community gathering place either through worship or market. The higher concentration of megalithic structures around this plaza also indicates its likely importance in the life of the community represented here. Just south of this plaza also sits the single structure group N185 (see the orange text in figure 6-3), which is the only non-megalithic platform with a megalithic superstructure. This unique platform probably served some special function related to the proximity of the plaza and structure N196 which had the opposite situation megalithic base with non-megalithic superstructure. Regardless, this would have been a more permanent situation than most of the other platforms in this area that normally would sport a perishable superstructure.

It is interesting how the first 350 m north from the site boundary possesses structures and groups similar to the western community with relatively small structures and no megaliths to be found. This suggests that megaliths were often deployed in areas of higher population and perhaps the necessary socioeconomic status to implement architecture on a grander scale. Despite these convincing trends, there are several very small megalithic platforms in this community that are found in a variety of contexts such
as solitary platform, auxiliary structure, and some even serve as the main structure of a
group. Another interesting characteristic of this community is the high percentage of
circular platforms: more than a third of them are this shape. They are typically very small
and lie in between much larger rectangular platforms. The highest number of them—
nine—can be found in largest household cluster found in the blue circle. Perhaps these
circular structures were used as outdoor kitchens, and the larger the number of them
found in a platform, the greater the population of the household.

East

The area east of the Ucí boundary along the sacbé also holds evidence that
socioeconomic status is connected to megalithic architecture. The buffers in figure 6-4
and 6-5 show that there are a total of 82 groups of architecture, 27 with more than one
structure and 55 with only a single structure. Of the 27 multi-structure groups 9 of them
have at least 1 megalithic platform, leaving 18 groups with only non-megalithic
structures. Only 3 of the standalone structures were megalithic platforms, while 52 of
them were regular structures. These comparisons indicate that groups with megalithic
structures will have more than one structure in the group 75% of the time, while non-
megalithic groups will have more than one structure only 26% of the time for this stretch
along the sacbé. In all 12 groups with megalithic structures the largest structure of the
group is always megalithic. In four of these groups some of the auxiliary structures are
megalithic as well.

Three groups that possess multiple megalithic structures also hold many other
smaller non-megalithic structures (circled in red in figure 6-5), the one farthest west
holding a total of six structures and the two that are part of the site 21 de Abril,
documented during the survey along the sacbé, each hold ten structures not counting
chiich mounds. These mound clusters are similar to the large group circled in blue in the North community, but there are not as many large structures. Large groups like these probably represent well established extended families that cohabitate, as their family grows so does their domestic architecture. Chronologically they probably settled in these spots earlier than smaller structures, since it would take time to build up compounds of this size. Ashmore et al. argue that settlement units at Chan Noohol, Belize that possessed five or more mounds held evidence for earlier founding and later persistence than the units with one or two mounds (2004:315).

The platforms along the sacbé connect megalithic architecture to higher status through other means than platform volume. In this instance platform groups that possess multiple structures are more often megalithic. Thomas associates higher status categories with compounds that have two or more houses in his study of how to assess social status via settlement patterns and architectural features among the Tojolabal Maya (1985:173). The greater number of houses a group possesses would increase the amount of house floor area which Netting argues reflects the average number of household residents and resources available to the household (1982:641, 657). More household residents means access to greater amounts of labor, available for investment in activities that could raise the status of the household group. One such investment could be megalithic architecture by employing skilled masons to shape stones of great size and pleasing aesthetics.

Four of the multi-structure compounds possess homogenous orientations between each structure (circled in orange figure 6-4 and 6-5). The rest will often have at least 2 or more structures that align at the same angle, but never all of the structures (circled in blue). There are also 2 standalone structures that mimic the orientation of a neighboring
multi-structure group. Structure 12N1 (circled in green) has an orientation of 183 degrees compared to structures 13N2 and 13N3 that possess orientations of 185 degrees. Another example can be found at structure 38S17 (circled in green) with an orientation of 110 degrees in comparison to structure 38S16 with an orientation of 117 degrees. This could suggest that cohabitation covered a wider area than 25 m around some of these groups. In other words, if orientation represents cohabitation, standalone structures with the same orientation as a nearby structure group could be the residences of new families that have split away from their parent group and maintained similar principles of spatial organization. Another possible explanation is mimicry of prosperous or high status groups. I think this behavior reflects the expansion of individuals leaving one household to begin their own. Living in such close proximity illustrates their reliance on the local familial relationships to construct the new structure following established community principles that hold social meaning for the group.

East of Ucí we again have a 1 km gap in the presence of megalithic platforms in the area of the lowest settlement (see the blue rectangle in figure 6-4 (“ms” in the figure means that the group contains multiple structures, while the “s” signifies a signal platform for the group). This resembles the pattern of gaps in settlement between the community to the west and Ucí and between Ucí and the northern community (16Q-d(5):14). To the west of blue rectangle there is a collection of groups that represent a community that lies just east of the Ucí boundary. To the east of the blue rectangle lies the site of 21 de Abril composed of the two large clusters with megalithic platforms south of the sacbé. This gap in megalithic platforms could mean that this area was agricultural with less substantial structures used to access their fields during different periods of
Figure 0-4 First half of area East of Ucí Boundary showing 25 m Buffers around platforms
Figure 0-5 Second half of Area East of Ucí Boundary showing 25 m Buffers around platforms
seasonal work. While this area between these communities is not empty it does contain remnants of small features such as nivelaciones and foundations and only five platforms, most of them small. The exception is platform 21N1 (circled in purple Figure 6-4). In fact this is megalithic and the largest platform based on volume of any structure along this section of the Sacbé. Its relatively isolated location and proximity to the sacbé suggest that this platform may have served some kind of administrative feature with regards to the traffic along the sacbé and could indicate an ancient boundary between these two communities or between Ucí and the communities farther to the east. The East appears similar to groups to the North of Ucí in that Megalithic platforms appear in areas of denser settlement typically in clusters with multiple structures.

Another pattern shows that once the megalithic platforms reappear east of the area of low settlement density, they almost exclusively appear on the south of the sacbé except for two structures, this appears to be a function of residential platforms in general in this portion of the survey.

Since I collected stone data on almost double the number of platforms in the eastern transect of the survey (compared to the north and west), I can compare stone quality between the different contexts in which megalithic platforms are found. As shown in Table 6-8 we can see that main structures typically have both a higher average volume and stone quality than auxiliary structures. Surprisingly standalone structures have greater volume and slightly higher stone quality than main structures and multi-structure groups. Main structures in groups with more than one structure most likely started out as standalone structures, but over time added more structures as their household grew, expanding beyond the initial platform space (Ashmore et al. 2004:315; Tourtellot 1998).
Comparing the groups centered on 38S16 and 42S2 illustrates that similar volumes of megalithic structures do not always indicate well-worked stones in the structures. This provides a way to differentiate between two structures that on the surface are very similar. Based on the difference in stone workmanship, I argue that the inhabitants of 38S16 had access to a more skilled stone mason either through kin relations or through socioeconomic wealth, perhaps one of the inhabitants of this group was a stone mason.

**Table 0-8 Comparison of average volume and stone quality for different groups of structure (note for 38S16 and 42S2 the volume is total volume and note average volume.**

<table>
<thead>
<tr>
<th></th>
<th>Main structure in Multi-structure group</th>
<th>Auxiliary structure in Multi-structure group</th>
<th>Standalone Structure</th>
<th>Group centered on 38s16</th>
<th>Group centered on 42s2</th>
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<tr>
<td><strong>Average stone quality</strong></td>
<td>19.88</td>
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<td>20.07</td>
<td>20.13</td>
<td>16.83</td>
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<tr>
<td><strong>Average Volume (m³)</strong></td>
<td>147.30</td>
<td>20.32</td>
<td>164.81</td>
<td>217.80</td>
<td>222.80</td>
</tr>
<tr>
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<td>6</td>
<td>5</td>
<td>3</td>
<td>3</td>
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</table>

**Central Ucí**

The area within the site boundary of Ucí also holds evidence for socioeconomic status being connected to megalithic architecture. The buffers in figure 6-6 show that there are a total of 246 groups of architecture, 76 with more than one structure and 170 with only a single structure. Of the 76 multi-structure groups 30 of them have at least 1 megalithic platform, leaving 46 groups with only non-megalithic structures. Only 29 of the standalone structures were megalithic platforms, while 145 of them were regular structures. These comparisons indicate that groups with megalithic structures will 51% of the time have more than one structure, while non-megalithic groups will have more than
one structure only 24% of the time for central Ucíf. Of the 59 groups with megalithic architecture, 52 of them had megaliths in the main structure (largest platform) of the group. In other words, for Ucíf when megaliths are present in the household groups, 88% of the time the largest structure will be
Figure 0-6 Area within Ucí Boundary showing 25 m buffers around platforms
megalithic. This percentage is identical for the area north of Ucí. Besides the 7 groups where the megalithic platform is one of the smaller structures, there are 8 other groups that possess auxiliary megalithic platforms but they also possess a main structure that is megalithic.

Aside from the monumental core of Ucí (circled in red in figure 6.6), there are four clusters of megalithic groups (circled in green) that could coincide with different communities. Interestingly, these clusters correspond to the four cardinal directions around the site center. Coe argues that based on colonial records Maya communities in the Yucatan organized themselves spatially at a site according to the cardinal directions and would pass the responsibility of observing the Uayeb rites counterclockwise among them year to year. (1965) These four clusters account for 35 of the megalithic groups found throughout all Ucí, almost half of all such groups. This commonality of architectural style in conjunction with their proximity to one another suggests that these groups shared similar sensibilities in style as well as possibly access to labor and building materials, again indicating a possible social cohesion between the groups in each cluster. Similar to the site north of Ucí, platforms within the proposed communities share similar orientations (see table 6-9), with the ranges from 350-20/170-200 degrees and 80-110/260-290 degrees the most common orientations. Yet this pattern does not differ much when we consider all of the platforms from Ucí as a whole. This provides evidence that groups across Ucí may have followed a common building practice influenced by general cosmological beliefs, rather specific traditions controlled through the existent political power structure at Ucí. The spaces in between these clusters do hold megalithic groups, but they are more isolated from like groups being mostly surrounded by non-
megalithic groups. These four groups resemble the concentration of megalithic groups at the north end of the North transect. One similarity rests in the presence of a large area almost devoid of structures adjacent to these areas (see figure 6-3). The clusters east of Ucí along the sacbé are similar but do not hold the same density of megalithic groups.

Table 0-9 Area within Ucí Boundary showing 25 m buffers around platforms

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Number of Platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Ucí</td>
<td>North</td>
</tr>
<tr>
<td>0-10/180-190</td>
<td>38</td>
</tr>
<tr>
<td>10-20/190-200</td>
<td>22</td>
</tr>
<tr>
<td>20-30/200-210</td>
<td>8</td>
</tr>
<tr>
<td>30-40/210-220</td>
<td>1</td>
</tr>
<tr>
<td>40-50/220-230</td>
<td></td>
</tr>
<tr>
<td>50-60/230-240</td>
<td></td>
</tr>
<tr>
<td>60-70/240-250</td>
<td>1</td>
</tr>
<tr>
<td>70-80/250-260</td>
<td>5</td>
</tr>
<tr>
<td>80-90/260-270</td>
<td>17</td>
</tr>
<tr>
<td>90-100/270-280</td>
<td>27</td>
</tr>
<tr>
<td>100-110/280-290</td>
<td>18</td>
</tr>
<tr>
<td>110-120/290-300</td>
<td>4</td>
</tr>
<tr>
<td>120-130/300-310</td>
<td>3</td>
</tr>
<tr>
<td>130-140/310-320</td>
<td>1</td>
</tr>
<tr>
<td>140-150/320-330</td>
<td>3</td>
</tr>
<tr>
<td>150-160/330-340</td>
<td>2</td>
</tr>
<tr>
<td>160-170/340-350</td>
<td>4</td>
</tr>
<tr>
<td>170-180/350-360</td>
<td>11</td>
</tr>
<tr>
<td>165</td>
<td>19</td>
</tr>
</tbody>
</table>
Using the same logic to cluster the megalithic groups together, we could do the same for areas where there are mostly non-megalithic structures. This is a little more difficult since non-megalithic groups make up 76% of the sample. Another pattern within Ucí is that there are multiple non-megalithic platforms of similar size to or even larger than megalithic platforms. The fact that some of these are located well beyond the modern town suggests that the absence of megalithic stones cannot solely be attributed to robbing material for historic and modern constructions. If the megalithic style does represent higher socioeconomic status, then perhaps the presence of platforms of similar size in different styles represents the diversity of methods for expressing economic success at a larger site than the ones to the north, east, and west. Status gauges a person’s standing in the eyes of the community or society that he/she has membership in, meaning that status can come from many different sources (kinship relations, success on the battlefield, as an artisan, or even based on what day a person is born) dependent on his/her interactions with multiple communities. Class references a group of people who have in common similar opportunities in life concerning economic interests, these groups are defined by their level of control over the means of production. Yet the multi-structure groups with the highest number of structures (5 or more) tend to have one or more megalithic platforms among them (circled in yellow). There are five non-megalithic groups that can be placed into this category (circled blue) as compared to the seven such megalithic groups. Three of these five groups are composed of smaller features than the megalithic groups possess, mostly cimientos and nivelaciones accompanied by a small platform. The megalithic groups are composed of mostly platforms. The other two non-megalithic groups to the northeast and south have large platforms, but the former is
located in the area where historic and modern period stone robbing could have lowered the number of megalithic structures, while the latter is just on the edge of the modern town.

Similar to the North and East communities the groups with the most platforms and consequently those that cover the most ground tend to have at least one megalithic platform in their groups. This is further evidence of household success shown by their ability to expand over several generations. Thomas used the presence of two or more houses in a compound as one of the architectural markers in settlement patterns that denotes higher social status among the Tojolabal Maya (1985:173). More houses mean more space for the household group which Netting claims reflects the average number of household residents and resources available to the household (1982:641, 657). The more residents per group means greater amounts of labor available for use in their betterment. This could include stylistic choices in their selection of architecture, such as megalithic stones, to identify with other powerful groups that utilize it. This growth could signal the antiquity of that family’s presence at that residence and also the wealth of that group based on the potential labor available to them through group membership. The construction of multiple platforms made with megaliths expressed that household’s wealth gained through their control of labor. It is also noteworthy that three of the four communities of megalithic groups incorporate one or more of these large groups as well, perhaps indicating the coherence of the inhabitants of these groups (green circles).

Another interesting feature of the four clusters of megalithic structures (green circles) is the gaps in settlement between them and the center of the site (circled purple). The two clearest examples are the communities to the east and west along the sacbeob.
Their distance from the center is almost equal. The cluster to the south is the only one that does not have its settlement gap between itself and the center. Combining the most platforms out of the four areas created by the site boundary I have an even larger sample with which to compare stone quality between the different contexts in which megalithic platforms are found. As shown in Table 6-10, main structures typically have both a higher average volume and stone quality than auxiliary structures, but only the differences in volume are statistically significant (t Stat=2.76, t Critical=1.72, p=.006). Standalone structures have a lower average volume but slightly higher stone quality than main structures in multi-structure groups, but these differences are not statistically significant. Standalone structures have a higher average mean volume and stone quality than auxiliary structures, both these comparisons are significant (Volume t Stat=2.07, t Critical=1.71, p=.03, Stone Quality t Stat=1.84, t Critical=1.71, p=.04) Main structures in groups

Table 6-10 Comparison of average volume and stone quality for groups of megalithic structures from Central Ucú

<table>
<thead>
<tr>
<th></th>
<th>Main structure in Multi-structure group</th>
<th>Auxiliary structure in Multi-structure group</th>
<th>Standalone Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average stone quality</td>
<td>17.54</td>
<td>16.83</td>
<td>17.87</td>
</tr>
<tr>
<td>Average Volume (m³)</td>
<td>275.32</td>
<td>101.09</td>
<td>227.43</td>
</tr>
<tr>
<td>Number of Structures</td>
<td>12</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

with more than one structure could have started out as standalone structures, but expanded overtime as their household group increased its membership. It is interesting that the average stone quality for standalone structures for both Ucú and the East along the sacbé are slightly higher than the largest structures from multi-structure groups. This makes sense if standalone structures are made by the same individuals that construct
multi-structure platforms but are just in an earlier stage of development, where perhaps a new family has branched off from its extended family and construct their own group over time.

Only five groups in my sample from within the Ucí site boundary belonged to different multiple structure groups, namely those centered on platforms N16, N43, W134, W137, and W38 (table 6-11). W38 clearly has the highest volume and stone quality average, which could further the argument that the larger the volume of a platform the higher its stone quality will be, but the weak correlation from table 6-6 between these two measurements suggests that this is not always the case. N43 and W134 had almost identical volumes and stone qualities which could be used to argue that structures of similar volume will have similar stone quality. Yet despite N16 being much larger volumetrically than W137 the latter had a slightly higher average stone quality, proving that neither does similar stone quality equal similar volumetric size of a platform. This means that average stone quality can vary between platforms of similar size and may not always match volume to stone quality.

Table 0-11 Comparison of total volume and stone quality for specific groups from Central Ucí with more than one megalithic structure

<table>
<thead>
<tr>
<th></th>
<th>N16</th>
<th>N43</th>
<th>W134</th>
<th>W137</th>
<th>W38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average stone quality</td>
<td>16.07</td>
<td>17.25</td>
<td>17.35</td>
<td>16.15</td>
<td>18.80</td>
</tr>
<tr>
<td>Total Volume (m³)</td>
<td>630.39</td>
<td>446.45</td>
<td>488.00</td>
<td>187.20</td>
<td>2193.45</td>
</tr>
<tr>
<td>Number of structures</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Summary of Analysis
Before I discuss the meaning of the above analysis, I will summarize the most important results concerning the relationship of status, community, and megalithic architecture. They are the following:

1) About a fourth of the total platforms found in and around Ucí held megalithic architecture suggesting that access to this style was not widespread.

2) The concentration of megalithic platforms is greatest in areas of denser occupation and away from site boundaries, suggesting that megalithic platforms are more likely to be found closer to the center of communities and towards larger structures.

3) Megalithic platforms are more rectangular in shape than non-megalithic platforms and possess less variation in the different forms than non-megalithic platforms.

4) Overall, North, and East of Ucí all demonstrate that on average volume for megalithic platforms is greater than non-megalithic platforms. The differences between these two groups is only statistically significant for the platforms North of Ucí (t Stat=4.31, t Critical=1.70, p=.0001). Within Ucí the non-megalithic platforms have a larger average volume than megalithic structures but is not significant (t Stat=1.62, t Critical=1.65, p=.05). This latter fact is likely the result of misrepresentation of megalithic platforms just east and northeast of the center of Ucí, where very large platforms where documented among the houses of modern day Ucí, and many of the megalithic stones of the ancient structure have most likely been moved and reused.
5) The best measure for the degree of megalithicness of a platform is the percent of the platform perimeter taken up by megaliths since 64% of all stones analyzed came from the edge of the platform (table 6-5) (Figure 6-7 for the distribution).

![Bar chart showing the distribution of platforms from survey sample according to the degree of megalithicness portrayed by the percent of platform perimeter taken up by megaliths.](chart)

**Figure 6-7 Distribution of platforms from survey sample according to the degree of megalithicness portrayed by the percent of platform perimeter taken up by megaliths.**

6) A correlation matrix comparing several measures of the degree of megalithicness of a platform (percentage of perimeter made of megaliths, percentage of volume taken up by megaliths) with indicators of status (volume and average stone quality) illustrates that there is a moderate positive correlation between average stone quality and percent of perimeter made up of stones.

7) Despite their being only a weak correlation between volume and average stone quality, there are moderate correlations between average stone quality and total stone quality, and total stone quality and volume. Average stone quality refers to the mean stone quality based from all the stones in the platform. Total stone quality is the sum of each stone’s quality for that platform. This illustrates that there is an indirect link between greater platform volume and higher stone quality.
8) Table 6-12 demonstrating the diversity in the distribution of megalithic platforms among the different communities in and around Ucí

Table 6-12 Distribution of multi-structure and single structure megalithic and non-megalithic household groups by location related to the Ucí site boundary

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of group</th>
<th>ML</th>
<th>NML</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>Multi-structure</td>
<td>8</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Single structure</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>North</td>
<td>Multi-structure</td>
<td>13</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Single structure</td>
<td>4</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>17</td>
<td>28</td>
<td>45</td>
</tr>
<tr>
<td>East</td>
<td>Multi-structure</td>
<td>9</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Single structure</td>
<td>3</td>
<td>52</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>12</td>
<td>70</td>
<td>82</td>
</tr>
<tr>
<td>Ucí</td>
<td>Multi-structure</td>
<td>30</td>
<td>46</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Single structure</td>
<td>29</td>
<td>145</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>59</td>
<td>191</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>176</td>
<td>608</td>
<td>784</td>
</tr>
</tbody>
</table>

9) Household groups with megalithic structures most often have more than one structure in the North (76% of the time), the East (75% of the time), and within Ucí (51% of the time). This is more than twice the percentages for non-megalithic structures having more than one structure.

10) When a megalithic platform is part of a multi-structure group it is almost always the largest structure in the group.

11) Multi-structure groups will often share a common orientation between two or more structures, sometimes all, as well as some neighboring standalone structures.
Common orientations that cross-cut architecturally diverse household groups could be an indicator of community identity.

12) The North area has a higher concentration of platforms that are circular than the other areas, many of which are very small in size and rarely megalithic.

13) The West, North, East and Ucí all have gaps in settlement density that also hold zero megalithic platforms. In the case of the west and north, this marks the area around the site boundary. In the East and Ucí, they could separate possible communities and serve as community boundaries.

14) Although there was not much difference between the average stone quality between megalithic main structures in a multi-structure group and megalithic standalone structures for the East and Ucí areas, it was surprising that the standalone structures had a slightly higher stone quality (East even had higher volume as well). Megalithic auxiliary structures on the other hand did show a smaller volume and average stone quantity than main structures in multi-structure groups.

15) The area within Ucí provides evidence for clusters of megalithic groups in four different areas more or less aligned with the cardinal directions that could indicate communities.

16) In the North, East, and Ucí the groups with the most structures almost all possess more than one megalithic platform.

**Discussion**

This analysis reveals that megalithic platforms do indeed mark higher socioeconomic status between household clusters and between communities, but each community may transmit this message in different ways. The community north of Ucí
clearly provides evidence that volume for megalithic platforms is much larger than volume for non-megalithic platforms. This is also the trend for the area east of Ucí, but the trend is not as strong. Within Ucí itself megalithic platforms possess a lower volume than non-megalithic structures but the difference is not significant, yet this could be the result of the misrepresentation of some large platforms that were found among the modern dwellings at Ucí due to looting of megalithic stones for constructing albarradas and modern houses. But within Ucí, household groups with the most structures will hold at least 2 megalithic platforms (figure 6-6 yellow shapes), connecting megalithic structures to the largest household groups who control more labor, and potentially more resources than non-megalithic groups that are normally smaller in size. This pattern also exists North and East of the Ucí site boundary.

Another possible way to interpret these large megalithic household clusters is in terms of the development cycle of the household compound. New compounds will start off with a single structure with maybe a few smaller ancillary structures. As a family has children and their children grow older and have children of their own the need for more living space will require the construction of more dwellings. In the North, East, and within Ucí the largest structure of multi-structure groups is almost always megalithic. If this structure is the residence of the founder of the compound (Tourtellot 1988), then the founder had the economic means and access to labor to build a residence from the beginning of the history of their compound that was often larger than non-megalithic platforms. The more structures and the greater area they cover could mark the prosperity and success of that household over a longer period of time than smaller more circumspect groups. If the largest groups with the most structures are megalithic then the presence of
megalithic platforms may also represent the success and prosperity of the household. The inhabitants of these larger groups may have built them either by being the first occupants of the land they developed, inherited said land from powerful kin, or had acquired enough power and prestige to acquire the group and the land through social, political, and/or economic means. In order to test this hypothesis we would need to find chronological data from every household group in the volumetric range and ascertain the occupational history of said group.

The sharpness in the difference between the volumes of megalithic platforms and non-megalithic platforms in each area of the survey could mark the degree of separation between persons of different statuses at each site. But both larger sites (Ucí) and smaller sites (North and East areas) possess megalithic platforms, although in different percentages (Ucí 27% of platforms, East 29% of platforms, and North 25% of platforms). It appears that regardless of site size that certain households accrued enough wealth and influence over labor to construct platforms of greater volume that possessed more elaborate architecture. Ucí drew larger groups of people with its monumental structures and sacbé, and the greater population most likely resulted in the greater variation in architectural volume and styles. The differences between the monumental area of Ucí and the rest of Ucí is indeed just as sharp as the difference between the surrounding sites and Ucí. These differences in platform volume and presence of megalithic architecture demonstrate that wealth and control over labor were accessible to more than just the most elite class in Maya society. Perhaps the source of the elite power was more ideological than economic, since it is apparent that economic might was not monopolized. Nevertheless the household groups with the most number of structures possess some that
are megalithic, which could indicate the slow accretion of wealth and influence over time as a household becomes more prosperous and more numerous.

A moderate positive correlation between average stone quality and the percent of the platform perimeter composed of megaliths suggests that the more megalithic a platform is the finer the workmanship of the stones will be. Alternatively, this could mean that the more megalithic stones a platform holds in its perimeter the higher the average stone quality will be due to more stones contributing to the average score. Comparing the average stone quality for the 27 platforms with the smallest percentage of their perimeter taken up by megaliths with the 27 platforms with the largest percentage of their perimeter taken up by megaliths yields 17.39 and 18.46 respectively. A t-test (t stat = 2.527, t critical = 1.675, p =.0007) between these two samples confirms that more megalithic platforms have a higher average stone quality than less megalithic platforms and that this difference is statistically significant. This means that households that choose to make their platforms with more megalithic stones in their edges probably had access to a more skilled laborer, perhaps a specialized mason, for the effort. This ability to hire, support, or influence a specialized craftsman is another indicator of status connected to megalithic structures.

Access to the final product of a megalithic stone illustrates the status of both the producer and the consumer. Those whose wealth allows them to commission the construction of massive stone buildings represents a difference of status based on quantity. Nevertheless the producers of these stones, could still access megalithic stones with their own or communal labor. The construction of platforms with megalithic stones
provides contrast between individuals and groups to distinguish their identities, principally their status to others.

Through the expenditure of labor required in the production of stones and then the requisite assembly, these expenses require the gathering of materials, labor, and providing food for the laborers. What are the ways in which megaliths transmit status other than wealth? By presenting a particular style with large stones that stand out compared to platforms that do not possess them, megalithic platforms distinguish themselves. The use of stone rather than perishable materials for the structures built on the platforms also indicate status by possessing access to the resources and knowledge to build with stone.

The Maya have been divided into two classes, elites and commoners. It is evident that within those classes there exists different statuses as well as wealth levels. Megalithic architecture is found in both monumental and domestic contexts, one of the classic dividers of commoners and elites. Now it is evident from my research that there exists a high degree of architectural variability in the domestic context that reflects difference in wealth and status, but probably not differences in class. Nevertheless since megaliths were used in both contexts we can assume that this shared practice had at least some shared meaning for both classes. If megaliths equated higher status in the eyes of commoners, their inclusion by elites into their most ostentatious buildings would lend support to the power and influence wielded by them. Most house construction projects for the Maya involved rituals that could have been expanded upon by elites to include more elaborate architecture in the form of megaliths.
The placement of the Ucí site boundary based on a drop in settlement density has demarcated four general sites, the group of small non-megalithic features to the west, the large megalithic groups to the north, several groups along the sacbé, and the site of Ucí itself in the center. The further delineation of household groups based on features 25 m or closer to other features has provided the means by which to compare different household residences. In this comparison it has been possible to identify communities within these four general areas.

The area west of Ucí is considered to be a rural community possessing a single megalithic structure and few platforms, which were on average quite smaller than the other regions. Immediately to the north of the site boundary we find several groups that are very similar to the west lacking megaliths and large platforms. There is also a large gap east of Ucí along the sacbé that has similar characteristics, except for the large platform 27N1 (see figure 6-4 blue square). The absence of megalithic structures denotes areas of low settlement density comprised of volumetrically smaller platforms that could represent boundaries between areas of higher platform density.

The area East of Ucí, despite gaps in settlement, illustrates that communities here can be composed of a few household groups or they can coalesce into clusters of several groups both with multiple and single structures. The cluster closest to Ucí is composed of many smaller groups often of standalone structures (twice as many as multi-structure groups), perhaps illustrating the growth of Ucí down the sacbé as its population increases, new families being better represented by the standalone structures, early in the household development cycle. Farther down the sacbé at the site of 21 de Abril there are fewer groups but two of them are very large with 10 or more structures each with several
megalithic platforms. Excavations at structure 42s2 in 2011 documented two periods of construction during the Terminal Preclassic and Early Classic, with the megalithic structure being the earlier of the two. A third period of construction occurred later during a reoccupation in the Late Classic and Postclassic. While the size and development of these groups suggest a long occupational history, excavation reveals that there were only two constructions made during the period when megaliths were used. This means that only one addition was made to the main platform during the Terminal Preclassic and Early Classic. Depending on when the other structures around 42s2 were constructed this means that development of this group either started out with many structures or that structures were added when the platform was expanded to the south. This suggests that some household groups started with multiple structures rather than expanding over time. This illustrates the diversity in the expansions of settlement that occurred at Ucí, some groups had longer occupational histories while others began their existence with more expansive imprints on the archaeological record. There are other household groups in between these two sites that could represent rural families.

The North area is unique with its concentration of small circular features as well as the two orientation ranges (350-20/170-200 degrees and 80-110/260-290 degrees see table 6-6) shared between many of the different types of architecture throughout this area. These shared orientations that crosscut architectural diversity is evidence for community identities based on shared construction behavior. The north area also possesses a potential plaza that holds a cluster of megalithic groups around it in the northern half of this area (see figure 6-3). This cluster of groups also holds the largest multi-structure group with megalithic platforms north of the site boundary. Similar patterns are found within Ucí.
Central Ucí also possesses clusters of megalithic groups with a large open areas that lies between these clusters and the monumental center of Ucí. Four in total, each of these groups corresponds roughly to one of the four cardinal directions from the center (see figure 6-6). This organization is reminiscent of the spatial order described in Landa’s account of the Uayeb rites, which community is subdivided into four sections of similar size corresponding to the cardinal directions, with each community connected to a leader’s residence that borders the site center (Coe 1965). These four groups do not match this situation completely. First, they are not of equal shape or size and some are placed closer to the center then others. Second, it is difficult to identify which structure bordering the site center would pertain to the leader responsible for each community. Lastly, the four subdivisions do not account for all of the settlement within Ucí.

Nevertheless the four contiguous open areas could have been connected to the administration and participation of these communities, especially since they orient them towards the center of Ucí. Three of these clusters also have very large megalithic multi-structure groups that could serve as residences for the principals of its respective cluster. Since most of the household groups in each of these clusters are megalithic and account for more than half of all megalithic groups in Ucí, this is evidence that some communities were organized around socioeconomic status which very well could crosscut kin relationships as an organizing principal. This pattern also goes against the concentric model of settlement organization, since these clusters rest at three different distances.

The shared experience of megalithic architecture could be one material spatial facet through which community identity could be forged. The conscious inclusion of megaliths into the platforms of a family or household group signified the adherence to a
specific style that marks that structure and the individuals who dwell there as different from those who do not use such stones. The location and size of these groups with megaliths indicate that maybe some of them did participate in the same community. Nevertheless the use of megaliths in structures on the same platform, household group, or same cluster of structures probably indicates some social group that shared labor, residence, taste, or wealth, or a combination of all of the above. The fact that megalithic architecture was used for different ends in different communities shows the values and rules of each group while at the same time tying into a wider identity associated with an architectural style that reached across half of the Yucatan peninsula.
Chapter 7 Conclusion

This research produced four types of conclusions. First, it highlights the differences between megaliths in monumental contexts at Ucí, Izamal, and Aké. Second, it delineates differences between megaliths in domestic contexts versus monumental contexts. Third, it calculates general correlations of variables connected to status and wealth in domestic structures (volume of platform, % of perimeter taken up by megaliths, stone quality, etc.). And fourth, it details the architectural and spatial variation across the Ucí area (east, west, north, etc.) I will present my conclusions in the above mentioned order.

Megaliths in Monumental Context

Comparing length, width, thickness, and stone quality of megaliths from Izamal, Aké, and Ucí produced surprising results. First, Izamal does not possess the highest values despite being the largest site with the greatest volume of architecture, suggesting domination over this region in the Early Classic. Because of the widespread use of megalithic buildings throughout the region, we know that others had access to the knowledge and skills to construct with megaliths. Despite not exhibiting the largest and finest megaliths, the immense volume of the structures at Izamal highlights their economic power via control over vast amounts of labor. Both Ucí and Aké had on average stones of higher quality and Aké even included stones of greater average length than Izamal. This situation illustrates that while Izamal produced the dominant economic influence in the region, they had competitors in the political realm that controlled specialized labor that matched or outdid the masons at Izamal. This provides evidence that political power perhaps relied more on ideological symbology than sheer economic might alone. Another important comparison reveals that there is no significant difference
between the stone quality of monumental megaliths from Aké and Ucí. We might expect Ucí (7.5 km²) to possess stones of higher quality since its overall site size may have been larger than Aké (4 km²) (Quintal 2008). But as with Izamal, Ucí might display greater economic achievements, but Aké could keep pace politically by incorporating the higher quality specialized labor of cutting, shaping, and building with megaliths. Producing structures linked to ideology that could legitimatize their social and moral power could allow less economically successful polities to compete with more wealthy polities with greater resources and labor.

**Comparison of Megaliths in Domestic and Monumental Contexts**

Monumental megaliths and domestic megaliths share enough attributes to pertain to the same architectural style, yet differ enough to distinguish them as two separate sub-styles. They both exhibit quadrilateral stones, laid horizontally, with rounded corners, 3-4 well defined edges, and non-symmetric shape. Monumental megaliths differ from domestic megaliths by being on average longer and wider as well as being more finely crafted and thus having a higher quality rating. There is a clear and statistically significant difference between monumental megaliths and domestic megaliths for length and stone quality both with all the monumental contexts combined and with just the monumental megaliths from Ucí being compared to the domestic dataset. The exterior facades of monumental structures consist mostly of megaliths, while domestic structures generally only contain megaliths on the perimeter of the platform, with a few exceptions that had megaliths in their superstructures. Monumental stones tend to be more homogenous in terms of shape and finish in comparison to the greater range of variation in domestic megaliths, due to the hundreds of different households that would have crafted megaliths. Monumental constructions have more megaliths, longer megaliths and
better-crafted megaliths each of which is evidence of greater access to the labor and skills required for elaborate architecture.

**Correlations of variables of status and wealth in Domestic Context**

Taking the sample as a whole, megalithic residences have a larger platform volume than non-megalithic residences, but do not vary to such a degree as to be statistically significant. Megalithic platforms vary in volume from the very small to sizes approaching monumental (1 m³ to 2268 m³), and non-megalithic platforms have an even wider range of volume values. These differences in volume produce patterns distinct to each community and sub-area. Some of these patterns are limited to individual households, certain communities, or may range across the entire site. We can associate some shared understanding and identity among the ancient inhabitants of Ucí depending in the range and adoption of these patterns.

Stone quality of megaliths is another line of evidence to connect megalithic style to higher status residences that should corroborate the greater volume of most megalithic structures. Yet like volume, stone quality does not always match up with the larger platform with the most megaliths. In fact there is only a weak positive correlation between average stone quality and volume for megalithic platforms. Better evidence for this connection comes from the moderate positive correlation between average stone quality and percent of the platform perimeter made of megaliths, illustrating that the greater number of stones used in a structure often results in higher overall average of stone quality as well. These weak correlations result from the instances in which high platform volume does not equate with high average stone quality. For example, within Ucí megalithic multi-structure groups have bigger volumes than standalone structures but slightly smaller average stone quality (table 6-10). Using specific groups from Ucí, it is
clear that the group centered on platform W38 has the largest volume of any megalithic platform as well as the highest average stone quality in this table. But group N16 has a much larger volume but slightly lower stone quality than W137 (table 6-11). An example where platforms of almost equal volume can benefit from the secondary status assessment through average stone quality can be found east of Ucí in groups centered on 38S16 and 42S2 (table 6-7). Clearly group 38S16 possesses stones of higher quality enabling discernment of status when volume alone would have said otherwise.

Yet what is being expressed as greater socioeconomic status as evidenced by the megalithic style, volume, number of platforms in a group, and stone quality of a platform, household group, community, or site does not necessarily equate to wealth or prestige or class. Certainly the presence of all four of these characteristics is suggestive of powerful groups as is the case in the monumental context. But in the above example of the two platforms with similar volumes but disparate stone quality, perhaps the higher social status of inhabitants at 38S16 landed their group a skilled stone mason or a stone mason lived at this group, rather than only being able to arrange the basic labor required to construct the platforms at 42S2. Indeed the variation in the distinction between the socioeconomic status of different groups within and between communities will not only rely on the behaviors that are salient to mutual acknowledgement and value placed upon such distinctions but on the sources of said value, be they control over the labor of a large extended household, access to wealth through trade in imported items, birth into a prestigious family, or influence gained on the battlefield or through pious sacred rituals.

**Architectural and Spatial Variation across Ucí Area**

Comparing the volumes of megalithic and non-megalithic platforms of different communities created by the placement of the site boundary at Ucí illustrates the different
use and application of architecture across the area, within communities, and in households to claim and contest many different identities and statuses. Within site boundaries of Ucí non-megalithic platforms on average have a larger volume than megalithic platforms, but this difference is not statistically significant. This would appear to go against my hypothesis that megalithic platforms exhibit higher status because they have larger volumes than non-megalithic structures. Despite there being a reasonable concern from the strange absence of megalithic platforms in the area of the survey that overlaps with modern-day Ucí on some of the largest platforms, by looking at areas not so adversely affected around Ucí it is apparent that non-megalithic platforms are of comparable size in this context. Yet there are other lines of evidence that suggest greater status for people living in megalithic platforms in Ucí. One is that the largest (most structures) multi-structure groups almost always have multiple megalithic platforms and the largest structure in these groups is almost always megalithic. These largest groups attract other megalithic groups since three of the four of such clusters include one or two of the largest within Ucí. These clusters of megalithic groups represent communities of higher status than clusters of non-megalithic groups.

The community North of Ucí possesses megalithic platforms that are much larger than non-megalithic platforms, even to such a degree that the difference is statistically significant. Here the association of megaliths with status is held in common with the lords of Ucí, yet it is applied to domestic structures in a method that is practical and meaningful to the members of the community. The layout of the megalithic groups in this community resembles the four clusters of megalithic structures that are located within the site boundary of Ucí, possessing one or two large multi-structure groups that each possess
several megalithic platforms as well as being adjacent to a large open area. The key
difference between this community and the ones around Ucí is that its open gap in
settlement is not placed between the community and the monumental core of Ucí, but
appears to orient towards a different site core.

Along the sacbé and east of Ucí are several communities who indeed have
megalithic platforms that are larger in volume compared to non-megalithic platforms, but
the difference is not significant. Here the clusters of megalithic multi-structural groups
have fewer members and may represent extended families rather than communities with
different kin groups living in the same area. Yet the multi-structural groups that cover the
most area and possess the greatest number of structures always possess at least one
megalithic platform. Based on the use of megaliths in single structure residences, I
assume that through this choice of construction and the labor and time invested to execute
it that the future inhabitants of this structure intend to dwell in that place for a while,
maybe even several generations.

The community west of the site boundary at Ucí possesses only one megalithic
platform and the others are smaller than ones from Ucí and the communities to the East
and North of Ucí. This rural community probably kept mostly to themselves and had little
interaction with the lords of Ucí, those who most likely influenced the surrounding
communities of the high socioeconomic status attributed to the monumental megalithic
style. Alternatively they could have lacked the wealth to build with megaliths or perhaps
this community was occupied during the Late Classic after megaliths were widely used.

**Final Thoughts**

People interact with megaliths by seeing them, walking around them, building
with them, crafting them. The size and weight of these stones require individuals to work
together to produce and use them. Stones have more permanence than wood and thatch which requires less maintenance and less replacement. It is easier to build over stone than tear it down, to incorporate it into architectural variation. The stones placed by ancestors still hold up the house of their descendants. The legacy of family and wealth is preserved in stone for future generations to encounter and experience. By their very endurance and consequentially long histories, stones have the potential to interact with many actors which must account for that stone’s accumulated history whether by accepting it or appropriating it for new purposes or goals. Stones will encourage repetitious experiences, since they are heavy and large and usually incorporated in architecture, which lead toward more enduring identities for both objects and subjects.

Because of these qualities of stone, megalithic architecture opens several paths through which individuals, houses, and communities transmit their identities, especially their status. The variation found within the distribution of megalithic architecture alone in north central Yucatan and in and around the site of Ucí results from actors utilizing different paths available to them through this medium. This analysis of megaliths and architecture provides methodology for assessing differences in stone quality and size, creating another line of evidence to interpret and explain architectural variation as it relates to socioeconomic and community identity.

It is noteworthy that the monumental megalithic style serves as a common reference point for the surrounding communities and households of Ucí. Monumental megalithic buildings possess three markers of access to labor and resources: high stone quality, huge voluminous buildings, and large quantities of manufactured stones. The greater variation in the distribution of the megalithic architecture style reflects the elite
roots of the status held by different individuals, families, and communities. In some communities labor might be abundant through work groups or through kinship relations and large platforms are available to a wider spectrum of society. In others, perhaps a household’s wealth can permit them to hire a skilled mason who can craft fine megaliths that put their neighbor’s house to shame. These different methods of signaling status are locally specific based on the social, economic, and political environment and history of each community, but they are bound together through commonly understood manifestations of ultimate status or authority as proclaimed by the lords of Ucí, who may be referencing the authority of higher and more powerful lords in Aké and Izamal.

There are several subjects for future research that could enhance this analysis of megalithic stones. First, in order to test whether or not megalithic platforms truly have finer stone quality than non-megalithic platforms an analysis of the non-megalithic stones from such platforms that follows this study’s methodology could further prove the connection of megaliths to status in the domestic context. Second, excavations into the sample platforms to provide chronological estimates for standalone structure and multi-structure groups that could give credence to the hypothesis that the later have earlier and longer histories of occupation. This research could also test the idea that megalithic platforms are the founding structure of a new household group. It could also produce material evidence of status through prestige items located in different types of structures, further refining the assignment of status to these constructions. Lastly, a survey of stone sources used in modern albarrada and house construction that tests the hypothesis that fewer megalithic platforms were attributed to the area east and north east of the monumental center among the modern town of Ucí due to borrowing/looting ancient
stones from the platforms that were close by. By studying the prevalence of this practice throughout Ucíd, I could get a more correct idea of the distribution of megalithic platforms at this site.
APPENDIX A

Comparison of measurement of status, Platforms from which the Megalithic Stones were measured

<table>
<thead>
<tr>
<th>Platform Number of MLS</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Avg Elevation (m)</th>
<th>Area (m²)</th>
<th>Volume (m³)</th>
<th>Size Rank</th>
<th>Total length of stones in platform (m)</th>
<th>per cent of perimeter taken up by MLS</th>
<th>vol of stones (m³)</th>
<th>per cent of platform</th>
<th>Cost of construction (person days)</th>
<th>Quality total score of stones</th>
<th>Average quality of stones</th>
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