XUNANTUNICH ARCHAEOLOGICAL PROJECT

1995 Field Season

Table of Contents

1995 Research in the Xunantunich Center

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Introduction

1995 marks the fifth year of research within the ancient Maya center of Xunantunich. This archaeological work is part of an overall program focused upon two main objectives: 1. the development of a greater understanding of Xunantunich's position within the ancient Maya world and specifically within the Upper Belize River Valley and 2. the development of the site for tourism. Together, these two objectives form the basis for the current Xunantunich Archaeological Project. Most importantly, the work along both of these lines can move forward in a comprehensive fashion - allowing for good archaeological research and a concerted effort of tourist related developments.

The 1995 work at Xunantunich was clearly focused upon these two interrelated activities. Therefore, this report will present both the research as well as tourist related developments at the site. In addition, I would like to set-forth, at this point, a general work plan for the 1996 field season at Xunantunich.

1995 Field Research

We continued an extensive program of research at Xunantunich during this 1995 field season. This research followed upon ideas and leads which developed in previous work at the site.

Background Chronology for Xunantunich

During the past five season, the occupation history and chronology of the site has been defined in detail with our excavations and the ceramic analysis of Lisa LeCount. Our excavations in 1995 confirmed these findings.

The hilltop, upon which the main architectural groups sit, seems to have been first occupied in the Middle Preclassic. Very little of this Middle Preclassic material has been found *in situ*. Our major excavations into the core of Structure A-1 revealed pockets of Middle Preclassic material reused as fill for this construction. In addition, any excavations below the plaza floor of Plaza A-I or Plaza A-II also identified Middle Preclassic material above bedrock. A few possible in situ stones, roughly cut, have been identified in these plaza excavations. However, at present, we have no architecture or deposits which appear in their original context from this Middle Preclassic period.

The only other early material from the top part of the hilltop comes from a chultun excavated in 1995 by Angela Keller. This chultun is located to the east of the main architectural group (Group A) and is associated with a small secondary plaza. The excavation of this chultun (see Keller, this volume) revealed clean material dated to the Late Preclassic and Proto-Classic periods. However, as with the Middle Preclassic material mentioned above, we have not identified any associated, *in situ* architecture.

Our preliminary interpretation emphasizes that these remains of an early occupation are small in scale and scattered on the hill-top. We therefore believe that the hill-top was originally occupied perhaps by a small set of residential plaza groups - secondary in size and scale. This early occupation seems to have been small in scale and

scattered on this hill-top. It also appears as though these early plazas were abandoned during the Early Classic as no sherds from this time period have been identified from any of our excavations. In the end, these small buildings were apparently leveled during and for the construction of the Late Classic plazas and buildings which now dominate the hill-top and make-up the ancient city center of Xunantunich.

There is, however, evidence of large scale Preclassic occupation within the region. Within the immediate vicinity, the center of this Preclassic time period seems to be at the nearby site of Actuncan, located about 1.5 kilometers to the north-northeast of Xunantunich. A long sequence from the Preclassic to the Terminal Classic has been found at Actuncan. This was revealed by a recent excavation program conducted by James McGovern of UCLA. This sequence includes a massive Late Preclassic construction program with elaborate frontal plaster masks, common during this time period.

In addition, closer to the city center of Xunantunich, we have identified one large composite architectural group which apparently originally dates to the Late Preclassic. Group E, a large two pyramid group, and a massive platform (O/A2-1) are part of a large-scale Preclassic construction located about one kilometer east of the main center. There is probably an association between these outlying structures and the Preclassic center of Actuncan. Future work will be necessary to understand the nature of this early construction.

With minimal evidence of occupation at Xunantunich during the late Preclassic and Early Classic, we next turn to the Late Classic and Terminal Classic periods. LeCount (in previous season's reports) has been able to define four ceramic phases which extend from the beginning of the Late Classic (about 550 AD) to the Terminal Classic (900-1000 AD). Late Classic I (dated approximately to 550 - 650 AD) appears to be in strong evidence at the site but at the moment, we only have a large amount of fill and refuse rather than *in situ* architecture.

The first evidence of massive architecture that we have been able to define at the site dates to the Late Classic IIA and IIB time periods. Our massive trenching into the fill of the structures within Group A date to this Late Classic time period. At the present time, we feel that the form of the center takes shape at this Late Classic II time period. This includes the construction of the Castillo, the construction of Structure A-6-2nd with its elaborate frieze and the occupation of Plazas A-I, II and II to the north of the Castillo along with occupation to the south within Group C.

The Terminal Classic provides evidence of occupation within the site core but at the same time, this is within a reduced site center as parts of the site are abandoned. Most specifically, we have argued that the area to the south of the Castillo is abandoned. Activity at the site appears to be focused upon Plaza A-I with Plaza A-II blocked off with access apparently only for the ruling family living within Plaza A-III. However, major constructions dating to the Terminal Classic seem to be limited to the upper sections of Structure A-1 and possibly modifications of Structure A-20. The site center is clearly in use during this time period, it is clearly constricted in size from earlier times but construction activity has decreased as the power and control of the

ruling family is under question during this period of political, social and economic chaos throughout the lowlands.

Excavation in 1995

Major and important excavations where undertaken during the 1995 field season at Xunantunich. This basic chronology is amplified with this research. Let me begin with the Castillo.

The Castillo

The Castillo remains the focus of much of our excavation and conservation work at Xunantunich. Two teams were focused upon the excavation of this building.

On the north and south sides, in preparation for tunneling operations, Julia Miller excavated and revealed a complex chronology of the staircases on both sides of the Castillo. For the first time, the south staircase was uncovered. This confirmed the argument which had been presented in previous writings. The final modifications and changes to these staircases seem to date to the late Classic IIB and possibly the Terminal Classic on the north. An interesting preliminary excavation was conducted on the south side about 1/2 way up the lower terrace. An inset staircase was revealed which connected to the lower outset stairs. This begins to provide us with a complex picture of the construction history of this building.

The north side did not prove viable for a tunnel operation. However, a tunnel on the south side has been started into the core of this building This work will continue in 1996.

A second tunnel has been initiated on the north-west side of the Castillo just in front of a section of Quetzal Building. This building revealed several interesting features. First, it uncovered a screen wall which had been built in front of and to block the front of Quetzal Building. Second, between this screen wall and Quetzal Building is a staircase allowing access up the Castillo to the east. The screen walls blocks visual access of people climbing up the Castillo. Third, a Quetzal Building doorway was carefully blocked off with well-cut stones and then carefully plastered. The further excavation of Quetzal, the screen wall, and the staircase will continue in 1996.

Detailed excavations of Structure A-20 revealed a most interesting and important building. The columns which mark the entrance to Structure A-20 on the east side were initially revealed in 1994 by Cynthia Robin. The 1995 excavations were conducted by Linda Neff. Through detailed excavations and analysis of the remains, a detailed construction sequence for the building has been identified. The details of these excavations and the sequence are carefully presented in a later chapter of this report. There are several important points to emphasize.

First, Structure A-20 apparently changes from a small single roomed structure oriented north-south with a secondary orientation of east west. By phase three, with the construction of rooms on the east side and columns marking the primary entrance, the orientation of this structure shifts to east-west. Second, these detailed excavations revealed two columns with a rubble core and veneer stones. The construction of these columns in phase 3 defines and demarcates the nature of this building and the access to

this building. Columns are unusual within the southern part of the Maya lowlands and I think provide us with part of the chronological picture for this structure.

Third, the fill of this structure contains Late Classic IIB sherds and one sherd which dates to the LCIIB/Terminal interface. This is clearly a late building which may have been finally modified around the time of the Terminal Classic. In fact, it appears that the building was ritually terminated - probably in the Terminal period.

Structures A-2, A-3, and A-4

Detailed excavations along the east side of Plaza A-1 in front of Structures A-2, A-3, and A-4 revealed an important construction sequence and development of terraces and activity areas in front of Structures A-3 and A-4. These excavations were conducted by Brandon Lewis (1995 Field Director) and Bevin Etheridge.

During previous excavations, a wall (Motmot) was identified which connected the southeast corner of Structure A-1 with the northern section of the front terrace wall of Structure A-3. The area to the north of this wall, we hypothesize, was restricted of access to the ruling family living within Plaza A-III. Structure A-16 - the stela house - was constructed to house a monument (perhaps already in place) which probably became a focus of private ritual activity.

Structures A-3 and A-4 were joined fairly late in the occupation of Xunantunich (Lewis argues for an 800 AD date). This creation of a single pyramidal structure on the east side of Plaza A-I coincides with the joining of the two outset staircases with a low terrace.

This series of constructions seem to emphasize Plaza A-I as the focal point of activity during the end of the Late Classic and during the Terminal Classic. The consolidation of both the upper and lower portions of Structures A-3 and A-4 create a vision of a single structure on the east side of this plaza.

Access to Xunantunich

Important research was conducted in 1995 on the access pints to the center of Xunantunich. This work was directed by Angela Keller.

During the Late Classic II time period, Keller has been able to identify three major access points into the main Xunantunich site center. First, there appears to be an access point from the west in association with Structure A-21. More detailed information is needed to define this entrance point.

A second access point has been defined in past seasons. This is Sacbe I which connects Group D with Group A. The sacbe enters Group A in the open space between Structures A-4 and A-6 (the Castillo). This was a wide (14 meters), formal sacbe with parapets on both sides. It marks a formal entrance into the site - but most importantly marks a formal connection between group A with its ruling family and Group D with its important secondary elite. Keller examined the sacbe route for possible entrance or exit points along its length and found only a single continuous roadway.

A third access point was identified during this 1995 field season This entrance as marked by an entrance structure to the east of Group A with the actual entrance being a massive staircase located between Structures A-2 and A-14. Unlike the sacbe which only connects Group D and Group A, this entrance seems to be a formal entrance for people along the east side of the site.

Both Sacbe 1 and this staircase entrance are constructed and used extensively during the Late Classic. However, in the Terminal Classic, massive staircase seems to have been dismantled eliminating this entrance. During the Terminal Classic, as argued above, Plaza A-II, the original entry point of the stairs, was off-limits for the general population and was the private domain of the ruling family. The elimination of the stairs and continuity of use of the sacbe fits and amplifies this model.

Tourist Relate Activities in 1995

Tourist related work during the 1995 field season formed a major part of the field season. First, an entire set of interpretive and locational signs were erected throughout the site. This is only the first phase of the planned signage for the site. A second, more detailed level of signs will be developed in 1996.

An ongoing problem at the site has been the need to eliminate food from the site core in order to eliminate garbage and animals. A new picnic area was built at the entrance area of the site. In addition, the well-known thatch-roofed hut located in Plaza A-1 and originally constructed by A. H. Anderson was finally torn down. There is now a new sitting area within the central part of the site - to the south of Ball Court #1 and a new picnic area at the entrance to the site.

Finally, a major new storage bodega was constructed near the upper entrance area. This will house all finds from past, present and future archaeological work at Xunantunich.

Excavation Plans for 1996

The basic work plan for 1996 at the ancient Maya city of Xunantunich is an extension of work that was initiated in previous years. As always, there is a strong connection between tourist related activities and ongoing research at the site.

The Castillo

One excavation team will focus upon an extension of the tunnels into the main core of the Castillo substructure. In 1995, one tunnel was initiated on the south side of the pyramid at ground level. A second tunnel was started on the north side in front of Quetzal Building. These two tunnels will be extended during the 1996 season.

These tunnels have two main functions. The first is to attempt to understand the construction sequence and development of this, the largest and most important, structure at Xunantunich. The second relates to conservation. The ongoing concern about the major cracks found on the surface of the Castillo will remain until we have learned more about the weakness in the substrate of this building. Only tunnels will provide the necessary information about the future preservation of this Castillo.

A second excavation team will work on the excavation of a variety of surface features on the Castillo. Several of these features include a possible ancient structure on the east side of the building in a same lateral position as Structure A-20 is located on the west side. Also, the staircase on the south side of the Castillo will be investigated in great detail.

Plaza A-III

A third excavation team will begin a two year investigation of this northern residential plaza. We believe that this group is the royal residence for the ruler and his family. Detailed excavation will begin the process of understanding of the construction history of this architectural group.

Site Center

A fourth excavation team will complete an entire series of needed excavations within the site center. This work will complete much of the ongoing research initiated in past years. The team will start on Ball Court #3 and determine the relationship between Structure A-22 and A-1. An examination of Ball Court #1 will also be initiated.

Tourist Related Activities - 1996

There are several primary tasks that we will attempt to focus upon for 1996.

Visitor's Center

First, we will construct the building which will serve as the Visitor's Center at the site core. This will, in fact, be a small site museum which will introduce the visitor to the ancient city of Xunantunich. Maps, drawings, photographs, and even a diorama/model along with text will provide a detailed vision of this ancient city. No artifacts will be displayed other than a few pot-sherds which will be utilized to explain the dating of the site.

The exact location and size of this Visitor's Center will be determined in January of 1996. However, the present plan, which was detailed with Harriot Topsey, calls for the construction of this center at the upper entrance to the site, joining the other permanent buildings which have been constructed at Xunantunich. The location of the wattle-and-daub structure presently at the site, in an extremely poor state of repair, is where Topsey and Leventhal had agreed to construct the new Visitor's Center. This new center will be about 1,000 sq. ft. in size. Several secondary plans have been discussed including incorporating part of the storage building into this Visitor's center. The final details of location and size will be determined with the project architect and the Belize Commissioner of Archaeology at the end of January 1996.

The interior of the Visitor's center will consist of several interpretive sections. The basic idea for this center is to provide the tourist with some basic and important information about the site - its ancient history, its modern history and perhaps even its future in terms of conservation. Because there is no electricity up at Xunantunich, the lighting and presentation of the exhibits will all have to be based upon natural light.

A preliminary overview of these sections follows:

1. Ancient chronology of site

(color coded maps, text, photographs, and drawings)
when was the site first built?
what was the construction development?
when was the site abandoned and why?

2. Presentation and interpretation of the friezes
(three dimensional casts, drawings, photographs, and text)
presentation of the friezes in detail
interpretation of the friezes

3. A model of the ancient city
(three dimensional model/diorama)
this would detail the ancient city at its high point (900 AD)
showing the buildings, the settlement, and the landscape

4. History of the site in modern times
(photographs and text)
when was the site first discovered in modern times?
who has excavated at the site?
what did these archaeologists do at the site?

5. Conservation of the ancient city of Xunantunich
(photographs and text)
problems of deterioration
temporary solutions
issues for the future

Preservation of the Castillo Friezes

The preservation of the two friezes on the east and west sides of the Castillo is probably the most important issue in our ongoing work on the Castillo.

The West Frieze

The fragment of the frieze which remains on the west side of the building has been excavated during the past three years and has been properly recorded and photographed. Consultation with specialists from Mexico clearly indicate that this plaster frieze can not be preserved if it is left open to the elements. In discussions with the Belize Department of Archaeology over the past 3 years, we have agreed that it would be best to produce a full-scale replica which would be placed immediately in front of the original. This would keep the original buried while at the same time provide a new focal point for tourist activity on the Castillo.

The East Frieze

The excavation of the east frieze on the Castillo revealed, more than fifty years ago, a well preserved fragment of detailed plaster sculpture. However, this frieze has deteriorated dramatically in the past half century and the frieze has required several complete refurbishment of its plaster face. This east frieze is again in a state of disrepair and will require some serious work. We have been searching for a long-term plan and

have consulted again with experts from Mexico including Sr. Luciano Cedillo, the head of conservation in the entire country for INAH.

The recommendation for the preservation of the east frieze is as follows:

1. partially excavate the buried room behind the frieze. This will create an air pocket which will stop the flow of moisture and salts onto the frieze.
2. Once the frieze has been stabilized, the frieze will again be refurbished and presented to the public.

Signs

A first level of signage has already been placed at Xunantunich during the 1995 season. In 1996, we would like to place a more detailed set of signs throughout the site. The purpose will be two-fold: first to direct the tourists to all parts of the site; and second to provide more detailed information about the ancient city. These signs will be tied to and will augment information presented within the new Visitor's Center.

New Trails

New trails around the southern part of the site will be cleared and visibly marked. These trails will allow the tourist to visit new parts of the site and also to view a variety of identified plants and animals.

Parking Lot and Buildings for Vendors

The official entrance to Xunantunich will remain within the upper area of the site area itself. However, the parking lot and its associated activities is crucial for a good visit and entrance to the ancient city. In 1994 and 1995, a new set of restrooms and a new picnic/eating area were constructed. In 1996, we propose to complete the next stage for this parking area.

This stage of work, within the parking lot, will consist of three basic activities:

1. a general clean-up and slight expansion of the present parking lot.
2. the construction of two small buildings near the parking lot for vendors. These building could be leased to vendors by the Department of Archaeology. These building would be very small 40-50 sq ft with a front window/table area to display the food and/or crafts. They would also provide a secure location for the storage of materials at night.
3. the construction of a staircase which would rise up from the parking lot and picnic area to the Visitor's Center and entrance to the ancient city.

Acknowledgments: There are large numbers of people who continue to be a major source of assistance for the Xunantunich Archaeological Project. The late Commissioner of Archaeology Harriot Topsey, Associate Commissioner Allan Moore and the entire staff of the Department of Archaeology provide the primary support and assistance for this ongoing archaeological project. In addition, Minister Henry Young and Permanent Secretary Victor Gonzalez continue to support enthusiastically the project and the proposed touristic developments. Ambassador Dean Lindo is another member of our support team.

Within Belize, the greatest thanks must go to all of our workers who are a major part of the team as we continue to uncover the history of Xunantunich. All the people of the Village of Succotz continue to support us and our work. Specifically, we would like to thank the Village Council Chair, David Magaña. Many people gave us permission to walk on, survey on or excavate on their land and we thank all of

them. We also want to thank Margaret and Rudy Juan for their hospitality and unceasing helpfulness as they solve new and continued problems.

This research comes together with the quality of the graduate students and professional staff. Few archaeological projects have a better crew. Thanks to Brandon Lewis (1995 Field Director), Julia Miller, Bevin Etheridge, Linda Neff, Tatiana Torres, Missy Morrison, Kevin Schwarz, Cynthia Robin, Mike Artemieff, Lady Harrington, Lisa LeCount, Ted Neff, Jason Yaeger, Sam Connell, Jenn Ehret, Angie Keller, and Jon VandenBosch. The settlement program continues to be directed by Wendy Ashmore, the Co-Director of the project. Her help this year while in the field allowed me to be in Los Angeles for the birth of Drew - Thank you Wendy!

Support for this project comes from the Government of Belize, USAID, the UCLA Faculty Senate, the UCLA Institute of Archaeology, and numerous private donors. The Getty Conservation Institute is an important partner in the project. Also, the advise of Rudy Larios V is always vital in the consolidation work and research of the major architecture. Let me also mention our longtime foreman, Florentin Penados, who is an important part of the XAP team.

We will all miss Harriot Topsey who died in an untimely automobile accident in the fall of 1995. He was a continued source of interest, ideas, and support. He was a friend for many years and I will miss him sitting in his office in Belmopan.

Settlement Archaeology at Xunantunich

1995

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Introduction

The Xunantunich Settlement Survey (XSS) was formed (1) to test current models for the integration of Classic lowland Maya society, and (2) to provide a social, economic, political, and perhaps ritual context for fuller understanding of the civic center of Xunantunich. Because the principal occupation at Xunantunich pertains to the Late and Terminal Classic periods (presently estimated as ca. A.D. 600-1000), we pay special attention to that span in the settlement research. We are concerned more broadly, however, with understanding the evolution of society in this part of the Belize valley. Combining previous research and current theoretical arguments, our working models have posited a fairly loose integration of society in this nonurbanized region. The Xunantunich focus allows us to examine how and to what extent society retained its organizational integrity during the stressful period of the ninth century, the time of the much-discussed Maya collapse (e.g., Ashmore 1993; Braswell, Keller and Yaeger 1994; Leventhal et al. 1992).

In 1993, we formalized a research design for addressing these questions (Ashmore 1993). The design called for (1) systematic archaeological survey via a series of transects (Figure 1); (2) test-pitting to augment chronological and functional information about a sample of sites documented by survey, (3) systematic geomorphological testing to track landscape development along the Mopán and Macal rivers, and (4) clearing excavations at San Lorenzo. The first two allow us to gauge the distribution of people and activities on the landscape through time, while the third helps us understand the changing riverine (especially alluvial) setting, and how its evolution may have facilitated or impeded human occupation. Excavations at San Lorenzo provide one of several intensive inquiries about the nature and integration of individual and clustered households.

Other XAP programs have developed in tandem or as offshoots of XSS research. Antecedent XAP research at Actuncan (McGovern 1992, 1993, 1994) and at Xunantunich Group D (Braswell 1992, 1993, 1994, 1995), and parallel work at sites in the vicinity of Chaa Creek (Connell 1993, 1994, this volume), all contribute in different ways to fleshing out the social landscape beyond the core of the Xunantunich civic center. Taken together with diverse inquiries by neighboring projects (e.g., Awe 1993; Ball and Taschek 1991; Ford and Fedick 1992; Garber, Reilly and Glassman 1995; Graham, Jones, and Kautz 1985; Healy 1990; Healy and Awe 1995; Willey, Bullard, Glass and Gifford 1965), the results of XAP research both reinforce and add important new elements to a well developing view of ancient Maya society in the Belize valley. A variant of this view is offered, in brief, under Discussion, below.

In 1995, XSS supported three complementary programs of research in 1995, and gave rise to a fourth. The cited trio of programs involved (1) completion of survey along three transects, (2) test-pitting in a sample of surveyed sites, and (3) continued excavation at the settlement cluster known as San Lorenzo. This article provides overview and commentary on all three, for which the primary presentations are elsewhere in this volume. The fourth, spin-off program--Jon VandenBosch's examination of household lithic economies at a sample of XSS surveyed sites--is still

actively in progress. A preliminary account was presented at the Symposium on Maya Archaeology in San Ignacio in May (VandenBosch 1995), as were summary views on the survey and San Lorenzo investigations (Ehret et al. 1995; Yaeger 1995).

Reconnaissance and Survey

The three principal archaeological transects defined in 1993 were successfully completed in 1995, essentially as planned (compare Figures 1 and 2). Pilot research had been conducted in 1992-93 (Yaeger 1992; Yaeger and Connell 1993; see also Ashmore et al. 1993; Yaeger and Ashmore 1993) and the first year of full survey implementation occupied the 1994 season (Ashmore et al. 1994, Ehret et al. 1995). A detailed report of this season's research is presented later in this volume by L. Theodore Neff, Cynthia Robin, Kevin Schwarz and Mary Morrison.

Two survey samples remain pending. For time and security reasons, we did not pursue the fourth archaeological transect, a box-like quadrat embracing Xunantunich from the west and south (Ashmore 1993). That is, local tensions along the international border here were sufficiently troublesome that we thought it more prudent to concentrate elsewhere, and indeed, completion of the other transects required the entire four-month season. We have hopes of surveying this area at a future date, as yet unspecified.

The geomorphological survey was deferred, for lack of appropriate personnel. We still consider this a critical part of our study, and continue attempts to see it completed.

Field methods were largely unchanged from 1994, with some exceptions necessitated by the terrain along T/A3. What was done and the rationales for doing so are outlined in some detail in the primary report . As a reminder, all transects are 400 m wide, to maximize capture of emic settlement units of more than the smallest scales. In addition, loan of a Global Positioning System unit by Dr. David Lentz enabled Neff to link the XAP grid system to UTM coordinates. And remapping two T/A3 sites within the area of Tipú studied by Graham and her colleagues has prospectively tied the XSS survey spatially to their data set.

Reconnaissance and mapping has now documented 280 discrete sites and 191 terrace sets within the 5.9 km^2 surveyed on transect. In aggregate, the transect lands yielded a mean density of 100 mounds/km^2 (Schwarz and Robin, in Neff et al., this volume), and some 7.1% of the total land is covered with terracing (Neff, in Neff et al., this volume). The three transects differed from one another in important ways, however, with respect to raw distribution of sites, as well as areally distinct developmental histories, elaboration of terracing, and indices of social integration. This reinforces our working notion that this regional landscape is a complex mosaic of resources, opportunities and constraints, and that our survey has tapped at least some of the evidence needed to understand the varied natural and cultural factors molding human settlement here.

T/A1, the longest and earliest begun of the three transects, was also the most densely settled. Individual mounds (as usual, provisionally considered foundations for largely perishable buildings) occur here with an overall density of 130/km^2 (Schwarz

and Robin, op. cit.), but distributed in aggregates suggesting the identification of ancient communities. Last year, VandenBosch defined several T/A1 clusters statistically (in Ashmore et al. 1994), and these corroborate visual inspection, isolating what we have come to think of as the Dos Chombitos, Chan, and [greater-] Xunantunich settlement aggregates (see also Robin [and Figure 7], in Neff et al., this volume, and Ehret, this volume: Figure 1). The terrain of T/A1 grows more broken and rugged as one moves east, but divisions between settled area are attributable only partly to topographic constraints.

Although our transect clearly incorporates but a portion of each "community," the seven-tier site typology developed last year (Ehret, in Ashmore et al. 1994) identifies intuitively plausible primary and even secondary focal sites integrating local settlement (Robin, op cit. and 1995). For the westernmost of the three aggregates, Xunantunich itself is arguably the chief integrator, although the pyramid known as the "Succotz mound" (O/A1-001, or the first-numbered site found near but outside transect 1) and nearby T/A1-006 seem likely to have served ritual functions integrating the eastern end of this "community" (Yaeger and Connell 1993). The Chan aggregate includes less obvious ritual elaboration, its key sites appearing more pervasively residential in form. Two large sites (T/A1-028, Type V; T/A1-110, Type VI), nearly equidistant from the Type VII Chan site (O/A1-005), conform to "central place" expectations for location and size of secondary foci in social integration here. Dos Chombitos, on the other hand, is dominated visually by a pyramid 12 m high, atop an extensive platform (at T/A1-161), somewhat more like the situation at O/A1-001. These two sites also overlook, respectively, the Macal and Mopán rivers, which locations doubtless affected their ancient roles in local and perhaps wider society.

T/A1 survey yielded not only the highest density of sites (176 in 3.13 km^2, or 56 sites/km^2), mounds (130 mounds/km^2), and presumably population, but also 146 of the 191 terrace sets recorded (Neff et al., this volume). (Although these densities are not sorted for chronology or site function, the raw numbers hint nonetheless at important differences in settlement.) The terrace-set typology worked out in 1994 (Gifford, in Ashmore et al. 1994) recognizes patterned variation in size (i.e., areal extent, as well as scale and number of individual terraces in a set) and linkage with presumed residences (Neff, op. cit.), and continues to suggest interesting potential variation in land tenure and management systems. Some terracing may be nonagricultural in function (Neff, op. cit.), and the largest and most elaborate XSS terraces resemble the largest and most elaborate of those around Pacbitún (Healy, personal communication, 1995) rather than the imposing and nearly regimented forms documented so impressively for Caracol (Chase and Chase 1987; Healy et al. 1983). Neff's (op. cit.) discusses the apparently preferential terrace siting on north- or east-facing slopes receiving cooler morning sunlight, and insightfully identifies this as perhaps a measure to conserve moisture and avoid scorching.

T/A2 is one of the two transects paralleling a tributary of the Belize river, in this case the Mopán. Terrain along it is the gentlest, least broken topography of the sample, although it is far from uniform or level. Some terracing was found, and its cobble construction reflects preferential exploitation of locally available materials. Site density is slightly higher than for T/A1, but still essentially comparable, at 59 sites/km^2 (91 sites in 1.53 km^2). Mound density is considerably lower, at 99 mounds/km^2, despite a

greater proportion of single-mound sites (Robin, op. cit., Table 6). Note that fully 14% of T/A2 sites have *no* designated type, which usually means they are altogether non-architectural. And no T/A2 sites are assignable to Types IV and V--types that are more than single informal or patio groups, but whose five or more mounds are all less than 2 m high. In other words, drawing on Robin's (op. cit.) valuable discussion of a developmental-cycle model for interpreting Xunantunich settlement forms, the landscape of T/A2 proper initially appears relatively "undeveloped" at the level of individual and clustered households. In part, however, this may be an artifact of our sample placement. That is, T/A1 cuts directly across settlement that appears to radiate from Chan, and it was "aimed" specifically at Dos Chombitos. T/A2, in contrast, deliberately skirted the separately studied settlement of Actuncan, a long-standing and integratively precocious place, with its 27-m high (and largely) Preclassic pyramid and probably Protoclassic stela (McGovern 1992, 1993, 1994). Certainly, the northernmost kilometer or so of T/A2 crosses a settlement aggregate, the one we call Callar Creek, and this "community" includes the one site each of Types VI (T/A-047) and VII (T/A2-087) in the transect.

T/A3 is the shortest of the transects, with the most challenging terrain. Roughly paralleling the Macal, this transect sampled terrain quite the "opposite" of gentle Mopán settings, here traversing steep inclines (safety considerations permitting!) interspersed with upland "valleys" (as around Dos Chombitos) and alluvial pockets (as around Tipú). Even rather steep slopes contained clear evidence of settlement, as at the north end of the transect. Site and mound densities are unsurprisingly low at 10/km^2 (13 sites in 1.24 km^2) and 25/km^2, respectively, inasmuch as some settlement is doubtless masked under alluvium (Neff et al., this volume), much other terrain *is* probably simply too rugged, and again we have skirted two settlement nodes, Tipú and Guacamayo.

The well-known node at Tipú originally extended probably several hundred meters west from the Colonial site made so well known by the work of Graham, Jones, Kautz (1985) and their colleagues. Although it has been largely obliterated by citrus orchards, several groups remain visible at the west and east ends; we look forward to articulating our settlement studies with Graham's, especially with respect to occupation before the Postclassic period (see below and Graham 1987).

The other settlement node skirted by T/A3 is Guacamayo, an imposing site overlooking the east bank of the Macal, ESE of Tipú (Neff et al., this volume). Its location appears nearly equidistant from Buenavista and Xunantunich, and only slightly farther from Pacbitún, to the east. The site was too large and architecturally complex to map this season, but is clearly important to understanding the region. With continued encouragement from landowner David Simpson, we hope to include examination of this site in an upcoming season (Ibid.).

Within the area actually sampled by T/A3, settlement seems as developed, in Robin's terms, as that on T/A1. The only site type not represented is Type VII, the largest, most complex and imposing. Again, that is probably a function of passing by (not across) Tipú and Guacamayo, and by the Dos Chombitos site core (T/A1-161), the southern origin of T/A3, being "counted" as part of T/A1.

Developmental histories of the three transects are treated in some detail by Robin (in Neff et al., this volume; see also Robin 1995) from the data available through survey (i.e., surface collected ceramics, and those from shovel test-pits [STPs]). It is this data set that allows her to propose the aptness of the developmental cycle (e.g., Haviland 1988; Tourtellot 1988; cf. Goody 1958) as a model for advancing hypotheses both about individual household-level sites and about evolution of Xunantunich-area settlement more generally. Although she describes the full trajectory of XSS-area occupation, from Preclassic to Terminal Classic, she focuses attention on the Late and Terminal Classic. As in 1994 XSS and other analyses (e.g., Ehret, in Ashmore et al. 1994; Leventhal 1994), the Terminal Classic is viewed as a time of settlement contraction, presumably related broadly to the diverse social stresses described for this time period in much of the central Maya lowlands and adjoining areas. Robin draws further attention, however, to the high proportion of site Types I and II in the Late and Terminal Classic, noting that the ratios run counter to Tourtellot's predictions (confirmed at Seibal) that with full expression of the developmental cycle, "new units with few dwellings should . . . be in the minority and units with many dwellings in the majority" (1988: 106). She makes the intriguing suggestion that the XSS sample may exemplify Late Classic truncation of family growth or changes in preferred residence-group composition, from extended to other family forms (see also Rice 1988; compare Tourtellot's [1988: 118] comments on Dzibilchaltun).

One further aspect of the XSS chronology worth emphasizing is that nowhere were Postclassic remains encountered on transect. Indeed, the only diagnostically Postclassic materials found anywhere in the region were *at Tipú itself* (Neff et al., this volume). Although the literature suggests scattered persistence of occupation in the region generally (e.g., Schmidt 1974, 1978), our hopes of the systematic survey's encountering at least traces were not realized. Xunantunich and its hinterland may have survived the immediate period of the collapse, but during the same period when Xunantunich ceased to function, so did its hinterland.

Test-Pitting Program

To augment and test the preliminary chronological sorting provided within the survey proper (Ashmore 1993), Jennifer Ehret developed and carried out a separate test-pitting program at a sample of surveyed sites (Ehret, this volume). The sample was stratified, roughly proportionally, by transect, area within transect (i.e., within or between observed or inferred clusters), and site type. Because of the questions asked, and generally small pool, sampling was purposive, and the "rough proportionality" allowed flexibility, especially for amplifying tests in rare site types. Several interpretively important sites off-transect were also included, such as the Chan site itself (O/A1-005).

Drawing on the type-variety-mode approach (Gifford 1976), Ehret completed a preliminary analysis of ceramics from the test-pits, doing so over several weeks following the close of the regular field season (Ehret, op. cit. and 1995). Functional analyses await completion of lithic and other artifact studies, and further consideration of the ceramics. The result outlines chronological development within transects and the 10 zones Ehret isolated within those transects (see her Figure 1, this volume). As a whole, the chronology provides further confirmation for the Middle Preclassic to Terminal Classic span described previously for the Xunantunich environs (e.g., Ball

1987; Ehret, in Ashmore et al. 1994; LeCount 1992; Thompson 1940). Most noteworthy here is the newly discerned and quite interesting localized variability in occupation history.

Ceramics from the Middle Preclassic, for example, are quite widespread across the sampled sites, with two principal exceptions. One is the [greater-] Xunantunich Zone, which, for this program, encompassed only sites on the east side of the Mopán (see discussion by Ehret, this volume). This is particularly striking in that the west side of the river, not accessible for testing this year, is the location of a possible Middle Preclassic center, as suggested by results of 1994 tests at site O/A2-001 and Xunantunich Group E (see Robin et al. 1994; Ashmore 1994, 1995). The Dos Chombitos Zone is the other area yielding few Middle Preclassic materials, and Ehret suggests the contrast in setting between that and the Negroman Zone (i.e., the greater Tipú/Guacamayo area of T/A3) may account partially for the seeming rarity of Middle Preclassic material in one and its abundance in the other.

The Late Preclassic is when Ehret believes the settlement clusters evident now began to emerge (see also Ehret et al. 1995). She cites particularly Dos Chombitos, Chan, Actuncan (the zone, adjacent to the site of that name), Callar Creek, and the small tested sites of Negroman (Tipú area).

The Protoclassic is a notoriously problematic time span, at least as represented ceramically (e.g., LeCount 1994). Traces were recovered intermittently among T/A1 sites. It seems relatively well represented in the Dos Chombitos and Negroman Zones, however--that is, along the Macal. And T/A3, especially in the Callar Creek Zone, its occurrence is relatively strong. Indeed, it appears that an early version of the main platform of T/A2-087, the main Callar Creek site (Ehret, this volume: Figure 10), may pertain to this period.

The Early Classic is another problematic period for recognition via ceramics (e.g., Ford 1985; Fry 1990; Lincoln 1985). Diagnostics were fairly widespread in test-pit samples, however. Ehret sees it as potentially a time of continued occupation or even growth, a view espoused for this area by Ball (1987: 9) as well.

One of the most intriguing findings from the test-pitting program pertains to the early part of the Late Classic--LCI in XAP terminology (LeCount 1992). Although LCI diagnostics were encountered widely across test-pitted sites, the strength of representation in the Callar Creek Zone, and especially at Callar Creek itself, leads Ehret to propose a link with the florescence of Buenavista del Cayo. The latter site is on the opposite bank of the Mopán, slightly north of Callar Creek, and its peak development pertains to approximately this time period (Ball 1987; Ball and Taschek 1991; Taschek and Ball 1992). Calling attention to the enigmatic row of limestone "stumps" on the lower northern platform of T/A2-087, suggested by Tom Jamison as possibly the remains of stelae, Ehret describes the line of them as perhaps pointing toward Buenavista. She also speculates that they were destroyed deliberately when Buenavista was eclipsed by Xunantunich as a local power node.

The latter part of the Late Classic (LCII) is the period represented most pervasively in XSS tests. The Callar Creek Zone is somewhat exceptional in this regard,

in that Ehret sees a decline here, a development she again links tentatively to shifting political power, from Buenavista to Xunantunich.

The Terminal Classic is again portrayed as a time of contraction and appears to be so within the established aggregates (cf. Robin, in Neff et al., this volume). No Postclassic traces were encountered in test-pitting; as noted earlier, Postclassic materials have been found by XSS only at the site of Tipú.

Excavations at San Lorenzo

The settlement cluster at San Lorenzo continued as the subject of intensive clearing excavations by Jason Yaeger. His aims are, paraphrasing his words, to test a model of the structure and organization of rural Maya communities in the Late and Terminal Classic. In discussion here and elsewhere, he argues that we need a new research focus at the level of local *communities*, to complement burgeoning studies of individual households, as well as more traditional approaches dealing with civic or urban centers (e.g., Yaeger 1995). He identifies San Lorenzo as potentially the remains of such a community, representing an important mid-range level of social integration and interaction. Like Robin (but independently), he finds the household developmental cycle a productive model through which to examine the material evidence for households, and the behavior of their occupants.

In 1995, he continued excavations at two patio groups, SL-22 and SL-24, and began and completed clearing SL-34, San Lorenzo's sole informal group (i.e., not arranged orthogonally around a patio).

At SL-22, expanding further this year from his own (1994) and Sabrina Chase's (1992, 1993) excavations, Yaeger has documented an elaborate sequence of construction and modification within and between the constituent structures. The material definition of usable spaces shifted significantly as the group evolved, executed in a remarkable diversity of construction styles and materials (e.g., the size and shape of masonry). The structures of the group differ in form and material delimitation of interior space; Str. 3, on the south, had a sizable masonry bench with sloping "arm-rest" features at each end. Yaeger found further evidence this year, suggesting increasing expediency in construction between the Late and Terminal Classic periods, and encountered signs of continued use of Str. 3 even as the vault of its main room underwent collapse. Although analysis of artifact assemblages is still in preliminary stages, ceramic evaluations outline a chronology of occupation clearly spanning the Late and Terminal Classic; de facto refuse attests to functional distinctions among the different domestic buildings and exterior spaces (cf. Ball 1987: 4).

Excavations at SL-24 completed work begun in 1994. There, too, the individual structures differed from one another in form, building materials, and the arrangement of space. Both structures have benches. Multiple building episodes are datable ceramically to Late Classic II times. Among other things, Yaeger identified a hearth area whose use was maintained into Terminal Classic times.

SL-34 consists of two mounds, each only about 25 cm high. Despite their unprepossessing scale, Str. 1 proved complex in preserved layout, and considerably larger in area than originally thought. Upon closer inspection, Str. 1 more than doubled

in mound area, from 15 m^2 to 32 m^2, not counting the extremely low 5-m-wide terrace found on excavation to extend from its south façade. Deposits of daub testify to the nature of a perishable superstructure. Str. 2 is some 30 m^2 in extent, and seems to have had a somewhat shorter, and probably later, occupation span than Str. 1. Most material from the group dates to the Late Classic, with scant, somewhat ambiguous evidence for possible continuation into the Terminal Classic. Yaeger hypothesizes that occupants of both were descendants of residents of one of the larger nearby groups.

From Yaeger's work, San Lorenzo emerges as an intricately structured palimpsest of growth and decline within the span of the Late and Terminal Classic, including complex evidence of architectural development and modification, as well as hints (pending further detailed artifact analysis, for example) of changing patterns of consumption and social interaction. San Lorenzo data have suggested or corroborated evidence for significant shifts in the nature and strength of social integration, within the local community and in its relations with the larger polity and its rulers (e.g., Braswell, Keller and Yaeger 1994; Yaeger 1995; Yaeger and LeCount 1995). The picture Yaeger and his collaborators paint suggest Late Classic San Lorenzo was well integrated internally and with its Xunantunich neighbors and overlords (Braswell, Keller and Yaeger 1994); Terminal Classic population decline at San Lorenzo (Yaeger 1994), a decrease in labor investment in both architecture and ceramics (LeCount 1992; Yaeger and LeCount 1995), and apparently a reduction in feasting, along with, implicitly, the attendant rituals binding the members of this small community on an ongoing basis (Ibid.).

I cannot do justice here to the strength and insights of these authors' arguments, nor those of contributing authors cited earlier in this summary. My intent is to publicize further their broad conclusions--and to call attention once again to the very thoughtful anthropological interpretations beginning to coalesce, individually and collaboratively, from multifaceted research of Xunantunich team members.

Discussion

Xunantunich settlement archaeology in 1995 has provided a much fuller picture of the variation in occupation of the landscape east and north of the civic center, and has enriched the detail with which we can trace and begin to understand localized oscillations of growth, decline, and social change.

Perhaps the single most definitive finding is the absence of Postclassic traces from the areas examined. Tipú appears increasingly isolated, although Ball (1987: 13) notes small-scale occupation at Nohoch Ek in this period. The previously inferred resilience of the regional populace in the wake of the Classic collapse is reduced (Ashmore 1993). Indeed, an important part of our inference concerning such resilience hinges now on refining the chronometric alignment of our largely style-dated ceramic sequence. Among other things, we need to know more precisely the sheer duration and temporal placement of the period we recognize by the remains of Terminal Classic pottery.

Earlier in the sequence, our broad expectations are confirmed and refined. XSS settlement begins in the Middle Preclassic here, as in adjoining areas. Judging from STP and test-pit evidence, however, growth curves are far from uniform across space. This

is hardly surprising, but even allowing for possible sampling error, the nature of emergent patterns is of great interest.

Middle Preclassic remains themselves do not appear to be ubiquitous, though they are widespread. There was possibly a Middle Preclassic civic center near Xunantunich, evident last year at Group E and O/A2-001, coeval with early developments farther north. By the Late Preclassic, Actuncan supported a pyramid with elaborate masks (McGovern 1994), and Ehret suggests the settlement clustering so evident in the Late Classic had begun to emerge. Communities were clearly forming, and rather imposing local political capitals appear, on a par with Cahal Pech, El Pilar, Blackman Eddy, and other places beyond the local Belize river drainage. The Protoclassic is well represented, and may include monumental construction at Callar Creek. This is an intriguing contrast with Ball's (1987: 8) findings for close by in the same time span; it will be instructive to compare proveniences examined. Also recall that the stela at Actuncan is style-dated provisionally as Protoclassic, suggesting that the time span is one of local prosperity, whatever the resolution of controversies surrounding Floral Park ceramics and this period generally. Occupation in the Early Classic seems widely attested by XSS; Ehret's attribution of possible growth is consistent both with Ball's (1987: 9) assessments and with continued prosperity provisionally inferred for Actuncan (McGovern 1994).

The Late and Terminal Classic periods are those of central interest here, however, for they are the span in which we seek to understand the linkages between Xunantunich and what we have considered its hinterlands. Ehret's recognition of LCI florescence in and around Callar Creek is intriguing in itself, and the more so for her proposal relating this potentially to florescence of nearby Buenavista del Cayo. LCII times seem to have witnessed maximum occupation in the survey area, as elsewhere (e.g., Sabloff and Henderson 1993). We are eager to know how the elaboration of (yet undated) terracing relates--causally and in time--to the implied population maximum. If we can use the unsorted XSS mound densities as a reasonable initial proxy for LCII population measures (cf. Culbert and Rice 1990), we do note that our figures reinforce the rural nature of settlement in this region (see especially Ford 1990). Spatial clustering and discontinuities in that settlement likewise point to a series of small, discrete communities, along with the sequence of relatively small political capitals, rather than any single large urban complex. Such inferences are far from new in this region; what's added is fuller concrete documentation of interrelated evidence in the XSS survey zone (see also the complementary view in Ball and Kelsay 1992: Figure 10-1). We recognize that ours is still a fairly tightly bounded sample. Even considering only the large end of the site spectrum, we acknowledge we can't yet assess well the roles played by Guacamayo to the east (Neff et al., this volume), or Arenal to the south (Las Ruinas; Ball and Taschek 1991), let alone Guatemalan sites between Xunantunich and Naranjo--among other relevant expanses. Nevertheless, with the strength of the cumulative research that has been done in this general region, the picture that emerges is increasingly detailed and clear.

How were these communities integrated, internally, with respect to one another, and in relation to overlords--at Xunantunich or otherwise? And how did the form and mechanisms of integration change between the Late and the Terminal Classic? The answers to these questions are just beginning to emerge, sometimes as observations

from data analysis (e.g., Braswell, Keller and Yaeger 1994; Ehret et al. 1995; Leventhal 1994; Yaeger and LeCount 1995) and sometimes as hypotheses for new rounds of testing (e.g., Robin 1995; Yaeger 1995). Political, ritual, social, and economic factors have all been invoked, and arguments plausibly developed, concerning evidence for feasting and ritual, specific veneration of local or royal ancestors, architectural elaboration of dedicated ritual and administrative space, vertical reciprocity of labor for prestige rewards, and so on. Evidence for these mechanisms seems strongest in LCII times, and this is the time of maximum expansive development within the civic core of Xunantunich. Robin's interpretations (this volume) suggest that growth was perhaps short-lived, or its development otherwise altered, at least in the areas surveyed. And settlement findings, from survey and test-pitting as well as in the details available from San Lorenzo, suggest marked retrenchment and decline among the populace at large, in a manner paralleling the contraction of space and arguably authority evident in the civic core (e.g., Ashmore 1995; Leventhal 1994).

We still believe, but cannot demonstrate, that Xunantunich itself owed its florescence to a larger context of stress, attendant on late 8th century disintegration of authority at Naranjo (Ashmore 1995; Ashmore and Leventhal 1993; Leventhal et al. 1992). We know that Xunantunich prospered then and survived the Terminal Classic, but not longer. And we are now pretty certain the great bulk of the populace immediately north and east of the civic center likewise declined by the end of that span. What remains is continuing concerted analysis of the myriad bodies of evidence gathered by XSS and other XAP programs, to further the approaches cited earlier, and others, toward resolving how the various components of society were organized, and what went wrong.

Future Directions

The principal fieldwork goals of the Xunantunich Settlement Survey have been attained. Some specific fieldwork remains, as noted as the outset of this report, and as noted, analysis of the whole data set is very much in its initial stages.

As important, the work accomplished within XSS has inspired several further lines of investigation, some already begun. One is VandenBosch's study of household lithic economies, cited earlier. Another is Yaeger's continuing work at San Lorenzo, to be completed in 1996. And three new programs are under development, all of which are slated for pilot work in the 1996 season.

Robin will begin examination of Type I and II sites on T/A1. Building from analyses this year, she will consider more closely the structure and organization of occupation in what she posits are newly established household groups, where developmental cycling was truncated or altered. Ehret will look at sites at the other end of the XSS organizational continuum, specifically the Chan site (O/A1-005) and Dos Chombitos (T/A1-161). She will probe evidence for their development as contrasting local seats of social, political, ritual and/or economic authority. And Neff will develop a program nicely complementary to the foregoing, to increase understanding of the extensive and varied terracing documented in the area. Among the issues available for his scrutiny are not only the specific uses of individual terraces and terrace types, but also the relation of terracing to residential settlement.

ACKNOWLEDGMENTS: The Xunantunich Settlement Survey (XSS) was formed in 1992, at the invitation of Richard M. Leventhal, Director of the Xunantunich Archaeological Project (XAP). As part of XAP, we have pursued research under permit from the Department of Archaeology, Ministry of Tourism and the Environment, Belize. We gratefully acknowledge support and encouragement from Dr. Victor Gonzalez, Permanent Secretary of the Ministry, the late Mr. Harriot W. Topsey, Archaeology Commissioner, and preceding and subsequent Acting Commissioners, Messrs. John Morris, Allan Moore, and Brian Woodye. We will--*I* will--miss greatly Harriot's energies and many contributions to our work and our lives. Ms. Teresa Batty has also facilitated our work greatly and with unfailing good humor. Funding has come from the National Science Foundation (SBR93-21503) and the University of Pennsylvania, as well as general and generous support from XAP and Dr. Leventhal. We owe much to the men from Succotz and Benque Viejo who have worked with us and shared their knowledge of the local landscape. Most particularly, we thank Don Lucresio Chan for his gracious and untiring leadership of our local crew. We greatly appreciate the friendship and support of Rudy and Margaret Juan and their family, and the residents of San Jose Succotz, Benque Viejo, and San Ignacio Cayo. Many of these families have allowed us generous access to their property, and we are immensely indebted to them, individually and collectively, for allowing us such opportunities. I extend personal thanks to all members of XAP, and particularly those who signed on with XSS and gave so much of their time, energy, enthusiasm, and intelligence to gain the insights we now share about local settlement: Sam Connell, Jennifer Ehret, Chad Gifford, Missy Morrison, Ted Neff, Cynthia Robin, Kevin Schwarz, Jon VandenBosch, and Jason Yaeger. Special thanks to Mike Artemieff, Tom Jamison, Brandon Lewis, Julie Miller, and Richard Leventhal, for friendship, unceasing support, and constructive challenge.

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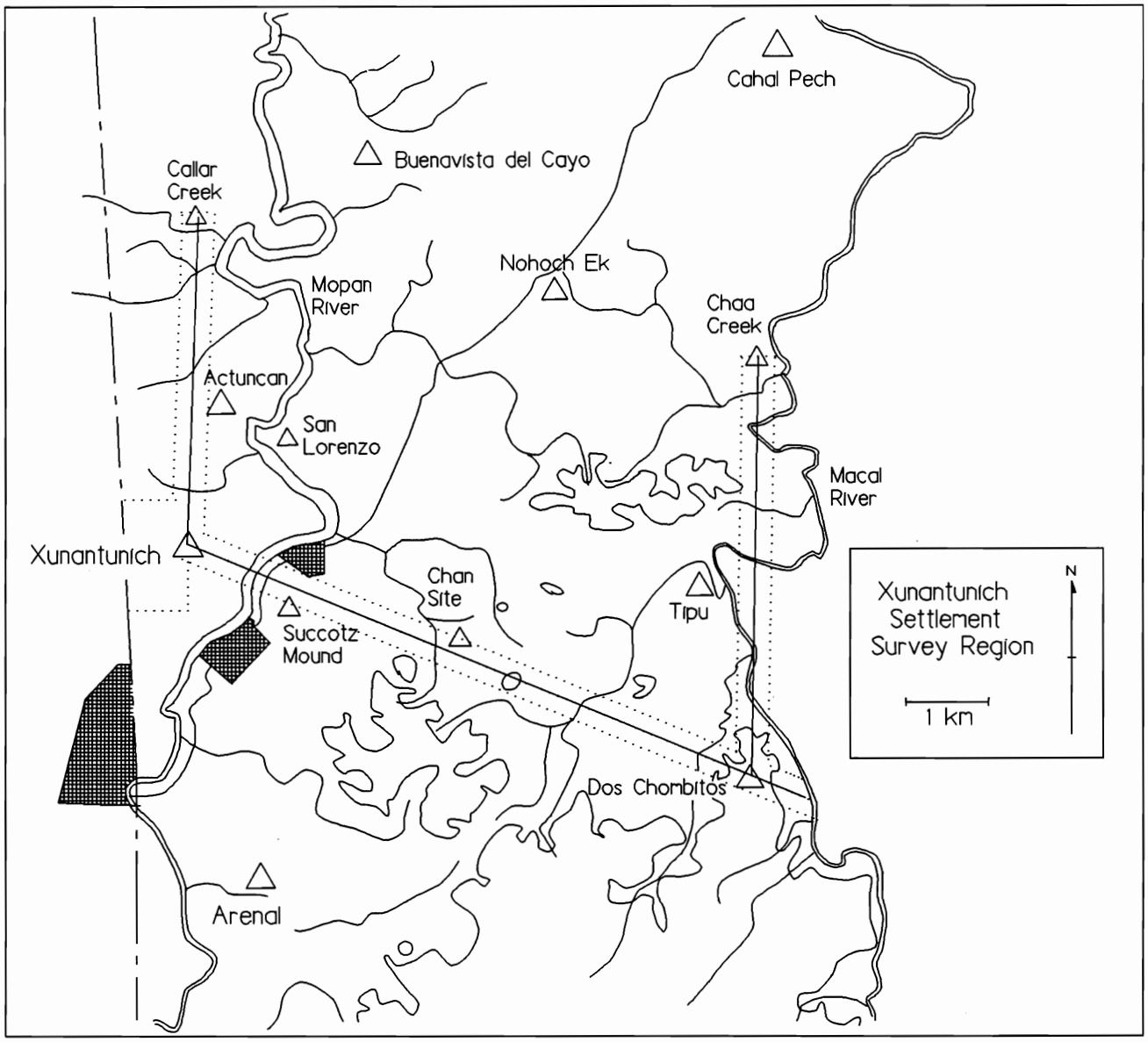

Figure 1. Xunantunich Survey Area and Transects, as conceived in 1993.

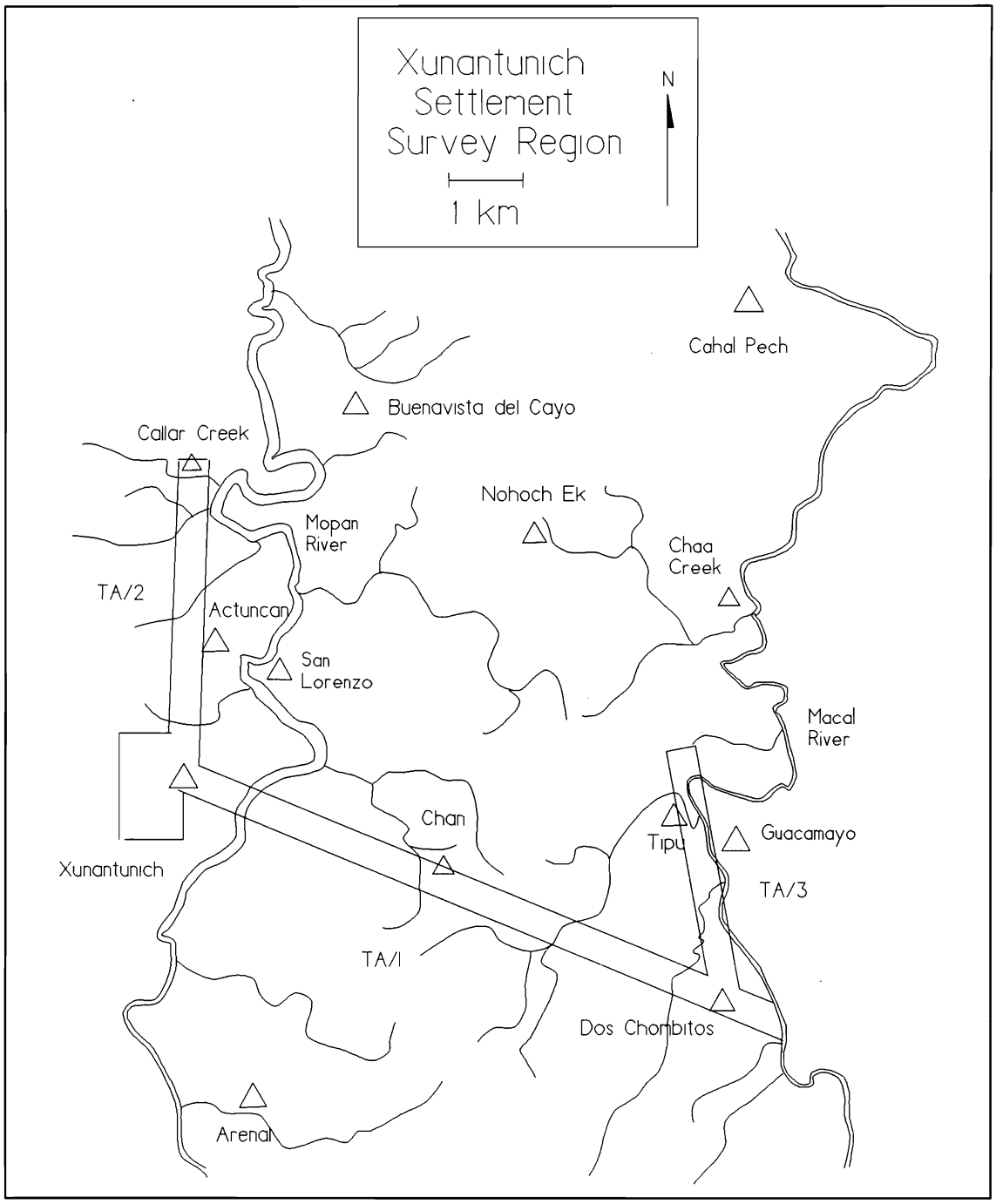

Figure 2. Xunantunich Survey Area and Transects, as accomplished by 1995.

Tunneling Excavations in El Castillo

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Introduction

The Castillo at Xunantunich has been the focus of archaeological research since the 1950s (Department of Archaeology 1970, 1991; Satterthwaite 1950, 1951; Mackie 1961, 1985; Leventhal et al. 1992; Sanchez 1993; Robin 1994). This research has concentrated primarily on the final phase architecture and on the stucco frieze on the east and west sides of Str. A-6-2nd. This has yielded information on the final plan and appearance of the Castillo as well as the final stages of the growth but did not reveal much about the early phases of its developmental history of this large platform with its complex of buildings.

In general, it is difficult to reach the earliest levels of platforms as large as the Castillo. These levels are usually deeply buried and may be reached only through using very large, deep trenches or by using tunnels. Deep trenching operations on a platform of this size would require removing an enormous volume of the fill and would reveal very limited areas of the earliest construction phases, due to restrictions on trench size. Tunnels present a more flexible and less destructive method of locating and excavating deeply buried buildings. In tunneling excavations, a much smaller volume of fill is removed. Tunnels may be redirected in response to the architecture which is encountered in the course of excavation allowing more to be exposed than in a trench which removes an equivalent volume of fill.

However, tunnels have a major limitation. The fill of the structure to be tunneled must be of a type that is sufficiently dense and cohesive that the upper levels of the fill will not collapse when a tunnel is dug through the lower levels. This issue was a particular concern about the Castillo because the 1993 trenching operation in Str. A-1 (Zeleznik 1993) had revealed very loose fill which would not have been suitable for tunneling. However, a test pit excavated in 1994 into the western wing of the Castillo (Robin 1994) exposed an earlier building, known as Quetzal building, which had been buried in its entirety. The fill which had been used to bury this structure was sufficiently dense and cohesive to be a good candidate for tunneling.

The goals for the tunneling program for 1995 were, first, to test whether it was possible and feasible to excavate tunnels in the Castillo. Second, to begin to document earlier construction phases of the Castillo. Third, to locate and enter the north side of the Quetzal building.

Three areas were chosen to test the feasibility of tunneling excavations in the Castillo (Fig. 1). Two of these were at the base of the platform: Ops 166 and 187, on the north side, east of the staircase; and Ops 167 and 196, on the south side, exposing the base of the staircase with the tunnel to the west of the staircase. The third area is also on the north side of the Castillo, on the western wing of the platform, at the base of the platform supporting Str. A-20: Ops 197 and 204. These excavations will be described below. For each excavation area, the description begins with the location of each of the operations and a brief summary of the architecture and is followed by the architectural sequence of the area.

Terminology

Terms such as platform, structure, substructure, building, and terrace are used following the definitions in Loten and Pendergast (1984). In addition, the architectural sequences revealed in each of the operations discussed below will be presented in terms of construction events. A construction event is defined as the initial construction or any subsequent modification of an architectural feature, including, but not limited to, additions, replastering, repainting, resurfacing floors, partial or complete destruction, and partial or complete burial (Miller, n.d.). This term is preferable to other terms, which refer to the occupation or use of a building, when dealing with sequences of buried architecture with few or no artifacts found *in situ*, and thus no indication of the actual occupation or use of the structures.

Methods

Two types of excavations were used in these operations: clearing excavations and subsurface or penetrating excavations (trenches and tunnels). The methods for each will be discussed separately.

Clearing excavations

The clearing excavations were located in areas which were judged to be good possibilities for tunneling excavations. Each location was assigned an operation number. Within each operation every unit which was opened, to expand the surface area being excavated, was designated a suboperation. The size of each suboperation was determined by its relationship to the architecture being exposed. Suboperations were between 1 and 2 m wide and between 1 and 5 m long. In certain cases, suboperations which were more than 2 m long were subdivided further into smaller units using the lots. Vertically, lots were changed based on natural stratigraphy with thicker strata being arbitrarily subdivided into 20 cm or smaller levels. All lots, with the exception of the surface lots, were screened and all artifacts were collected.

Penetrating excavations

The penetrating excavations began when the upper surface of the final phase of architecture was broken and the initial test pit or trench was started. The upper surface of the architecture was defined as the point where a preserved stucco surface was encountered or where the matrix changed from overburden to structural fill, based on changes in soil color and type and orientation of the stones in the matrix. At that time, a new operation number was assigned. In the subsurface excavations, the suboperation designator were changed each time a stucco surface or a wall was removed. In this way, all of the lots associated with a single construction episode were given the same suboperation designator.

The size of the initial testpit or trench was determined by the size of the original surface excavation. When the excavation changed from a trench to a tunnel, the size and shape of the tunnel were determined by several principles, following those developed by the Early Copán Acropolis Program, Copán, Honduras (Sharer *et al.*, 1992). The width of the tunnel, 1.2 m at the base, is determined by the width of a wheelbarrow. The height of the tunnel, 1.8 m in the center, is determined by the height of people, wearing hard hats, working in the tunnel. The tunnel is shaped like an arch, widest at the base and rounded on top. The lots in the subsurface excavations were changed based on both soil characteristics and by horizontal distance in the excavation.

Each lot was 1 m or less in horizontal extent and varying thickness, depending on the soil characteristics and architectural features. Lots were screened with the exception of those in which the matrix was determined to be sterile after screening previous lots from the same fill event.

The feasibility of tunneling in each location was determined by the author in consultation with Rudy Larios, Getty consultant to the Xunantunich Archaeological Project, and with the excavators who would be digging the tunnels. A number of factors determine the feasibility of tunneling, with safety being the overriding concern. The first factor is the type and compactness of the soil matrix holding the stones which were used in the fill. The soil must be firmly packed with no pockets of loose soil or of pockets with no soil between the stones. Fine grained soils are more suitable for tunneling than coarser grained soils. For example, soils which contain sand are less cohesive and therefore less appropriate for tunneling. It is not possible to tunnel in loosely packed soils. Second, the distribution of the stones used in the fill. In general, the stones should not be in direct contact with one another, with no soil between them. When the stones are surrounded by compacted soil, the soil holds the stones and prevents them from falling from the ceiling of the tunnel. The higher the ratio of soil to stones, the more likely that tunneling will be feasible. The third factor to consider is the thickness and type of material above the entrance to the tunnel. If the tunnel is entering at the base of a structure, the final phase architecture above the tunnel entrance should be cleared so that the preservation may be assessed. It is safer to tunnel below well preserved or consolidated masonry architecture, which has structural integrity, than to tunnel below unconsolidated architectural fill. If the tunnel must be started below unconsolidated fill, there should be a vertical face of material at least two meters thick above the entrance to the tunnel. If the tunnel does not pass below preserved architecture, this vertical face allows the overlying matrix to be assessed in cross-section for type and stability and leaves sufficient unexcavated material to support a person passing above the entrance to the tunnel.

Ideally, the tunnel entrance will be beside an architectural feature such as a terrace or building wall with a stucco floor forming the base of the tunnel. This ensures that the tunnel is at an occupation level increasing the probability of locating other architecture and special deposits. The tunnel then follows the known architecture, branching as it encounters other structures. It is possible to excavate a tunnel through fill without a structure for a guide but the information gained from this sort of tunnel is limited in value.

North Side, Base of the Castillo

Operation 166

This operation was a surface excavation operation. It was placed at the base of the staircase on the north side of the Castillo. The goals of this operation were to define the base of the staircase, locate the lowest terrace of the substructure, and assess the preservation of the final phase of architecture in preparation for choosing the location for a tunnel. In the course of excavation, these goals were expanded to include two trenches to reveal the preservation of the final staircase and of the terraces at the base of the Castillo. Operation 166 was composed of 21 suboperations (A-U) and exposed a total of 57 m^2 (Fig. 2). The three components of Operation 166 were as follows: clearing the eastern end of the base of the staircase and the base of the terraces (8

suboperations: A, B, C, D, E, G, J, S); clearing a 1 m wide trench to reveal the staircase (7 suboperations: K, L, M, N, O, P, Q); clearing a 1.5 m wide trench to reveal the terraces to the east of the staircase (5 suboperations: H, I, R, T, U). Suboperation F was a surface finds suboperation.

Suboperations A and B were the reexcavation of an earlier, backfilled archaeological excavation. It is not currently known when this excavation was conducted. A later version of the main staircase on the north side of the Castillo than the consolidated version was exposed. In addition, the previous excavation included a testpit in front of the staircase, cutting the lowest two steps and revealing two earlier plaza floors.

The architecture at the base of the platform, the first terrace and the slanted outset beside the staircase, was well preserved. The staircase was very poorly preserved with secure evidence for only the lowest five steps. In the excavation of the upper parts of the staircase, there were many lines of stones which could have been steps but there were none that could be securely identified as such. The upper terraces were also very poorly preserved. There was no evidence for a third terrace and the fourth terrace was preserved to only one course. A low platform north of the first terrace was preserved to its full height but the northern end of the platform was destroyed.

Operation 187

This operation was a 1.8 m (N-S) by 1.2 m (E-W) test pit placed between the first and second terraces on the north side of the substructure of the Castillo. The goal of this operation was to tunnel into the platform and expose the construction sequence on the north side of the Castillo. However, the fill of the terrace was so loose that this operation was terminated without being extended into a tunnel. Three suboperations were defined in Op 187 (A-C).

This operation primarily revealed a series of decayed stucco terrace surfaces. In addition, one small wall associated with one of the surfaces, was exposed in the western side of the unit.

Architectural Sequence

The earliest construction events revealed in this area are the remnants of 2 terrace surfaces with no associated terrace walls, in Op 187. These surfaces were badly decayed. The second of these appears to be a resurfacing of the first, placed directly on top of the earlier surface. The terrace wall which was associated with these surfaces was destroyed in antiquity.

The next construction event is the resurfacing or reconstruction of the lowest terrace, increasing the height by 0.12 m, and the construction of the slanted outset beside the staircase (Fig. 3). This slanted outset extended further to the south, over the surface of the lowest terrace at that time. The remnants of this wall were found in Op 187 but it had been destroyed and buried in antiquity. The stucco surface of the first terrace was cut and the terrace wall was destroyed in antiquity.

This next two construction events were modifications of the first terrace,

increasing the height of this terrace. Once again, the terrace walls are missing but the height of the terrace was increased by 0.2 m in the first modification and by 0.15 m in the second construction event.

The next construction event was the construction of the final version of the first and second terraces. The height of the terrace was increased by only the thickness of the stucco surface, 0.04 m. The visible preserved height of the first terrace was 0.7 m. The projected total final height of the first terrace was at least 2.0 m. Both of these heights are measured above surface of the low platform extending to the north of the first terrace (see below). This surface is 0.6 m above the level of the plaza surface. The second terrace was preserved to a height of 0.3 m. The upper terraces may have been built during this construction episode but there is no direct connection between these and the lower terraces to confirm this.

The next construction event is the addition of a low, two-step platform to the north of the first terrace. The total height of this platform averages 0.7 m although the upper surface is not level and slants down to the north and east. The dimensions of this platform are not known because the northern edge was not preserved and the eastern end was not excavated but it was at least 4.6 m (N-S) by 3 m (E-W). This platform had a stucco surface. No artifacts were found *in situ* on the surface of this platform.

Several construction events cannot be tied in directly with sequence outlined above. First, the earlier two floors are not directly associated with any of the excavated architecture. Traces of at least one of these floors are visible near the northern end of the low platform but this area was damaged by gopher activity and the relationships between the floors and the platform were destroyed. Second, the final version of the staircase is later than the slanted outset but cannot be directly related to the construction of the terraces or the low platform which are also later than the slanted outset.

North Side, West Wing

Operation 197

This clearing operation was placed on the north side of the Castillo on the west wing, at the base of the platform which support Str. A-20. The goals of this operation were to expose the final phase architecture in preparation for placing a tunnel to locate and enter the north side of Quetzal building, first located in 1994 (Robin 1994). The location of this operation was selected by calculating where a door on the northern side of the building would be. This was accomplished by assuming that Quetzal was symmetrical on the north and south sides and then projecting the location of the known door jamb on the south side to the north and then estimating the distance between doors based on measurements taken of Strs. A-5, A-6, and A-13. Operation 197 was composed of 4 suboperations (A-D) and exposed 14 m^2 (Fig. 4).

The final phase architecture exposed in this operation, in 197C, consists of the base of a terrace wall with a stucco surface at its base and the lower steps of a staircase rising to the north, along the terrace wall (Fig. 5).

Operation 204

This operation was a test pit which was then extended into a tunnel. The goal of

this operation was to locate the a door on the north side of Quetzal building and to enter the building. Six suboperations were defined (A-F). The initial test pit (204A) was located below the western 0.3 m of Op 197A and the whole of 197B (Fig 6) with a total size of 2 m (N-S) by 2.3 m (E-W). Suboperations B, C, E, and F were subfloor tests, exposing buried architecture, while 204D was the tunnel into the structure. The tunnel was 1.6 m long with a smaller probe (0.6 m wide by 1.1 m high at its entrance, 0.4 m at the end) which extended 1.8 m to the east at the southern end of the tunnel.

This operation exposed the northern side of Quetzal structure, an addition to this structure, the staircase for the platform on which this structure sat, and two terrace surfaces.

Architectural Sequence

The earliest construction in this area is the northern exterior facade of Quetzal building, revealed in 204D (Fig. 7). A total of 2.95 m of the northern facade of Quetzal was exposed. The western 1.0 m of the exposed area is a door, which had been blocked in a later construction event. This structure is preserved to at least 1.8 m, the height of the tunnel.

The second construction event was an addition to the northern facade of the Quetzal building. This addition consists of a substructural platform supporting a wall. The outer facade of this wall was exposed for 1.2 m. It was preserved to a height of 1.3 m and is 0.5 m wide. This wall has a doorway directly in front of the blocked door in Quetzal. The interior width of the addition is 1.1 m. A staircase was constructed inside this addition with the steps (risers 0.3 m, treads 0.7 m) rising to the east. It is possible that this staircase may have been a later construction since neither end of the steps is integrated into the walls of Quetzal or the addition. The upper edge of a step or terrace revealed in 204F is part of the platform for this addition. Only the upper 3 cm of this feature was exposed. Based on parallels with subsequent construction (see below), this may be the top of the upper step of a staircase. A staircase with 2 steps (risers 0.4 m, treads 0.4 m) provided access to this addition, however this staircase may be a later addition since it extends beyond the edge of the terrace or step.

The presence of the staircase in the Quetzal addition raises several questions. First, if this staircase was constructed at the same time as the addition, then it is possible that this addition does not continue further to the west and that what appears to be a door jamb is, in fact the end of a screen wall which was constructed to conceal the staircase. Second, this staircase would have covered at least one door on the north side of Quetzal to the east of the blocked door revealed in the current excavations. Taken with the blocked door, this raises the possibility that all of the Quetzal building was filled at that time, effectively turning the superstructure of a building into a platform which was used to support a later building, Str. A-20. The Verde and Amber terraces south of Quetzal building (Robin, 1994) would have been constructed at the same time, based on the indications that the door exposed on the south side of Quetzal was not blocked before it was buried.

In the next construction event, the platform which supported this structure was extended to the north. The northern side of this platform is composed of a staircase. The upper 3 steps of this staircase were exposed in excavation. An additional step, at the

base of the staircase has been projected, based on the size of the steps (risers 0.4 m, treads 0.4 m) and the elevation of the floors at the base. This staircase has a component which extends to the north (with the steps rising to the east), at the eastern edge of the exposed area, yielding an "L"-shaped plan. The full dimensions of this northern component of the steps is not known because the northern end of the steps was removed in antiquity, prior to the construction of the final terrace (see below).

The fourth construction event was an extension of the platform to the north. This extension buried the "L"-shaped staircase. The stucco surface which capped this fill abutted the top step of the staircase 0.08 cm below the top, leaving a very small step. This surface was cut in antiquity. There is no direct relationship between this surface and the terrace wall revealed in 197C however it is probable that this terrace was the northern face of the platform. The staircase revealed in 197C was also built at this time. The terrace wall was preserved to 3 courses (1.06 m high). Unlike most staircases found in Maya sites, the steps run parallel to the terrace wall, not perpendicular. The staircase is 0.9 m wide. The treads of the steps are 0.45 m wide and the risers are 0.35 m high.

The fifth construction event was a resurfacing of the platform, covering the small step which had been left in the previous construction event. This stucco surface was also cut in antiquity, but, following the reasoning in the previous construction event, it also was related to the terrace wall.

The sixth and final construction event in this area was the complete burial of Quetzal and the Quetzal addition. An unknown number of terraces were constructed at this time. The height of the lowest terrace, already in place, was extended to at least 2.2 m. This projection is based on the height of a construction wall which was built on top of the cut stucco surface from the fourth construction event. Based on the lack of any evidence for stucco surfaces or for foundation stones or a construction wall for an upper terrace, it is possible that there was a single terrace forming the northern facade of the platform which supports Str. A-20. A special deposit (204A/4-D1) of one complete and one partial ceramic vessel was included in the fill at the level of the top of the Quetzal addition substructure, adjacent to the superstructure.

South Side, Base of the Castillo

Operation 167

This surface clearing operation was placed at the base of the Castillo on the south side of the platform. The goals of this operation were to test for the presence of a staircase on the south side of this structure, locate the lowest terrace and assess the condition of the final phase of construction in preparation for choosing the location for a tunnel. In the course of excavation, these goals were expanded to include defining the dimensions of the base of the staircase and a trench in the location of the tunnel to determine the type and preservation of the architecture above the tunnel. Operation 167 had 20 suboperations (A-T) and exposed 57.75 m^2 (Fig. 8). Of these, 5 suboperations (A, B, C, N, P) exposed the lower terraces and slanted outset west of the staircase, 3 suboperation (R, S, T) exposed the second and third terrace on the west side of the staircase, 7 suboperations (D, E, F, G, H, I, J) exposed the base of the staircase and the east and west sides of a low platform, and 4 suboperations (K, L, M, O) exposed the slanted outset and first terrace to the east of the staircase (Fig. 9). Suboperation Q was a surface finds suboperation.

Operation 196

This trenching and tunneling operation was placed behind the lowest terrace on the south side of the Castillo, in an area where the terrace wall was poorly preserved. It is located below Op 167P, R, S, and T. The goal of this operation was to tunnel into the base of the platform to expose the construction sequence on the south side of the Castillo. Operation 196 had 5 suboperations (A-E). The trench is 3.6 m long and the tunnel extends another 1.9 m.

This operation exposed four versions of the terraces at the base of the platform on the south side of the Castillo.

Architectural Sequence

The earliest construction event in this area was the construction of a 1.6 m high platform (Fig. 10), now visible only as a cut in the bedrock on the eastern side of the trench which formed the base of the terrace and the stucco surface of the platform. This surface was beginning to rise the further north the tunnel extended. This might indicate that it was nearing a structure. The terrace wall was removed in antiquity. This platform was built directly on the bedrock.

In the next construction event, the height of the platform was extended at least 3.2 m with the addition of at least 3 terraces. The lowest of these is 0.95 m high, the second was preserved to 1.6 m although the elevation of the base of the third terrace indicates that it was originally nearly 2.0 m high. The third terrace was preserved to only to a height of 0.2 m.

The third construction event involved the modification of the lower terraces of the platform. The terrace for the original platform was either removed and replaced with a new wall or the height was lowered to 0.9 m. A new second terrace was constructed, covering the lowest of the terraces added during the second construction event. The upper terraces from the previous construction event continued to be used after this modification.

The next construction event was a major modification of the lowest terraces of this platform. The first terrace was completely removed and replaced with a new terrace which was placed 0.7 m to the south of the original constructions. This terrace was preserved to a height of 1.5 m, near the slanted outset. It has been projected to a total height of 2.7 m. This terrace buried the second terrace of the previous construction event. The new terrace also abuts the same terrace as the one it buries. This changed the appearance of the base of the Castillo by reducing the number of terraces by one. Nearly all of the architecture exposed in Op 167 was constructed during this construction event including the lowest terrace and slanted outset beside the staircase on both the east and the west as well as the staircase.

The final construction event was the addition of a low, 0.4 m high platform extending south from the lowest step. It is the full 13.75 m width of the staircase. The full dimensions of the platform are not known as the southern edge was not located. A new plaza surface was laid either at the same time as this platform was constructed or sometime later.

The last activity revealed in the Op 167 excavations was not construction activity. Some time after the site had been abandoned and the terraces of the Castillo had begun to collapse there was an episode of burning. The evidence for this include a soil stratum with ash and carbon and burn marks on the stones of the final first terrace. The evidence was not found in all of the units as might be expected if it was the result of a forest fire. Instead, it was limited to an area near the first terrace, both to the east and to the west of the staircase, as might be found if a field had been cleared and the debris had been piled at the edge of the cleared zone and then burned. This may be evidence for a much later reuse of the area south of the Castillo as a milpa.

Conclusions

The primary conclusion which may be drawn from the excavations described in this report is that it is possible to conduct tunneling excavations at Xunantunich. However, it is not possible to excavate tunnels everywhere at Xunantunich. As was seen in Op 187, on the north side of the Castillo, some of the fills used in construction are too loose to be excavated. Fortunately, in other areas, such as Op 204, the fills are suitable for tunneling.

In all three areas, one of the most striking aspects of the revealed construction sequences is the amount of small scale modification of the architecture. On both the north and the south sides, the lowest terrace of the Castillo was removed and rebuilt several times, apparently without modifying the upper terraces. In other cases, on the north side at the base of the Castillo and in front of the Quetzal building the terrace was resurfaced at least once.

The tunneling excavations will continue in 1996 with further work to be done in the Quetzal building, entering the blocked doorway, as well as in new locations on the Castillo.

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Figure 1
Location of 1995
Tunnelling Excavtions

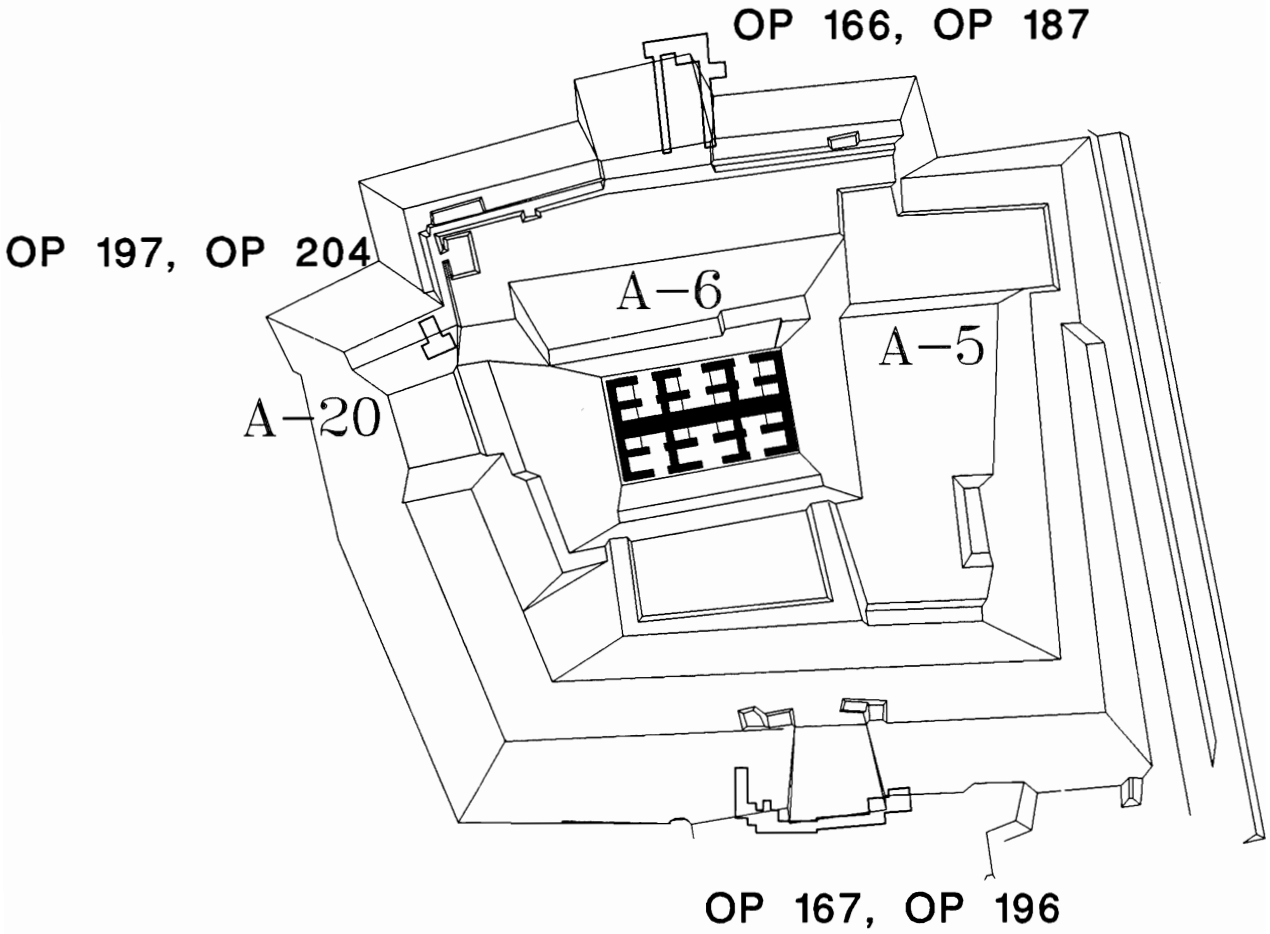
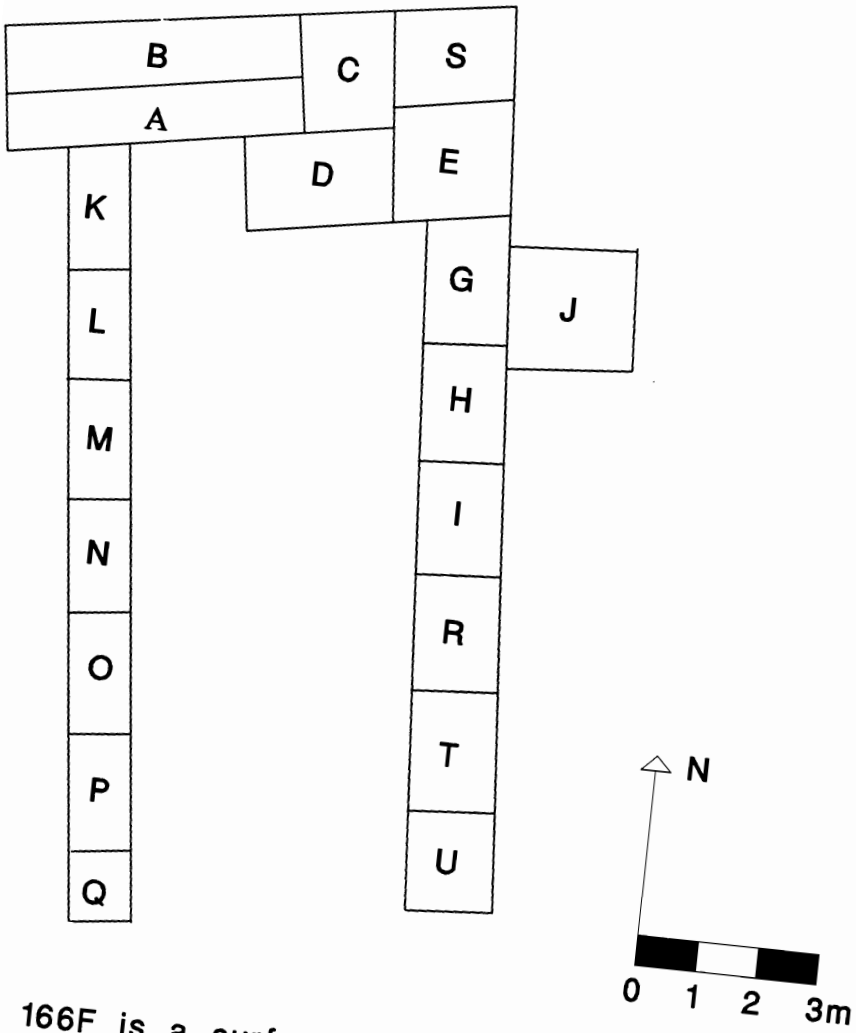


Figure 2
OP 166 Suboperations



Note: 166F is a surface finds suboperation

Figure 3
OP 166 Architectural Features

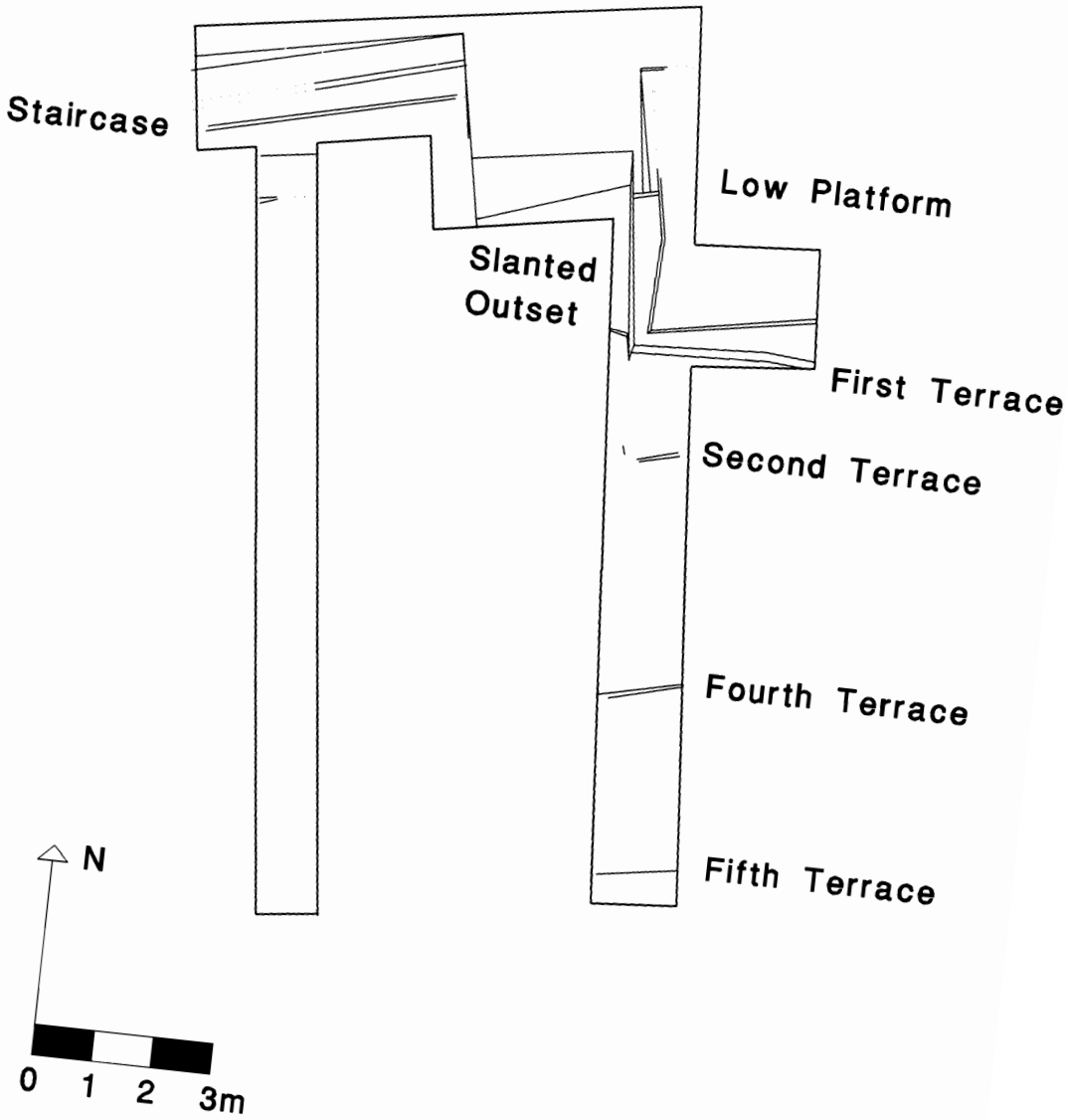


Figure 4
OP 197 Suboperations

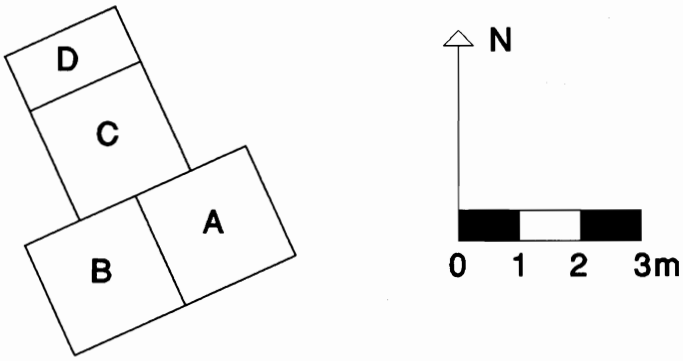


Figure 5
OP 197, OP 204 Architectural Features

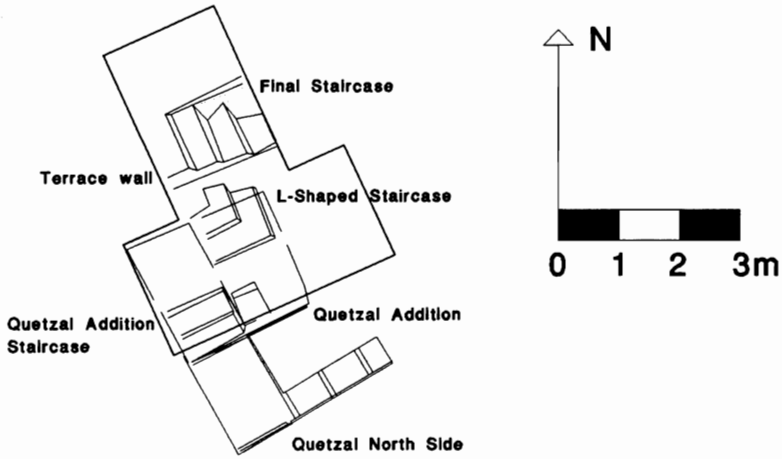
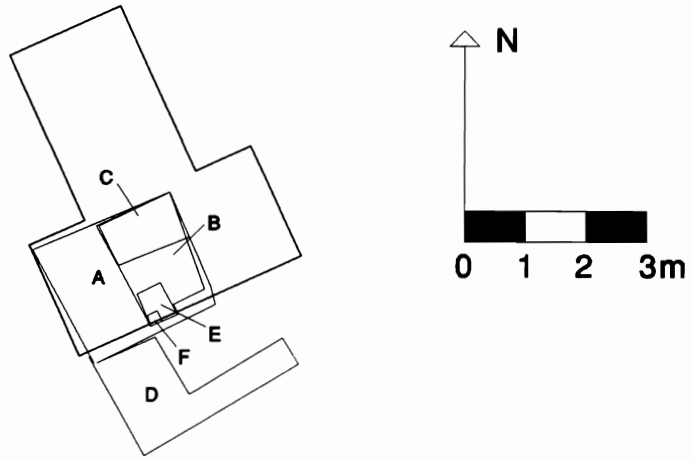


Figure 6
OP 204 Suboperations



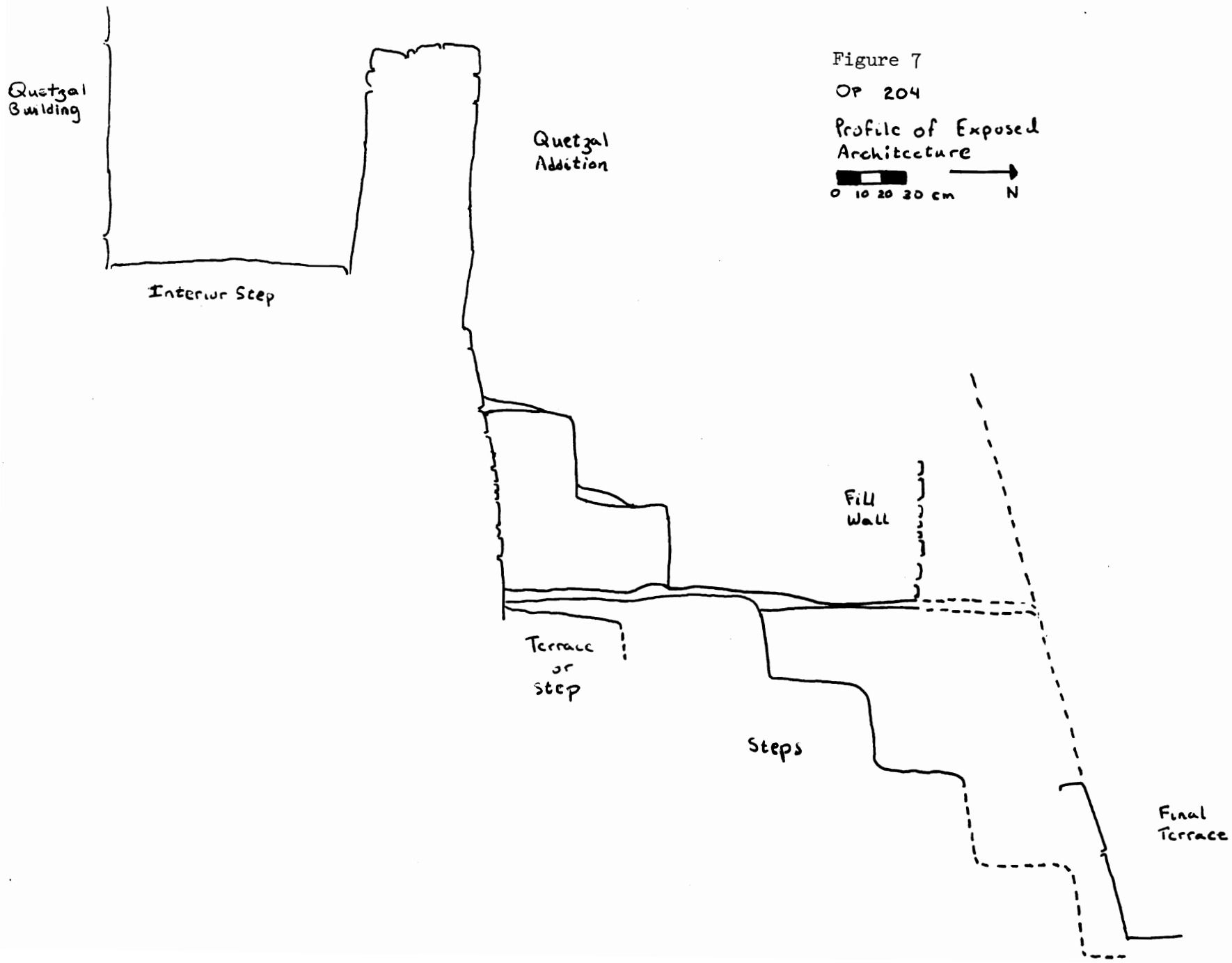
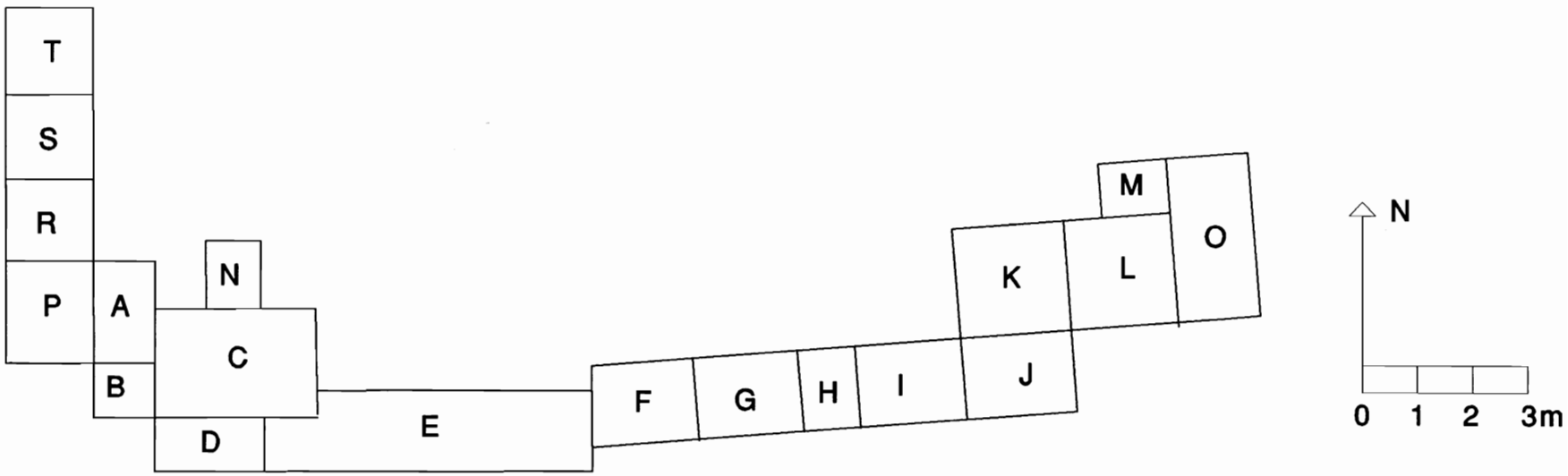


Figure 7

OP 204

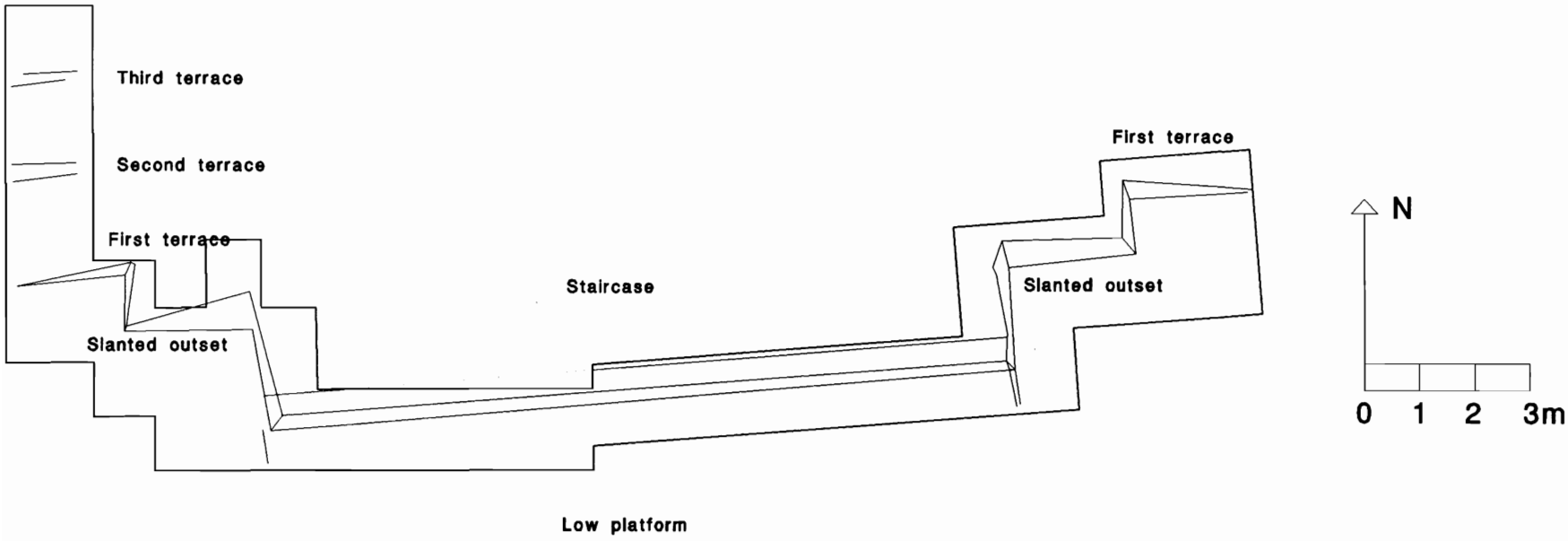
Profile of Exposed Architecture

Figure 8
OP 167 Suboperations



Note: 166Q is a surface finds suboperation

Figure 9
OP 167 Architectural Features



Excavations of Structure A-20 on the Castillo, Xunantunich

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Introduction

An examination of monumental architectural spatial organization plays a critical role in our understanding of social relations in past societies. Foster (1989) sees that architectural space is "both produced by, and in turn produces and reproduces social relations" (Foster 1989:40). Moreover, Foster (1989) makes the following observations regarding architectural space:

A building is made up of walls which define a series of enclosed spaces, the boundaries between which may be broken by doorways allowing access from one area to another. The importance of the doors is not only do they open, but more importantly they close, effectively segregating and controlling the means of access to any particular point (1989:41).

In ancient downtown Maya political centers, the monumental constructions and their layout possess the overriding role of providing a backdrop for presentations and displays of power, prestige, control and dominance. Any modifications and additions to the skeletal remains could provide one line of evidence supporting changes possibly occurring in the current socio-political sphere. Thus, as one can expect, these architectural changes occurred during the period spanning the Late Classic (A.D. 700 - 830) to Terminal Classic (A.D. 830 - 1000) at Xunantunich's downtown civic center.

Xunantunich was a hilltop center located in the upper Belize river valley (Figure 1). It was one of several small sites to thrive after the Classic Period demise (Leventhal 1994). In doing so, it encapsulated many of the survival mechanisms or social integrative structures incorporated during this period of continual change. Under the direction of Dr. Richard Leventhal, University of California at Los Angeles, and Dr. Wendy Ashmore, University of Pennsylvania work to date suggests Xunantunich and the surrounding settlement underwent a Late Classic florescence followed by a period of contraction at both the community and small center levels of social organization (Leventhal 1994; Ashmore et al. 1994; Neff et al. In preparation 1995). Excavations from the last three years of work demonstrate the architecture in the site core was continually undergoing modification (Leventhal 1994; LeCount 1994; Robin 1994; Jamison and Wolff 1994). Overall, this period depicts a number of power-related changes that imprinted themselves within the architecture. Additionally, the suite of characteristics correlating with Late Classic architectural styles eventually gives way to and complemented by very different traits representing the Terminal Classic architectural identity. An examination of construction techniques, building layout, modifications and additions as well as stylistic variability provide clues for unraveling the complexities of this Late Classic to Terminal Classic socio-political and politico-ideological reorganization.

To address the above issues, I will present the results of this year's Structure A-20 excavations. Robin's 1994 excavations on Xunantunich's El Castillo (Structure A-6) led to the initial discovery of Structure A-20. This unique building stands on the westernmost edge of A-6's upper west plaza (Figure 2). Robin identified the eastern facade defined by Macaw wall and two round columns that framed a 2.16 m. central

doorway. Due to time constraints no further investigations occurred. Yet, Robin's work provided the baseline stratigraphic information for this season's research. Structure A-20's final construction was a stratigraphically late phenomenon on Structure A-6. The late construction in conjunction with the stylistically unique columns called for a more extensive investigation. Detailed 1995 excavations revealed the complex evolution of the building's plan as well as provided clues regarding the character of the activities occurring at this location and how the nature of the activities changed through time. I defined four primary construction phases with numerous smaller additions and modifications. Additionally, the existence of columns, a unique architectural element in this region in conjunction with a Patolli design provoked inquiry concerning their presence at Xunantunich. This paper provides a summary and discussion of the 1995 excavations.

Work to date suggests Xunantunich witnessed a Middle Preclassic origin with a principal occupation spanning the period representing the Late Classic (A.D. 700 - 830) to the Terminal Classic (A.D. 830 - 1000) (Leventhal 1994; LeCount 1994). Unfortunately, the lack of good stratigraphic contexts and low artifact density from Structure A-20 limits my ability to place the structure within the ceramic chronological scheme. Yet, in a general sense, Robin's (1994) excavations along with this year's investigations linked A-20 to a northern enlargement of the upper west plaza area. The northern expansion of the western plaza concluded the final burial of the Quetzal building (see Miller this volume). Cursory analysis of the ceramic artifacts suggests the structure fill represents a Late Classic II to a Late Classic II(B) assemblage. The fill produced only one Terminal Classic rim. A large ceramic bowl foot found at the base of a feature that represented the last construction phase (IV) dated to the Late Classic IIB time period. The shaky context and lack of any other artifacts associated with this feature does not confirm this time period designation. This only suggests there was enough Late Classic II fill around to create this assemblage. Fortunately, three sealed postholes associated with Phase I and III construction episodes will provide radiocarbon dates. Thus, an absolute date (given C-14's margin of error) will give us a date range for the two phases (Phase III includes the construction of the columns).

Methods of Excavation

Trowels were the primary excavation tools in conjunction with small wooden tools, dust brooms and small brushes. Supoperation size varied depending on the type of investigation. Yet, the size for suboperations rarely exceeded a 2 m by 2 m arbitrary unit. The screen size for arbitrary suboperations measured 1/4 inch whereas for feature contexts I used two superimposed 1/16 inch screens. To maintain consistency with previous years' work, all structure walls were given bird names whereas support walls were referred to as colors.

Previously unrecorded excavations of Room 1 and portions of Room 2 entailed the removal of backdirt down to previously placed plastic. The plastic covered a majority of Room 1's floor as well as the southwestern corner of Room 2. The early excavations stopped prior to exposing the top of Bench 2 and the interior step between Room 1 and 2. We left the intact deposits for controlled excavations whereas we did not screen the backdirt. The previous excavators built a safety wall along Room 1's western edge. We documented its location and drew an elevation drawing prior to

disassembling it. In doing so, we uncovered Perico's (Room's 1 western wall) wall foundation.

Rooms 2 (177A - 177M, 177PP, 177QQ), 3 (177R - 177U, 177CC, 177LL, 177OO, 177RR) and 4 (177N, 177V, 177Z, 177AA, 177BB, 177DD, 177EE, 177FF, 177II) were excavated in several arbitrary suboperations ranging in size. Yet, the primary unit size measured 1 m by 2 m (Figure 4). We excavated each suboperation in arbitrary 20 cm lots stopping at changes in the stratigraphy. We isolated a 10 cm lot above the floors in an attempt to understand the initial collapse and/or abandonment processes. When present or recognized, we separately screened a thin evenly spread pale brown loam located directly on top of the floors.

Erosion destroyed much of Room 3 therefore creating a steep northern cliff. Due to the precarious locations of the suboperations, we primarily dug Room 3 by the stratigraphy. Occasional tree roots and backdirt posed a disturbance problem in Room 4. During such circumstances, we excavated the disturbed soil separately.

Based on the feature's size, we generally bisected the floor and wall features along their maximum axis. Half was excavated in arbitrary 10 cm lots stopping at changes in the stratigraphy. The remainder was excavated by stratigraphy. If the features were too small to bisect we excavated them by changes in the stratigraphy.

All architectural elements, features and suboperations were drawn, photographed and often videotaped.

Structure A-20's Construction Phases

As previously stated, I identified four primary construction phases constituting the evolution of Structure A-20's plan. I determined these phases based on abutment patterns and stratigraphic relationships between architectural elements and their associated deposits. A majority of this year's work focused on understanding the horizontal evolution of A-20's plan. Yet, I instituted a series of sub-floor tests to discern the immediate vertical relationships of A-20's foundation walls to previously identified (Robin 1994) earlier A-6 constructions, focusing on the Quetzal building.

Based on a CAD (Computer Automated Drafting) model, excavations of three postholes and three sub-floor tests in conjunction with Miller's (1995 this volume) tunneling exploration, we presume the Quetzal building was a double corbel vaulted structure running east - west at roughly a 60 degree angle (Figure 3). Built on top of and with a different orientation to the earlier Quetzal building, A-20 sat on top of the westernmost edge of the newly created A-6 upper west plaza at roughly a 67 degree orientation. Burial of the Quetzal building (see Miller this volume) and the creation of the upper west plaza (Robin 1994) included the initial construction of A-20. Several posthole features (177AA/7-D1, 177T/9-D1 and 177S/9-D1) in conjunction with three sub-floor suboperations (177CC, 177HH, 177II and 177RR) began to reveal a perplexing story of the burial sequence.

Excavation of Room 2's posthole 177AA/7-D1 exposed the northern wall, Chachalaca wall, of the Quetzal building. Interestingly, the ancient builders did not penetrate the wall. Rather, it served as the southern edge of the feature. A functional

interpretation would indicate that the ancient builders did not need to penetrate the wall to maintain a stable post. Another interpretation might suggest that the Quetzal building was still open in areas on the north side therefore still alive in a sense (Ashmore and Miller personal communication). Thus, the ancient inhabitants deliberately chose not to destroy it.

Subfloor test 177II confirmed the existence of Chachalaca wall. The plaster lipped Checo wall (an A-20 Phase I - Room 1 construction) to Chachalaca wall. This insinuates A-20's Room 1 was built directly on top of the Quetzal building. Furthermore, the construction of a small platform accommodated for the change in orientation between Quetzal and A-20 (Figure 5). The western edge of A-20 (67∞) needed the platform's support because it would have suspended over the northern edge of the Quetzal (60∞) building. This suboperation did not reveal the full dimensions of the platform. Rather, the suboperation exposed the eastern edge of a faced stone roughly 10 cm deep. Under the stone was fill. Checo wall terminated on top of the platform where the platform existed. Otherwise, it terminated on top of Chachalaca wall. The construction of the platform and then Room 1 represented part of A-20's Phase I construction.

Robin (1994) initially exposed a southern facing portion of Quetzal wall during her 1994 excavations of the upper west plaza. The excavations of two post holes in A-20's Room 4, 177S/9-D1 and 177T/9-D1 revealed more of what we believe was Quetzal wall. The sub-floor test 177CC confirmed the extent and orientation of Quetzal as well as examined the relationships between Loro and Ganso walls, Floor 55 and Floor 60 (Figure 6). All these architectural elements constitute A-20 Phase I and II construction episodes excluding Floor 55. Based on the abutment patterns, the order of construction from earliest to latest follows: Quetzal, Ganso, Loro, Floor 60 and finally Floor 55 (Figure 7). Both Ganso and Loro sat on top of Quetzal. Floor 60 shared direct association with the existence of Ganso and Loro, abutting both. Thus, the construction of Floor 60 was after the two walls were in place. Yet, it was the first floor put in with the construction of this space south of Loro wall.

Ganso wall originally served as a primary structural support wall for a possible Room 1 vault. Floor 60 could have been part of or equivalent to a raised patio area surrounding Room 1. Yet, the construction of Loro wall, a low parapet-like wall, preceded Floor 60's construction. Was Loro wall built to serve as a barrier to a long drop associated with a continued southern Quetzal building access? Or was it simply for aesthetics and served as a space divider between this outside patio area and Room 2? Unfortunately, in the one other sub-floor test (177RR) in Room 4 and less than 1 meter away from 177CC, Floor 60 did not appear. Consequently, a continuous patio area did not occur or the ancient builders took the floor out during the construction of Floor 55. Thus, the purpose of Loro wall remains a mystery.

In any case, the Quetzal building's sequential burial correlated with the initial construction of A-6's upper west plaza including the first Room and associated patio of Structure A-20. Miller's 1995 excavations and continued 1996 excavations will unravel the complex history associated with a significant change in A-6's northern orientation and presentation. In contrast, the following discussion will describe the complex

changes specific to Structure A-20 as well as examine how these changes could relate to the overall sociopolitical reorganization taking place at Xunantunich in general.

Phase I Construction

As previously hinted, A-20's Phase I plan consisted of Room 1 and an associated and possibly thatch-covered patio (Figure 8). Room 1's dimensions were 6.9 meters (N-S) by 2 meters (W-E). Three large 1.5 to 1.7 meter doorways provided access to this interior space from the north, east and west. All the doorways stepped down roughly 20 cm to the exterior patio. The east and possibly the north doors had wall features reminiscent of curtain holders (Figures 9 & 10). None of the features had perfect preservation. Yet, based on deduction from my observations of all three features I have a general idea of their morphology. Located roughly 20-30 cm above the floor, the ancient inhabitants carved a circular plaster lined, ceramic rimmed feature into the walls on either side of the doors. Their outer diameters measured 22 cm with an inner diameter of 10 cm and a maximum depth of 26 cm. The remnant ceramics forming the rim were a broken Alexander Unslipped: Alexander Variety (Spanish Lookout Phase: Late Classic to Terminal Classic) (Gifford 1976) large jar rim that created an exterior decorative lining.

On the south end of the room we found the remains of a bench roughly measuring 1.7 m N/S x 1 m E/W with a height of 34 cm. The bench sat on top of Room 1's Floor 51 insinuating it was a later addition. How later remains a mystery although I presume it was all part of the same construction endeavor.

Carved into Floor 51 adjacent to Ganso wall was a series of cut marks and peg-like holes (177Y/3-D3) Room 1 was not previously excavated therefore intact collapse (177W) covered the carvings in an area roughly 50 cm N/S x 40 cm E/W. A drawing as well as a rubbing revealed badly obscured patterns. Cross-hatching was apparent but not consistent. The function or purpose of this floor feature remains unclear.

Due to preservation problems the maximum dimensions of Room 1's associated patio was unclear. The only dimension discernible measures 3.7 m from the eastern exterior of Room 1 to the eastern edge of the platform. I discovered four post holes under the stratigraphically later floors. Yet, they do not provide a clear picture of the posthole roof pattern (Figure 8). The two larger post holes, 177BB/2-D2 and 177AA/7-D2, both 24 - 26 cm in diameter and oriented together appeared to share the same support. Whereas, two smaller post holes, 177GG/2-D1 and 177MM/1-D1, both roughly 20 cm in diameter and oriented together suggested they constituted another support system. I can only speculate the exterior floor space had a thatch roof. Due to complicated logistical problems, for example digging under the columns, I did not explore all the post hole possibilities associated with this earlier floor. I noted a circular depression in the Phase III floor located under and to the west off Column 2 as well as a very hollow sounding floor behind Column 1. Further explorations would probably reveal that these features were post holes associated with this Phase I and possibly Phase II patio area.

Previously unrecorded excavations and poor preservation (wall height ranges from .05 m to 1.22 m) limits our understanding of the post-occupation activities and

collapse in Room 1. I only excavated a small 1.35 m≤ area of intact collapse (177W). The four lots representing this suboperation provided minimal clues suggesting Room 1 had a vaulted ceiling. A total of four slanted stones (presumably vault stones) with an average angle of 50∫ were horizontally stacked on top of each other. The size of the room and the thickness of the walls (average 80 cm) easily fall within the range of variation for other vaulted rooms in Xunantunich's site core.

The primary axis of this Phase I building, although not formally defined, was in a north-south direction. Additionally, Room 1 had a noticeable lack of symmetry -- doors did not line up and walls did not match (Figure 8). With continual modifications and additions to this original plan, Phase I through Phase III tracked a change to a formal and more symmetrical east-west central axis.

Phase II Construction

Some of the first additions to Room 1 dramatically shifted the N/S primary axis to an E/W axis. A series of subfloor tests (177GG, 177II, 177CC) revealed the addition of two walls, Zopilote and Loro, and an associated door, Door 4. Together they demarcated a 5.5 m N/S x 3 m E/W room located directly to the east of Room 1 (Figure 11). Room 2 underwent two major refloorings with several plaster patches and full floor replasterings. In all instances, a deep blood red paint coated the floor. The abutment patterns indicate the two walls were later additions. Yet, it remains ambiguous as to whether or not the construction of these walls occurred much later or were part of the original Structure A-20 plan. Based on the abutment patterns I decided to separate these wall additions into a distinct construction phase. However, the shift to a 67∞ north could have accompanied a change to an east - west primary axis.

As previously discussed, Loro wall was a low parapet-like wall roughly 40 cm high and 3 m long. The abutment patterns clearly demonstrated the wall's construction occurred after the creation of Room 1. Loro wall abutted a thick layer of plaster on the exterior of Ganso wall, a Room 1 support wall (Figure 11). It was unclear whether Floor 60, the first floor south of Loro wall, was a later addition or synonymous with Loro wall's construction. Loro wall may have been a boundary between a southern patio area with Floor 60 as its floor or it could have served to protect individuals from a steep drop to the Quetzal building's base. Whatever the case, Loro wall defined the southern boundary to Room 2.

Suboperations 177GG and 177II investigated the early relationships of Zopilote wall and Door 4 as the northern boundary to Room 2. Zopilote measured 2.4 m long with a maximum thickness of 45 cm. Door 4 was a narrow 45 cm wide access way between Room 2 and Room 3. 177GG was on the south side of Zopilote and Door 4 whereas 177II explored the north edge. 177GG exposed five interior Room 2 floors (Figure 12). Only two of the floors had a significant amount of ballast associated with them. The other three appeared to represent replasterings. The earliest floors encountered were Floor 58 and Floor 57 respectively. Floor 58 was the last and lowest floor uncovered and probably was the top of the Quetzal building. It was not painted red. Zopilote wall terminated on a thin layer of plaster above Floor 58. On top of Floor 58 was Floor 57. It was the first red painted floor that lipped up to both the base of Zopilote and the eastern edge of Door 4. This suggests that at the onset Zopilote served as an eastern doorjamb to Door 4.

The numerous replasterings of Floor 58, including Floor 57, 56 and 54, all appeared associated with the Phase I and II Structure A-20 building plans. The appearance of Door 4 with Zopilote wall occurred either during Room 1's construction or soon after. The thin plaster lens under Zopilote suggests a later building date. Yet, Floor 58 was the first 'real' floor (based on the red paint) associated with Room 1, Zopilote wall and Door 4. The second major floor construction involved leveling out Room 2's surface with ballast and then the building of Floor 27. Everything located on top of Floor 27 related to the Phase III and IV construction phases.

Room 2's roofing remains a mystery for the final phases (II through IV). Zopilote wall was too narrow to support a vault for the northern Room 3 and probably stood alone at full height in Room 2. The Phase III investigations of the southern Room 4 demonstrated it was thatched-covered. Possibly this was the case for the northern room. The early Phase I post holes were still in use therefore I suspect the spaces exterior to Room 1 were thatch-covered.

Thus, in its final Phase II form, Structure A-20 consisted of four rooms: Room 1 - a possibly vaulted west room; Room 2 - a possible thatch-covered red painted entryway and possible patio area into Room 1; Room 3, a possible exterior space to the north; and, Room 4, a possible exterior space to the south. Unfortunately, a majority of Room 3 was lost due to erosion. Consequently, I could not explore Structure A-20's furthest northern boundaries. Additionally, I explained the stratigraphic difficulties confounding the problems associated with Room 4. Did a south patio exist at this time or not? Whatever the case, the coating of Room 2 in red paint at this early date differentiates it from the north and south spaces. The significance of this space suggests it was the primary access way into Room 1 hence accentuating the new east - west central axis of the building.

Phase III Construction

As previously discussed, Floor 27's construction in Room 2 precludes a number of new additions and modifications. The Phase III construction episode includes several new architectural elements that appear to represent one overall plan (Figure 13). Once Floor 27 was in place, the ancient builders closed off Door 4 and possibly Door 3. They built a wall on top of Loro wall, the low parapet wall, to match its northern counterpart, Zopilote, as well as added the walls to enclose Room 4. I suspect the final occupational additions included Bench 2, 3 and 4, the bold eastern frontal facade, Macaw wall and the columns. Briefly, I will present by room the details of these additions and modifications.

The existing abutment patterns in Room 3 suggest the late additions of Macaw wall as well as Bench 4. The closures of Door 4 and possibly Door 3 restricted access to this northern room from the south. I presume a north or west entrance provided access to this room. Yet, Room 3 in its final form is unascertainable. Structure A-20's primary eastern exterior was a symmetrical bold facade with two central columns (Figure 14). Yet, the interior spaces of the north and south rooms were not symmetrical. Thus, I can not infer from Room 4 what Room 3 looked like. The continued use of postholes 177AA/7-D2 and 177BB/2-D2 suggests this area had a thatched roofing. The east-west

dimension was 6 meters with Bench 4 taking up roughly 2 meters of this maximum dimension.

Bench 4 had a low 16 cm high by 46 cm wide step up to a 28 cm high west-facing bench (Figure 15). Framing the lead-in way up to the bench, Guacamayo wall supported a post passing through its interior. The other post actually passed through the southeast corner of Bench 4. Macaw wall joined the eastern edge of Zopilote wall, running north - south. It served as the eastern back wall for Bench 4 as well as projected a bold and symmetrical eastern masonry facade for the entire building.

Fortunately, not all was a loss due to erosion. Although incomplete, we uncovered a unique carving on the surface of Bench 4, 177BB/2-D1 (Figure 16). The design consisted of 40 circular concave depressions, averaging 3 cm in diameter. Yet, two of the holes averaged 2 cm in diameter and one was an 11 cm diameter depression. Their depths tended to not exceed 1 cm. Thirteen had a 67∞ north-south orientation whereas thirteen others had an 335∞ east-west orientation. A cross occurred at the 9th hole from the south. Originating from the south, two 2 cm holes flanked either side of the arrangement between the 6th and 7th holes. On the west end of 13 east-west holes was another cross formed by 4 north-south holes and 3 east-west. On the east end another small cross consisted of 3 holes crossing 3 others. The southernmost end of the design had 10 or 11 small holes encircling the larger 11 cm diameter depression. Based on the preserved portions of the design, it appears symmetrical. The differences in number could be due to differential preservation. The function or aesthetic purpose of this feature is unknown. Yet, the shapes and sizes of the small holes are reminiscent of the pecked cross symbol (Aveni, Hartung, Buckingham 1978). Yet, the overall shape of the image does not follow suite with the variability represented in the pecked cross symbols documented thus far therefore it is unique.

In a possible attempt to formalize Room 4's space, new wall constructions in conjunction with the use of older walls aided in this act (Figure 7 & 17). Gavilan wall was actually built on top of Loro wall to form Room 4's northern wall. Macaw wall was added to the eastern edge of Gavilan and Loro to match its northern counterpart. Tecolote and Ganso walls, originally part of the Phase I construction, were used as part of the northern and western walls. Aguila wall, on the other hand, served as the southern boundary. Room 4's dimensions were 2.3 meters N/S by 3.6 meters E/W. Four corner postholes in Room 4 suggests this room had some sort of thatch roof construction.

In the center of Aguila wall was a large 1.7 meter doorway, Door 5, facing to the south. The door had a step roughly 20 cm in height joining the interior Floor 55 to the exterior Floor 27. A deep blood red paint coated the floor and had a large square carving (177LL/8-D1) located in its center (Figure 18). This feature consisted of several lines etched into Floor 55 in the center of Room 4 just north of Door 5. Although the lines were not completely preserved, I could discern the shape. A double parallel lined square bounded a cross of double parallel lines. Both sets of double parallel lines contained numerous perpendicular lines connecting the parallel lines every 10 - 12 cm. Thus, it was a 90 cm by 105 cm square with a cross in its center. Based on other similar discoveries at Xunantunich and on ethnohistoric documents this floor petroglyph was probably used as a Patolli game board (Smith 1977).

In the formalization of Rooms 3 and 4 in conjunction with the construction of Macaw wall, Room 2 became a pivotal East-West central axis. Up until the very last replastering of Room 2's Floor 27, post holes were still in use. After the burning and removal of the post in feature 177JJ/3-D1, accompanied by the last replastering and painting of Floor 27, the ancient builders constructed Bench 3, 4 and Columns 1 and 2 (Figure 19).

Bench 3 and 4 were 30 cm wide by roughly 50 cm high and 3.8 meters long. As additions they covered over Room 1's original exterior basal molding on Ganso and Checo walls (Figure 20). In doing so, they formed the interior western edge of Room 2, framing Room 1's original east-facing door -- Door 1. Directly across from Door 1 along Room 2's eastern margin, we uncovered the remains of two massive 1.10 meter diameter columns framing a 2.16 meter eastern doorway. Column construction consisted of small brick-like veneer stones with an earth and rubble core (Figures 21 & 22). To the north and south of the columns was roughly 40 cm of open space, not enough to constitute two more access ways (Figure 19). Thus, Room 2's primary focus was between these two columns. The combination of Macaw wall, the columns, the benches and the red painted floor set a stage for those who could see into this east facing building. The columns were offset in such a way that the line of sight into Structure A-20 was directed to the north (Figure 19). Yet, based on a CAD model nobody standing down in Plaza A-1 could see through the Door 1. Thus, the individuals on the upper west plaza had restricted rights reserved for viewing the activities taking place in Room 1. Yet, the Plaza A-1 attendants could see an individual standing between the columns and had a limited view into Room 2.

In sum, the final Phase III building plan displayed the full elaboration of architectural elements for Structure A-20. In a sense, the architectural cycle was complete. The building plan underwent a 180∞ shift from a north-south primary axis to an east-west axis. Each construction phase had a more elaborate and formalized configuration of this change. The Phase III building plan actually set in stone this change. Another interesting and complementary shift included a move to a more symmetrical balance between architectural elements. Room 2 and the eastern facade were the only portions of the building available for outside observation. Interestingly, it was these sections of the building that were symmetrical. The remainder of the interior rooms did not share this theme. What is the significance of these changes? I will provide suggestions regarding this issue in the discussion. Prior to the discussion I will present the Phase IV post-occupational construction and termination activities associated with the burial of Structure A-20.

Phase IV Construction Phase

Phase IV represents a period of post-occupational construction activities. The sequence of events depicting this time suggests the building underwent some sort of ritual burial. The architectural evidence suggests the building had several modifications due to structural instability (Figure 23). Two small support walls were added on either side of Door 1. Larios (1995 personal communication) made the point that these type of features often served as support for a collapsing vault. Furthermore, nearing the buildings' end, the ancient inhabitants removed the wooden posts in Room 4 and then poorly plastered over the floor. They neglected to fill one of the post holes to

provide support for the new plastering (Figure 24). The shape we found the hole suggests they could not have safely walked over this area. Unless, they cut the wooden post at floor level and then replastered. Given the time lapse, the post could have rotted and would have provided the initial support for the replastering. No matter what occurred, the probable thatched roof was taken down. Whether the roof was replaced with a different material remains unclear. The mix of fill with collapse and the presence of large tree roots clouds our understanding of the initial collapse in Room 4.

In addition to the above evidence, it appears that a thin, evenly spread lens of clean loam blanketed all of the floors. On top of this lens was intentional placed cultural fill (Figure 25). After the spreading of the loam and prior to the intentional filling of the rooms, two unique features were constructed in the southeast corner of Room 1 (177X/1-D1) and the northwest corner of Room 2 (177I/4-D1) (Figures 26 & 27). Both were semi-circular and made from possible vault stones . Both features interrupted the flow of movement in the building destroying any symmetrical presentation, particularly the feature in Room 2. It was built on top of Bench 3.

177X/1-D1 consisted of a low wall made of slanted stones (possibly vault stones) that enclosed the southeast corner of Room 1 (Figure 26). It had a 68 cm outer radius, a 45 cm inner radius and a depth of 17-25 cm. Five large dressed stones lined the outer perimeter. All of the stones had angles ranging from 50∞ to 74∞. The angles of the stones followed no particular pattern. The stones with their respective slanted sides were haphazardly placed to build the feature wall. Five undiagnostic (Benque type) ceramic jar body sherds were recovered from the interior of this feature. Room 1's floor, Floor 51, extended under the feature wall but was eroded over a majority of the feature's base.

The minimal amount of intact deposits limits our understanding of the post-occupation activities and collapse in Room 1. This feature was interesting and reminiscent of Feature 177I/4-D1 in Room 2.

Feature 177I/4-D1 consisted of Patricha wall, also a haphazardly built wall composed of numerous slanted (presumably) vault stones and several large ceiling capstones (Figure 27 and 28). Similar to 177X/1-D1, the angle of the slanted stones demonstrated no consistent pattern -- all facing up or all facing down. Rather, they were reused from another area for this specific construction. Patricha wall stood 1.10 meters at its maximum height and enclosed an area of 1.06 m≤.

The strata within the feature classified into two types: (1) a grayish brown loam with medium-sized dressed stones; and, (2) a light gray to very pale brown sand loam with small to medium-sized chunks of decomposed limestone. The top stratum contained remnant wall fall that collapsed from the upper portions of Checo and Zopilote walls. Underneath this collapse was a relatively homogenous stratum of sand loam that filled up the enclosed space created by Patricha wall.

The sandy nature of the fill was unlike any other found in Room 2 except for a thin matrix associated with the burial Feature 177M/1-B1. This burial and its associated sand loam were located on top of the stratum of ceiling collapse mixed with intentionally placed fill, and below the collapse from the upper portions of Gavilan wall

(Figure 25). The burial was a simple individual located up against Zopilote wall. Due to the extremely poor preservation, I can only guess as to the position and orientation of the individual. We had the remains of one pelvic bone, a femur fragment, a humerus fragment, two pieces of vertebrae and a concentration of crushed skull fragments. If in its primary (or even secondary) context, the individual could have been lying on its right side with arms out in front and the legs parallel to the arms. The legs appeared to lean up against Gavilan wall. A light gray sand loam was associated with the bones but no clear pit was discernible. Similar sand loam was found in association with Feature 177I/4-D1

Artifact density was low in 177I/4-D1 with a total count of 7 ceramic artifacts. Five of the seven occurred near the base of the feature within 30 cm of Floor 27. A majority of the artifacts were large jar sherds. Yet, accompanying these jar sherds was a bowl foot with a vertical slit. It was a Belize Red: Belize Variety Black-on-Red or possibly polychrome ceramic bowl foot that often dates to the end of LCII time period and borderlines with the Terminal Classic (LeCount 1995 personal communication -- LCIIB; Gifford 1976).

The evidence of this feature supports a purely speculative interpretation of its function. I can not and do not know where the slanted (presumably vault) stones originated from for the construction of Patricha wall. The only evidence for a possible corbel vault within Structure A-20 comes from Room 1. Only a couple of vault stones were recovered from the mixed stratum of collapse and fills in Room 1. Yet, in turn, these vault stones could have been from Patricha wall.

The sand loam is my only clue that this feature may have served as a small tomb. The direct association of the burial on the south side of Room 1 with the similar yet unique sand loam with 177I/4-D1 loosely connects these two features. Possibly, it was constructed as a material manifestation of a termination ritual serving to sanctify the burial of Structure A-20. Additionally, the late occurrence and the disruptive nature of the feature's construction within a symmetrically defined Room 2 support an abandonment of the use of space. The stones used to build Patricha wall may have originated from within the building itself. As the building began to collapse, the ancient inhabitants may have aided in dismantling the ceiling. Yet, prior to the destruction of the roof, they placed a thin layer of clean loam consistently across at least Room 2 and Room 3 and possibly the two other rooms as well. They built 177I/4-D1 as well as 177X/1-D1, dismantled the ceilings and then placed fill in on top of the collapse. Later in prehistory, someone possibly robbed the tomb leaving the body to the elements on top of the fill located on the south side of Room 2. Later in time, the upper portions of the walls from Zopilote, Gavilan and Ganso collapsed into themselves and on top of the individual. If this scenario is true it follows Pendergast (1986) ideas regarding the sharpness related to the Terminal Classic to Post Classic transition. Pendergast (1986) posited that the abandonment and desecration of all readily accessible tombs strongly suggests the disappearance of the elite population.

Whatever the case, both features appeared to represent post-occupation activities with unclear functions. It is very possible they could be a material manifestation of a ritual designed to bury or terminate the use of the rooms (Ashmore 1995, personal communication)? The burying of buildings was a common practice at ancient Maya

centers. Due to A-20's late occupation and possibly one of the last major construction efforts at Xunantunich, no new constructive effort would cover over Structure A-20. Thus, this ritual would have symbolized the burial and termination of use at and within Structure A-20. The use of the space was formally closed off.

Discussion

Structure A-20 occupied a prominent position in the Xunantunich site core located on the west edge of El Castillo and possibly once perched on top of the impressive Quetzal building. In its final form, a combination of architectural features sets a stage for the activities occurring on this upper west plaza. Room 1's curtain holders and by inference draperies controlled the view through Door 1 into Room 1. Room 2 with its red painted floor, it's symmetrical small benches in conjunction with the grand columns and dominant Macaw wall frame the eastern facade. Based on the evolution of Structure A-20's plan, the types of activities and their significance accompanied the shift in the buildings' central axis as well as integrated with a more formalized definition of interior versus exterior space.

The columns play a significant role in delimiting this use of space. Their size and aesthetic appeal contribute to the importance associated with activities occurring here. An examination of the complex yet interrelated evolution of A-20's plan provides substantive support for the local development of the column construction. Moreover, Driver (1995) at Blue Creek, Belize, encountered a stylistically similar column located on top of the earliest version of Structure 1's building platform. It was 1.4 meters in diameter and constructed from 'roughly cut coursed stone' (Driver 1995). Structure A-20's columns, were only 1.1 meters in diameter with cut coursed stone on the exterior with an earth and rubble core. Structure 1's column has a *terminus ante quem* date of Tepeu 1 (Driver 1995). The construction fill contained Early Classic ceramics with Late Preclassic ceramics below that (Guderjan 1995 personal communication). On the other hand, Structure A-20's fill dated to the Late Classic II(B) period

Driver (1995) steared away from interpreting this columned superstructure as evidence of 'direct cultural contact' between the southern lowlands and the Late Classic to Terminal Classic Yucatecan architectural traits. He felt the evidence was too weak and that other aspects of material culture at Blue Creek did not support this conclusion. Driver (1995) speculates that Structure 1's column represents a 'natural progression of southern architectural style' (Driver 1995:41). He posits that a round column is 'the next logical step' from a square pillar, such as those found at Tikal and Palenque (Driver 1995:41). In a sense, Structure A-20's columns at Xunantunich could represent a formal replacement of the wooden posts (Larios 1995 personal communication), supporting a southern lowland architectural innovation inference. Thus, I follow Driver's (1995) reasoning and I can identify this natural progression on Structure A-20. Yet, I can not deny the degree of interaction occurring between the northern lowlands and the southern lowlands during the Late to Terminal Classic periods. In doing so, I can not help but to recognize the architectural and stylistic similarities between the two geographically distinct regions.

The small stone veneer and earth and rubble core construction technique is reminiscent of columns uncovered at Becan, in the Rio Bec Region. Stylistically different but functionally and morphologically similar round columns appear all over

the northern Yucatan during the Late and Terminal Classic periods at sites such as Edzna, Sayil, Uxmal, Kabah and Chichen Itza. The round column at Blue Creek may be one of the earliest to date in the southern lowlands and it may represent a southern architectural innovation. However, this does not exclude the possibilities of extensive interaction between the northern and southern Lowlands during the Late and Terminal Classic periods. The round columns overwhelmingly appear to represent a regional architectural trait of the Late and Terminal Classic periods that survives into the Post-Classic period.

Similarly, Patolli boards generally occur in Terminal Classic contexts (although it is hard to pin down the exact carving time) (Smith 1977). Patolli is a Mesoamerican game much like our modern board games (Miller and Taube 1993). The game was common among the Aztecs, Toltecs (Acosta 1961) and the Teotihuacanos (Sejourne 1959). Described by many early chroniclers as well as modern authors (Caso 1924; Bancroft 1875) the game involved much risk and gambling of items such as cacao beans, jewelry and even personal freedom (Smith 1977; Miller and Taube 1993). The Magliabecchiano Codex demonstrated Macuilxochitl was the game's patron deity (Smith 1977).

The design of the board varies from context to context. Based on the ethnohistoric literature (Magliabecchiano Codex, Florentine Codex and Atlas Duran), the Patolli design was a cross (Maltese, Greek or St. George crosses) with spaces marked off within the arms (Smith 1977). Smith (1977) demonstrates that the Patolli boards encountered at the Mexico and Maya sites differ in that a marked off rectangle or oval frames a marked off cross. Where the codices refer to the board's occurrence on thatch mats, they tend to appear carved on altars, in floors and, at Seibal, painted on a female burial ceramic vessel. Much of the morphological variation appears in the number of marked off squares and the overall shape. The Patolli board found on Structure A-20's Room 4 floor is morphologically identical to the boards Smith (1977) documents from Seibal, Tula, Hidalgo and the Temple of Inscriptions at Palenque.

MacKie (1985) uncovered five Patolli boards carved into the floors of Xunantunich's Structure A-11. The board designs were variable but shared the common theme of a marked off cross in the center of a marked off frame with roughly the same number of squares. MacKie suggests the building dates to roughly Tepeu 2 and Benque Viejo IIIb lasting until 10.3.0.0.0 A.D. 849 (in Smith 1977). The Patolli board in Structure A-20 dates at least to the end of the Late Classic and probably to the Terminal Classic therefore concurring with the Structure A-11 date. The Structure A-20 Patolli board actually occurred post-Phase III construction and was contemporaneous with the columns. Thus, following Smith's (1977) argument the designs at Xunantunich do overlap in time with the Seibal Patolli boards. Moreover, Hammond (unpublished) uncovered an identical Patolli design from Maintzunum, Melinda Forest Station, Stann Creek District, Belize (Smith 1977). MacKie (1985) found another similar one at Mamie Hill, Pomona, Stann Creek District, Belize (Smith 1977). Similar and often incomplete designs occur at Uxmal, Dzilbilchaltun, Piedras Negras, El Cayo, La Mar and San Lorenzo (Smith 1977). Smith (1977) argues for "definite communication between Palenque, Seibal, the Belize sites and Tula" (Smith 1977:361).

I concur with Smith's (1977) conclusion and would add that all these sites played variable roles in a complex interaction sphere involving the northern, central and southern lowlands. It began at the end of the Late Classic period and developed during the Terminal Classic period. Playing a game implicitly suggests that the participants must follow a set of rules defined by custom or tradition. Both participants need to not only be familiar with the rules but also understand three primary concepts: (1) the probabilities with which chance events may occur; (2) the criteria for termination of the competition; and, (3) the distribution of the payoff" (Morris 1976:541). Thus, the sharing of the stylistic Patolli design not only suggests influence but infers a degree of interaction necessary to convey the rules of the game. Granted the rules may vary -- house rules. However, the core rules rarely change. The peripheral discrepancies arise due to variation in the cultural context. Hegmon (1992) suggests learning and interaction contribute to and maintain the existence of stylistic variation. She also notes that 'material visible only in private is more likely to convey messages about ritual or belief systems, whereas highly visible material often indicates group or ethnic boundaries' (1992:521). If this is so, it is quite possible that the Patolli board, hidden in A-20's southernmost room, could represent a ritual game of chance. In opposition, the columns could represent cultural affinities to other Maya groups who share this same architectural style.

In concordance, Graham (1973) proposes, polities surviving the Classic demise 'were not affected in the same manner simultaneously. The seats showed varied responses and interacted differently among themselves as well as experienced plural forces at work in the destruction of the Classic order' (Graham 1973:217). Due to a variety of socio-political circumstances non-Classic features appear in different forms and contexts (Graham 1973). This paper is not the place to discuss all the instances of differences between regions. Rather, I will focus on the similarities and discuss possible implications. The uniqueness and sudden appearance of the combination of columns with the Patolli board drives my curiosity. This discussion specifically examines their late appearance at Xunantunich.

Becan, located in the Rio Bec region at the base of the Yucatan Peninsula, had a Middle to Late Preclassic (A.D. 550 B.C.) florescence and an Early Classic decline. Similar to Xunantunich, it witnessed a Late Classic population boom ceasing by A.D. 830. Based on a dramatic change in the ceramic inventory, ninth century Becan represented a northern Yucatan settlement (Sharer 1994). On the other hand, Seibal was located on the Rio Pasion down in the Southern lowlands and had an early Late Preclassic apogee followed by an Early Classic decline. It was not until the Terminal Classic when the ceramic, iconographic and architectural traditions reflect a northern lowland Maya takeover (Sabloff and Smith 1982; Sharer 1994; Schele 1995).

Interestingly, Seibal, Becan and Xunantunich do not appear to play major roles during the southern lowland Classic peak. Conversely, they had early origins in the Middle to Late Preclassic (Smith 1982; Sharer 1994; Leventhal 1994) and possibly maintained a low identity profile during the Classic. The lack of locally manufactured Belize Valley ash-tempered ceramic wares found in the Peten Region suggested to Willey (1973) that the Belize Valley region maintained somewhat of a 'provincial status' in 'relation to the more centrally located portions of the Southern Maya Lowlands' during the Classic Period peak in the eighth century (Willey 1973:98). Moreover, Willey

(1973) suggests the developments occurring in the Belize Valley were marginal compared to the power-related changes happening in places such as Tikal, Uaxactun, Holmul, etc. Thus, while surely influenced by and interacting with these major power spheres, the occupants at sites such as Xunantunich maintained a certain degree of distinct Maya cultural identity. I would argue that the Xunantunich elites continued this provincial status during the beginnings of the socio-economic change related to the creation of the northern lowland Chichen Itza dominated regional interaction sphere.

In a summary addressing Late Lowland Maya Civilization, Sabloff and Andrews V (1986) present an argument supporting the above arguments. They suggest that Puuc and Toltec architectural and ceramic traditions were not linear. Rather they overlapped in time. Sabloff and Andrews V (1986) suggest the 'Toltec intrusion was a regional, rather than a pan-northern Maya phenomenon' (Sabloff and Andrews V 1986:438). Thus, the Toltec Chichen Itza interacted with Terminal Classic Maya societies. Schele (1995) and Grube (1995) have recently argued that the term Toltec Chichen Itza is inappropriate. Rather, the ancient inhabitants of Chichen Itza were undeniably Maya. Maya who originated from the southern lowlands and who would logically maintain these loose connections.

The lack of a northern lowland-related ceramic tradition at Xunantunich suggests weaker or less influential interaction compared to the Puuc sites, Seibal and Becan. Yet, in congruence with data from Becan, Altar de Sacrificios, Seibal, San Jose, Nohmul and others, Xunantunich expectantly falls into this realm of interaction and exchange. I am not denying or contradicting Sabloff and Andrews V (1986) conclusion that a closer cultural relationship between and probable chronological overlap of the Puuc sites and Chichen Itza formed part of one northern cultural climax that was distinct from and mostly later than the southern lowland Classic Peak. Rather, northern lowland Maya influence with the southern and central lowlands appears less than with the northern lowlands (with the possible exception of Seibal). Yet, interregional interaction is occurring. With these ideas in mind, future research can more accurately address these issues.

Conclusions

Concluding remarks regarding the excavations of Structure A-20 must consider the internal changes occurring within Xunantunich's site core. An investigation of A-20's architectural changes within the context of corresponding site core transformations reveals a number of unique revelations regarding the Late Classic to Terminal Classic transition. Current research (Leventhal 1994; Demarest 1995; Friedel 1995) has demonstrated that this period, coined the great collapse, represents a time of rapid depopulation and warfare in the southern lowlands. Thus, an examination of the changes occurring at Xunantunich 'provides us with a survival mechanism for the ruling family and centralized political structure at this site during this period of political, social, and economic crisis and, perhaps, chaos' (Leventhal 1994). If this period represents a significant socio-political reorganization, what were the social and political forces -- power -- that held centers like Xunantunich and their local communities and households together? Based on pure speculation in conjunction with several lines of archaeological evidence it appears as though power needed to manifest itself differently during this period of change.

As a response to the collapse, Leventhal (1994) argues that the architecture in Xunantunich's site core reflects a more constrictive and restrictive atmosphere.

The Castillo and its east and west wings block all movement from Plaza AI to the south Group. In addition, Structure A-1, Motmot wall and Ball court #3 restrict access to Plaza AII. This restriction, in fact, separates the ruling family, living in the buildings of Plaza AIII, from the general population. The separation of social groups at Xunantunich is becoming wider and more clearly defined. This may be the result of growing weakness of Xunantunich's ruling family and its attempt to maintain some internal focus and power (Leventhal 1994).

Following the same line of reasoning, the construction of A-6's east and west wings in conjunction with El Castillo's southern position de-emphasizes the north-south primary axis of the overall site plan. The bold east and west wings demarcate a strong southern boundary. Thus, while maintaining architectural prominence, compared to A-1, A-6's east-west axis played a more dominant role during these later periods.

Structure A-20's shift from a north-south primary axis to an east-west primary axis follows suite with the overall shift occurring within the site plan. Moreover, the change occurring with A-6's architectural modifications accompanies the theme of restriction and demarcation. Similarly, A-20's shift to an east-west axis results in the restriction of A-20's activities to parties or individuals located on the upper west plaza. Plaza A-1 attendants only view presentations and display from A-20 when they occur between the columns. Thus, A-20 operations were probably controlled and limited to the ruling participants. However, based on the evidence of the termination ritual and the looted tomb, it appears as though the elite abruptly left probably at the close of the Terminal Classic. Prior to their departure what were the elites up to -- how did they maintain social and political cohesion during a time of political chaos? What was the nature of the social, political and ideological power that held centers, like Xunantunich, and outlying communities together?

Acknowledgments: First and foremost I would like to thank Dr. Richard Leventhal and Dr. Wendy Ashmore for giving me this opportunity to work with such a great group of people. The groups' enthusiasm and professionalism pervaded everyone's work. I also have the deepest gratitude to Rudy Larios for his wonderful discussions, guidance and expertise in Maya architecture. Additionally, the we I often referred to in the text pertains to the team of archaeologists who carried out the excavations and documentation of Structure A-20: Daniel Itza, Rogelio Chan, Rudy and Gil Chuc, Francisco and Alfonso Valdez Jr. Their friendship, patience and highly skilled experience were much appreciated. I would also like to thank the Belize Government and the Department of Archaeology for allowing us be involved with the work at Xunantunich. And finally, I want to thank my highly motivated, positive, patient and caring husband, Ted, for just being there. Thank you.

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1995 Social Heterogeneity and Political Integration in a Terminal Classic Maya Community: On-going Research at San Lorenzo, Belize. Paper presented at the 60th Annual Meeting, Society for American Archaeology, Minneapolis,

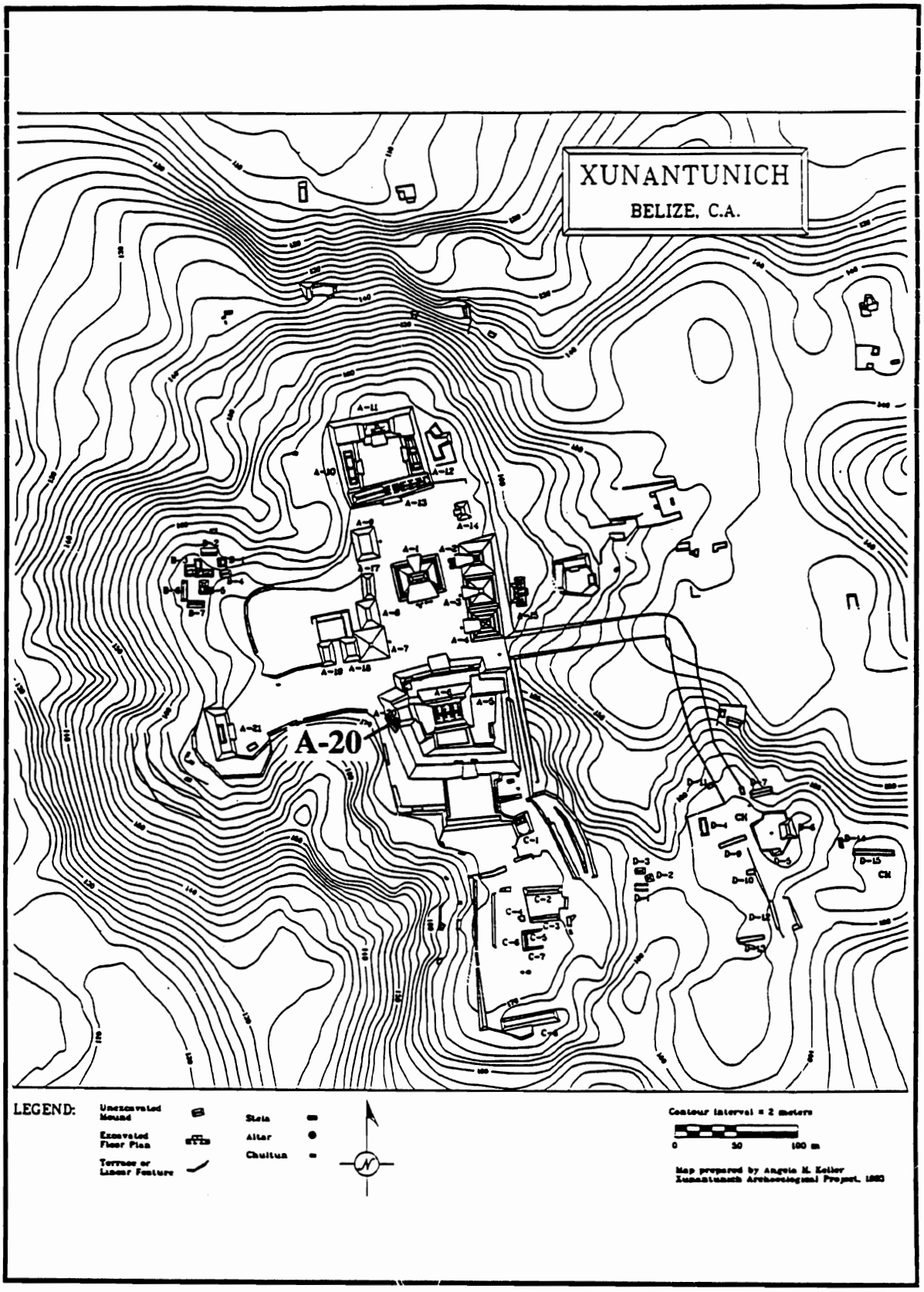

Figure 1. Xunantunich Site Core

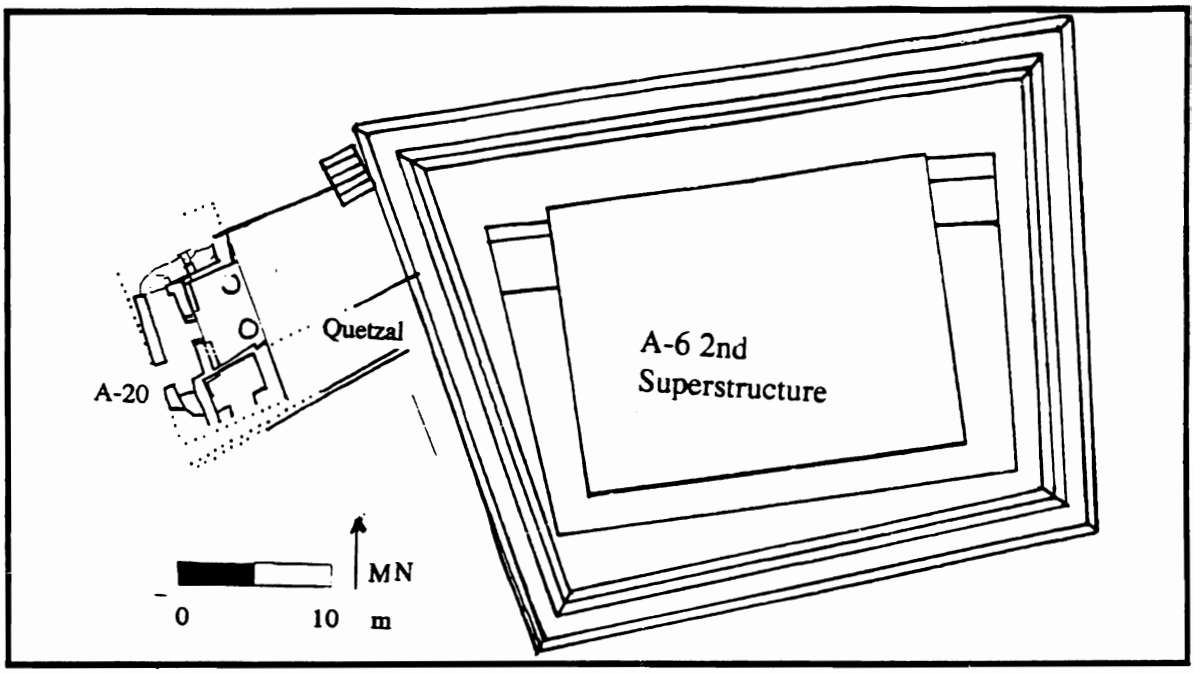

Figure 2. Structures A-6, A-20 and Quetzal - Plan View.

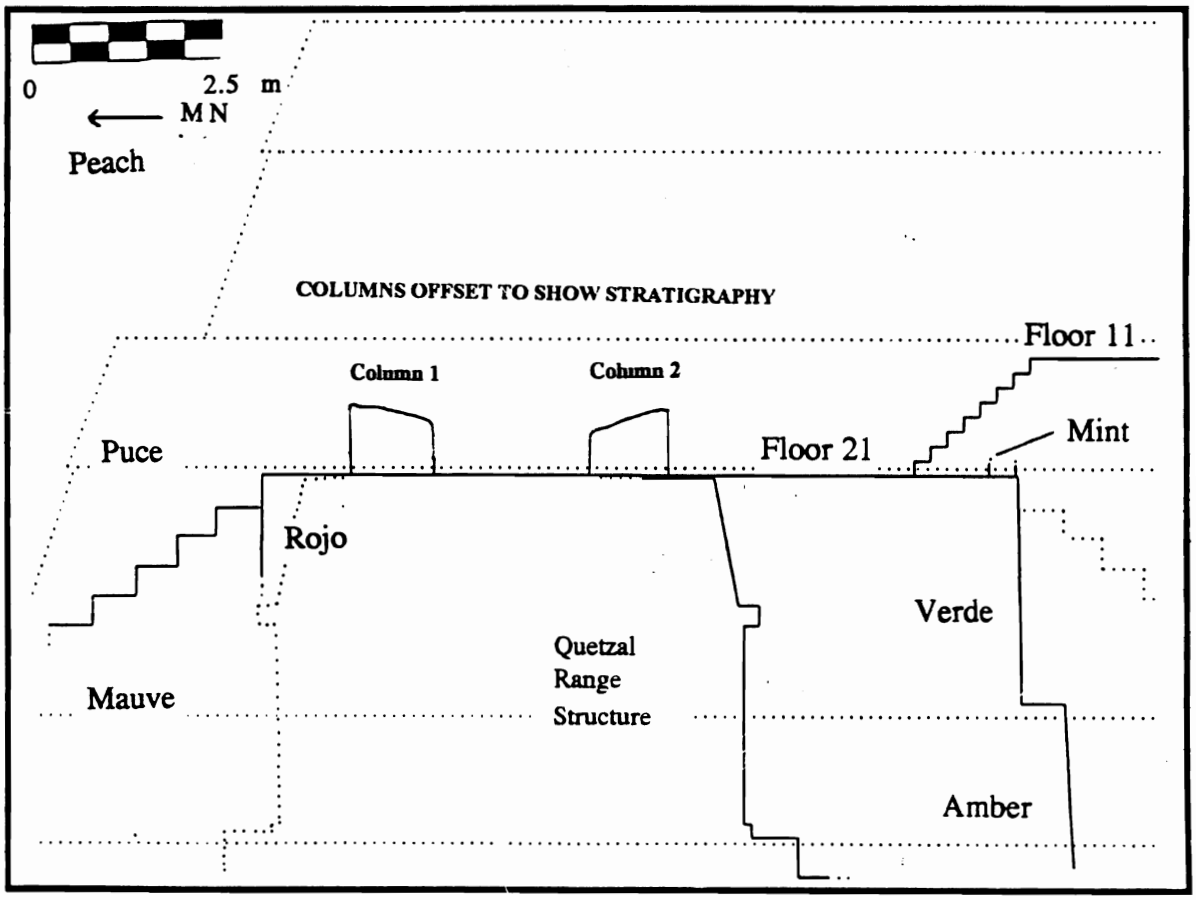

Figure 3. Section showing Quetzal building below Structure A-20's columns and the Upper West Plaza.

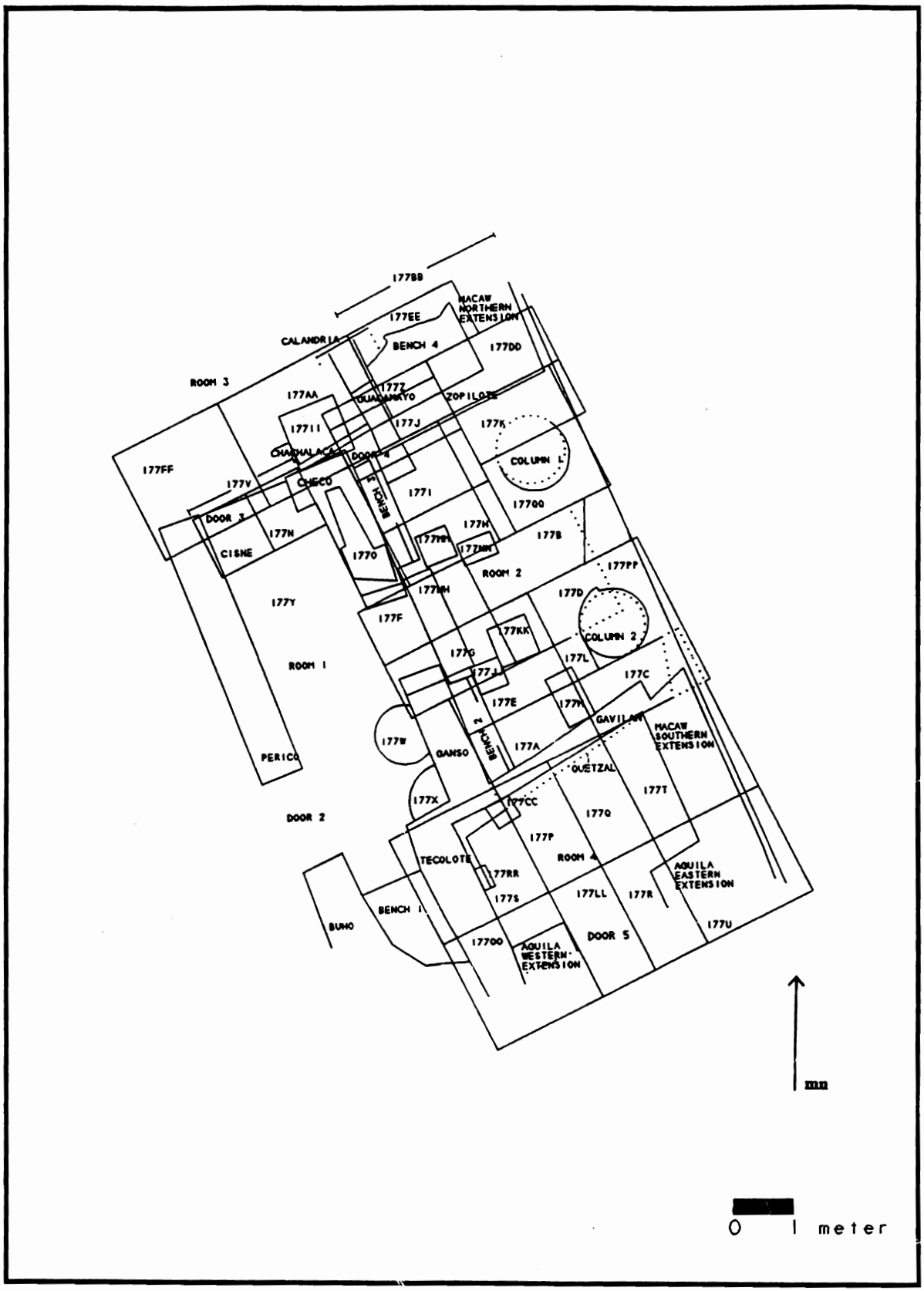

Figure 4. Suboperations Excavated - Plan View

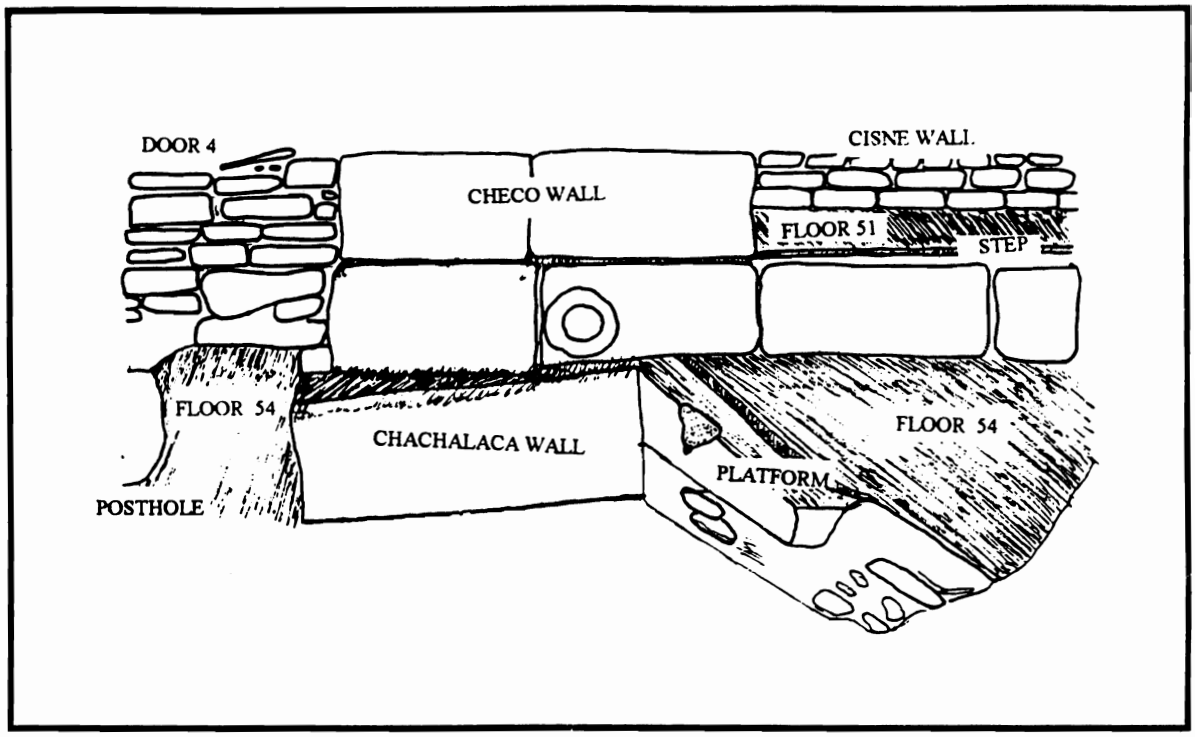

Figure 5. Suboperation 177II - Perspective

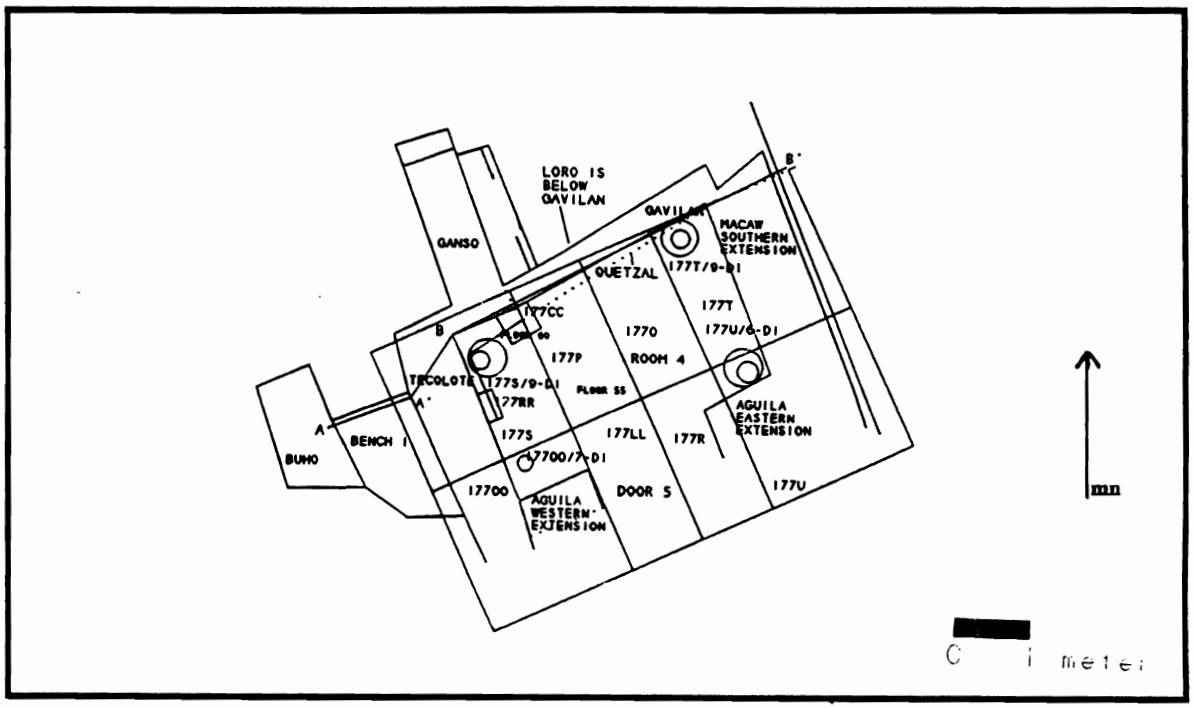

Figure 6. Room 4 - Plan View

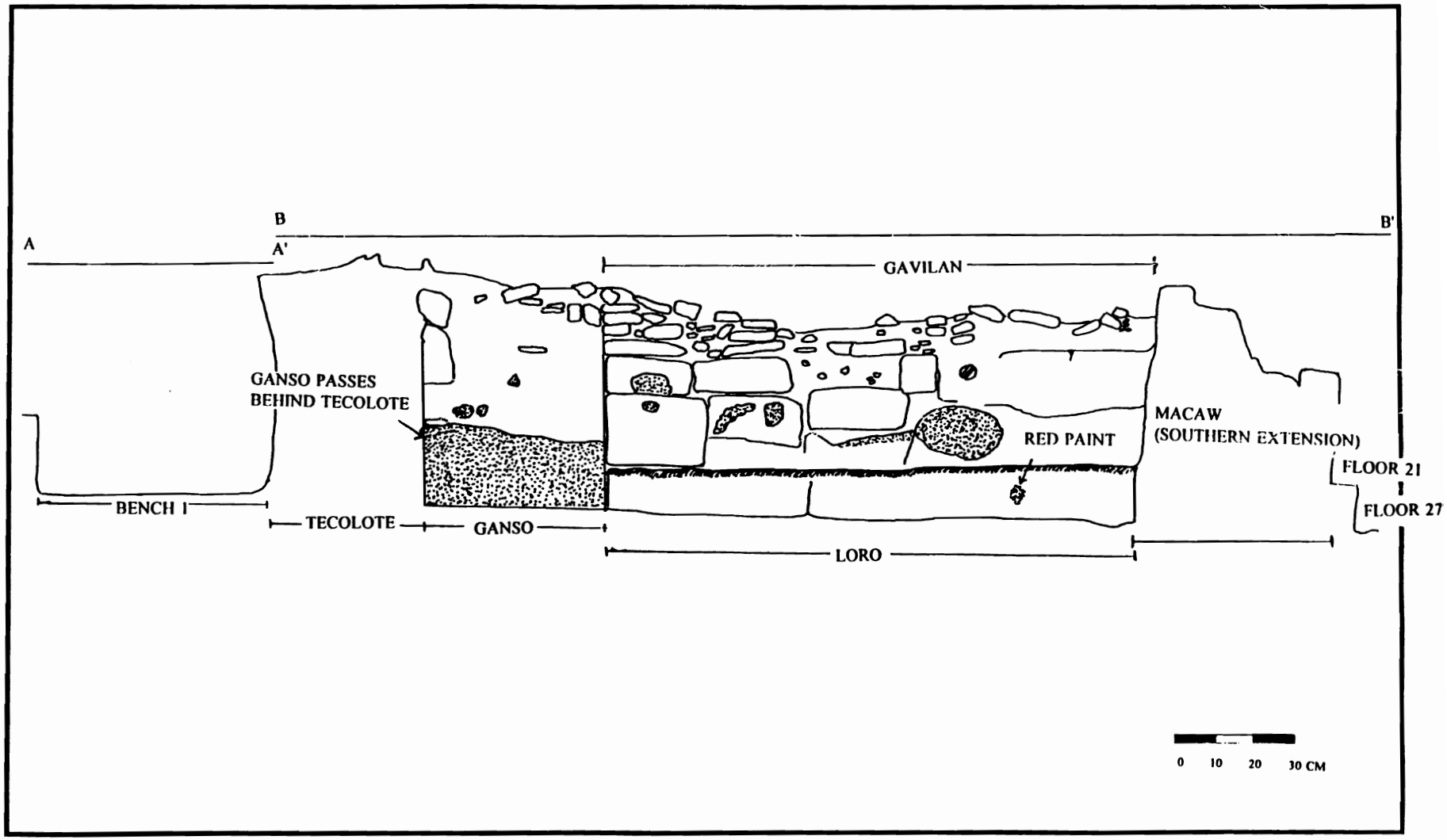

Figure 7. Room 4 - East/West Elevation

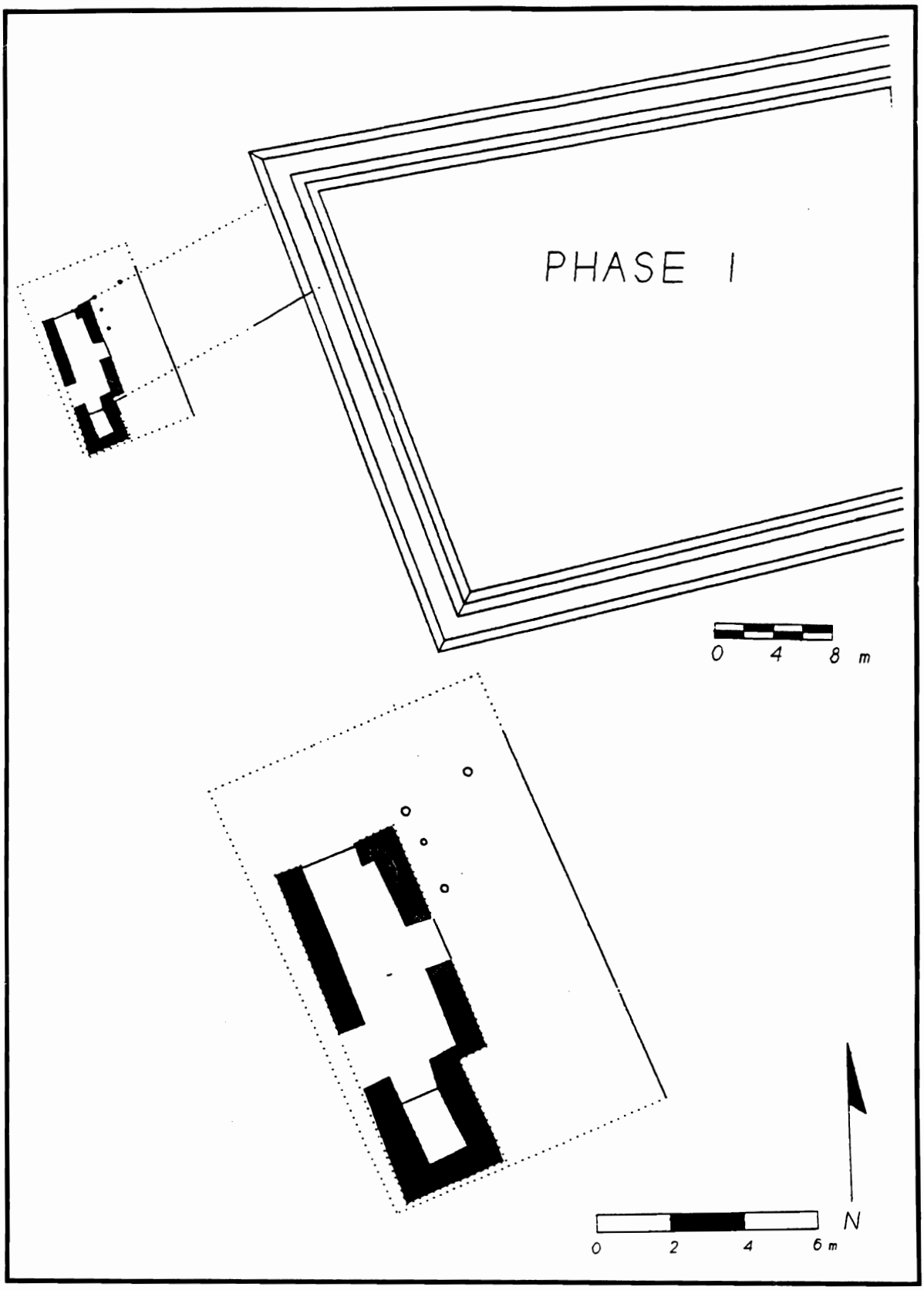

Figure 8. Phase I Construction - Plan View

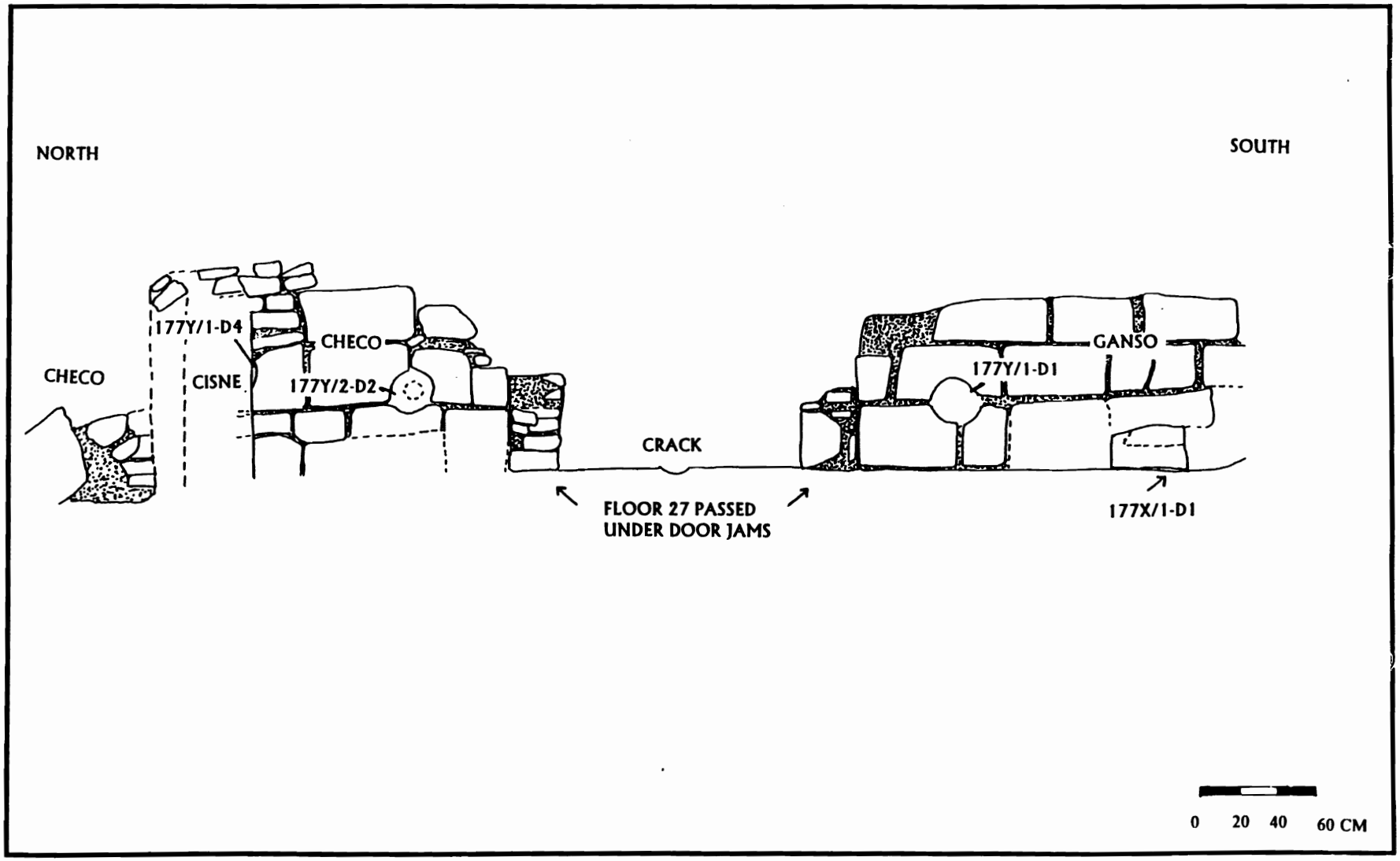

Figure 9. Room 1 - East Facing Elevation

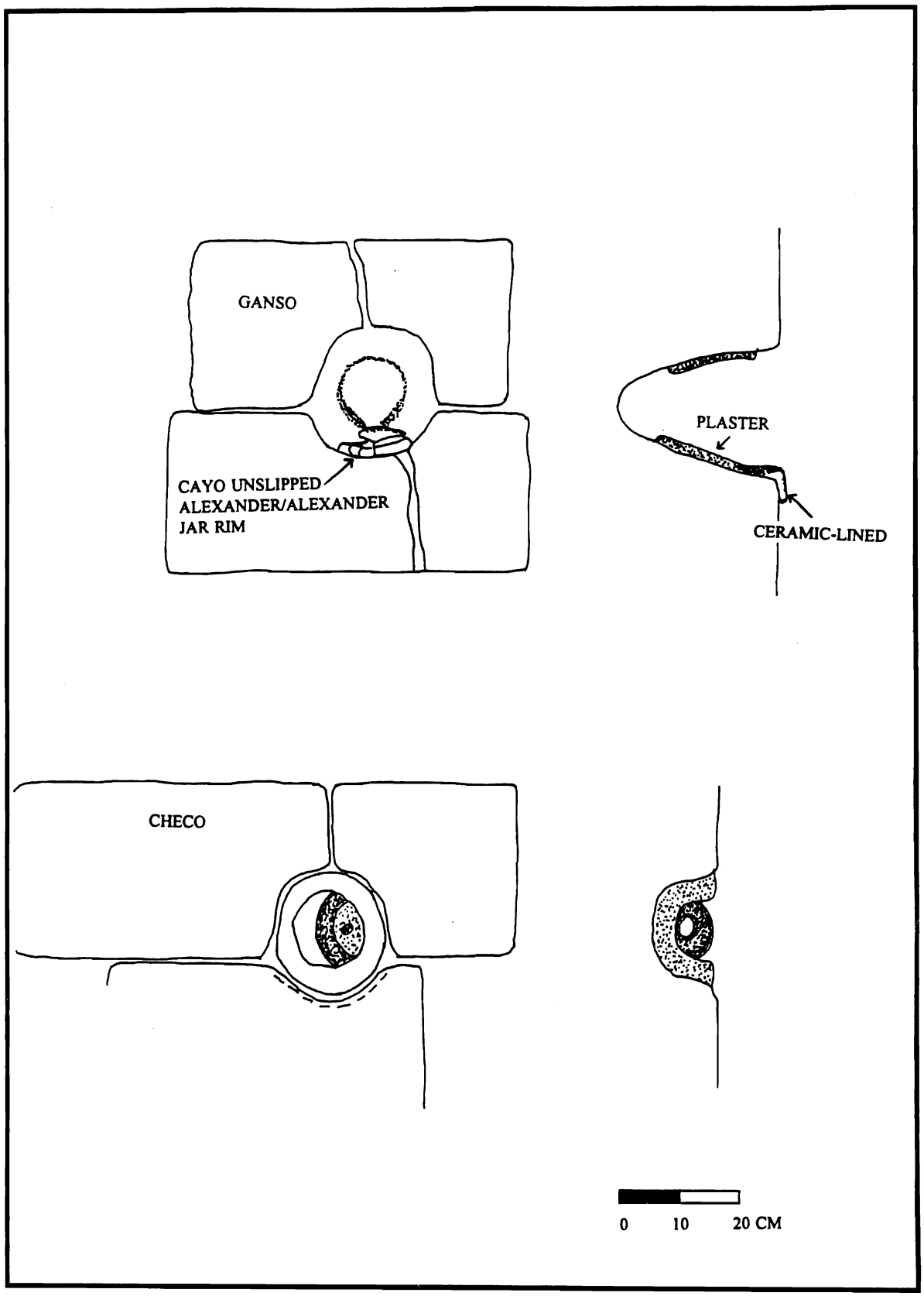

Figure 10. Curtain Holders - Profile and Elevations (177Y/1-D1 and 177Y/2-D2)

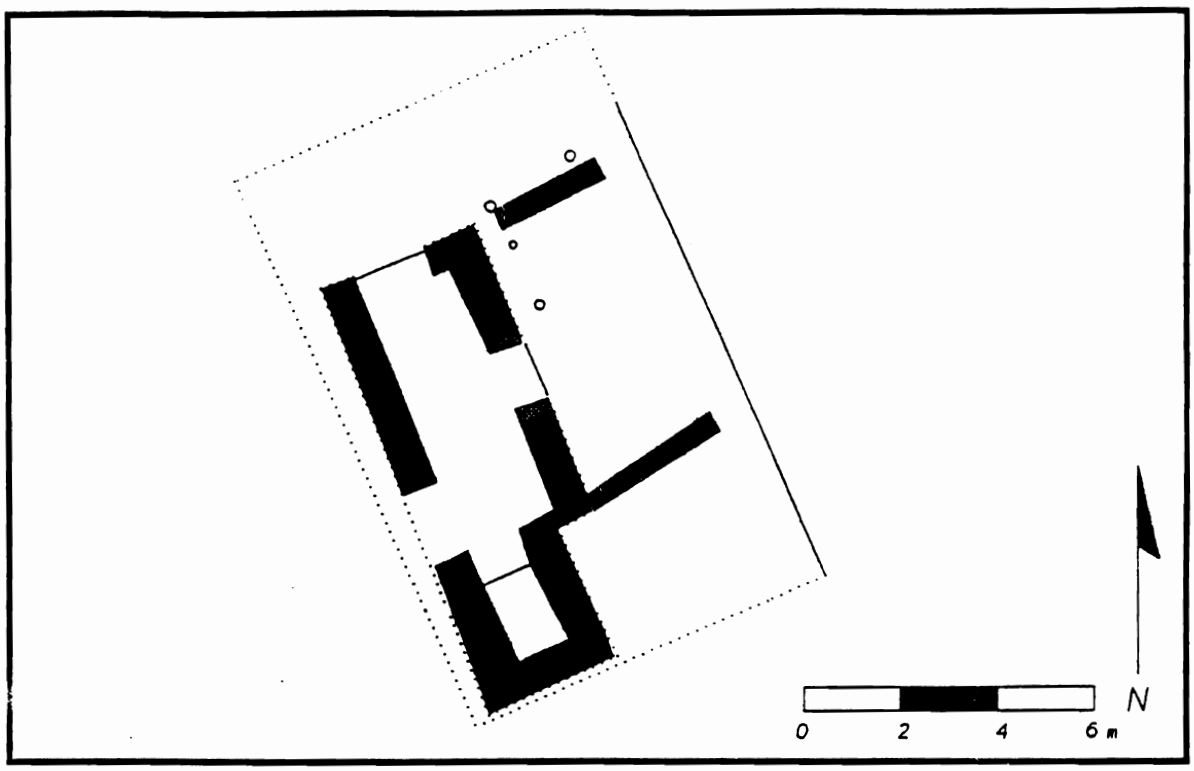

Figure 11. Phase II Construction - Plan View

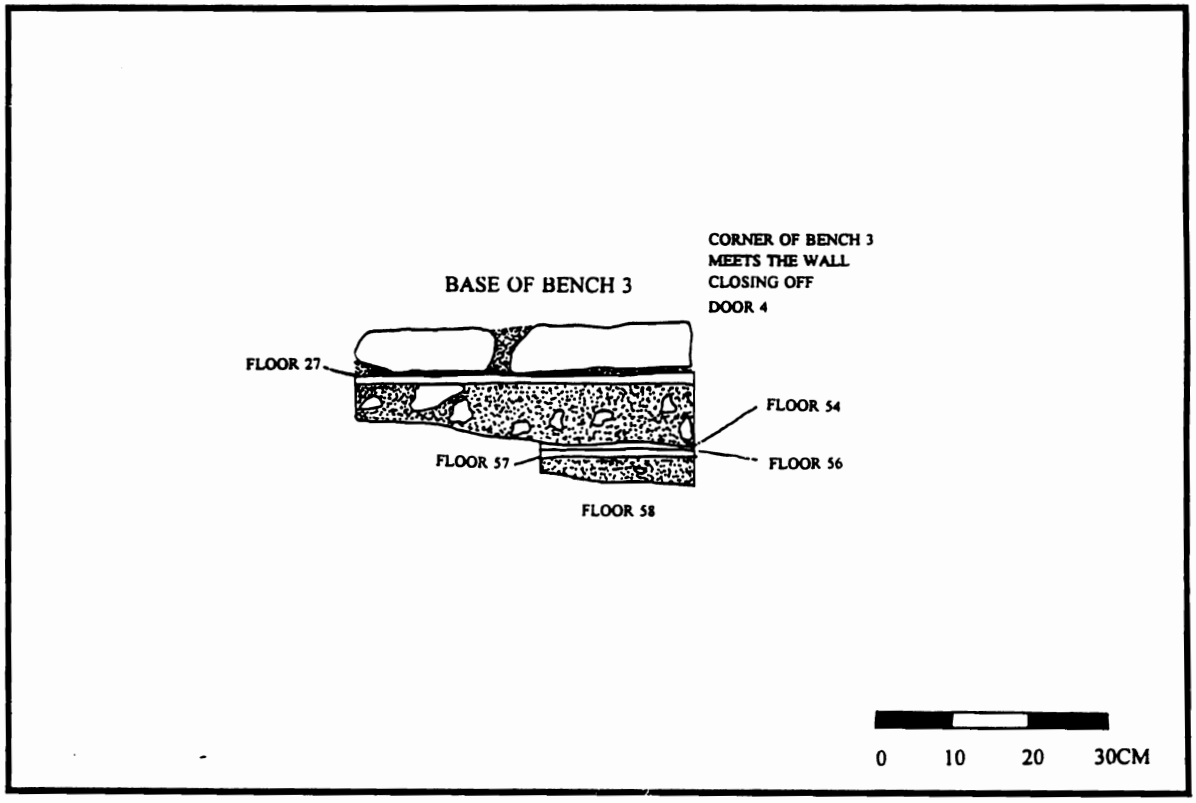

Figure 12. 177GG - Elevation

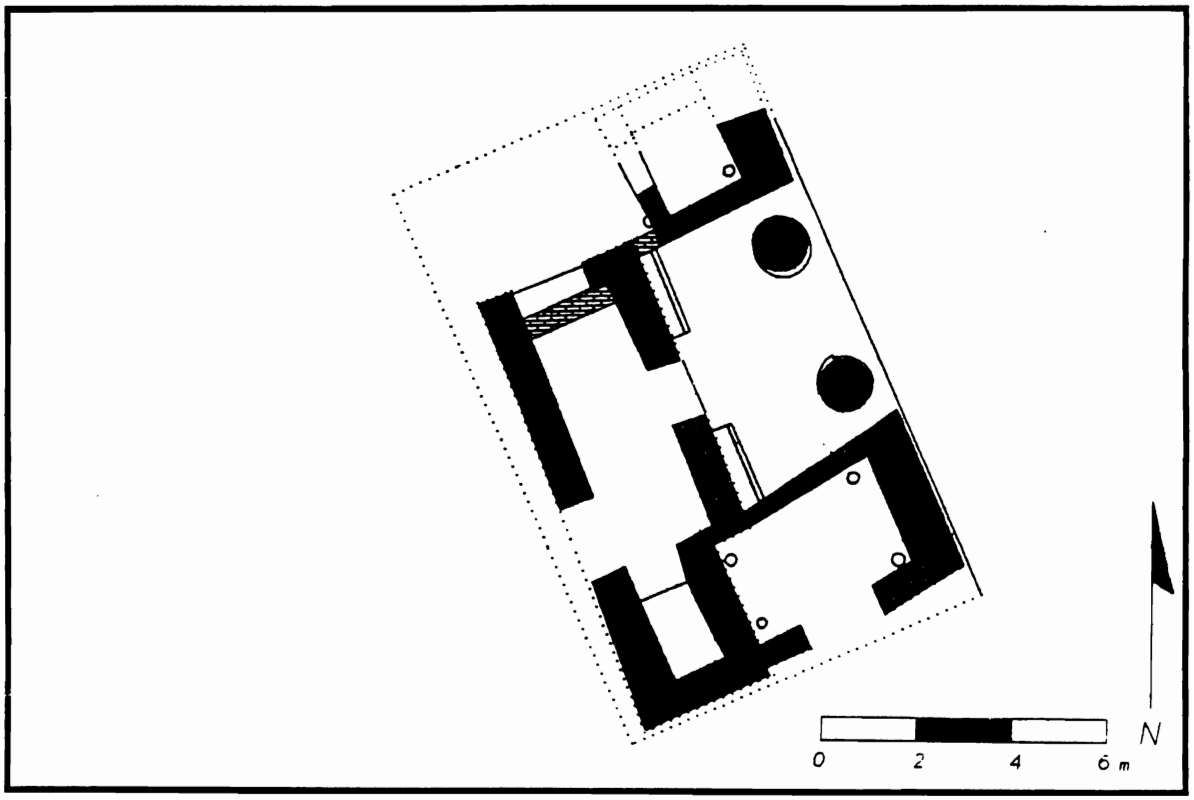

Figure 13. Phase III Construction - Plan View

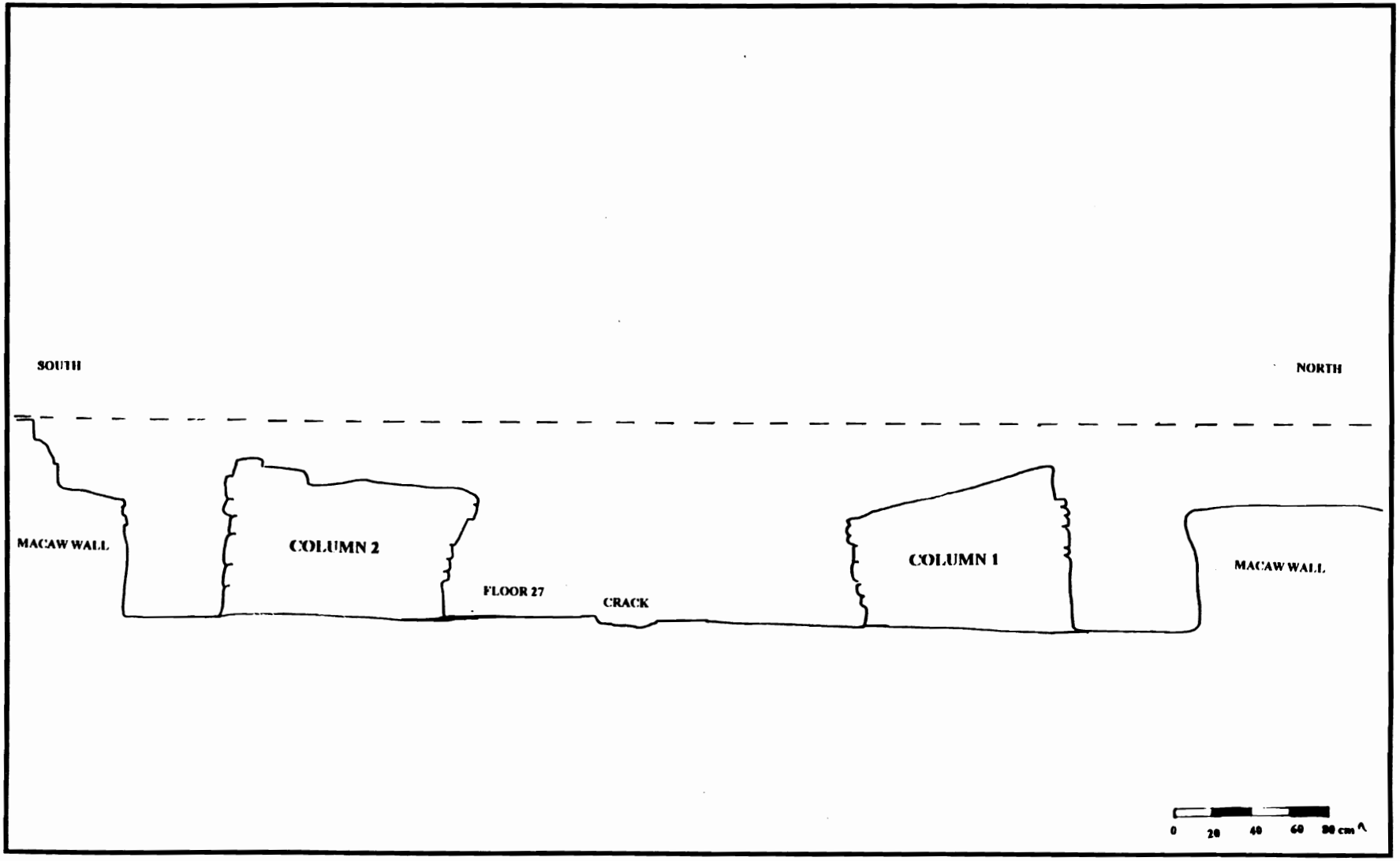

Figure 14. Room 2 Eastern Facade - Profile

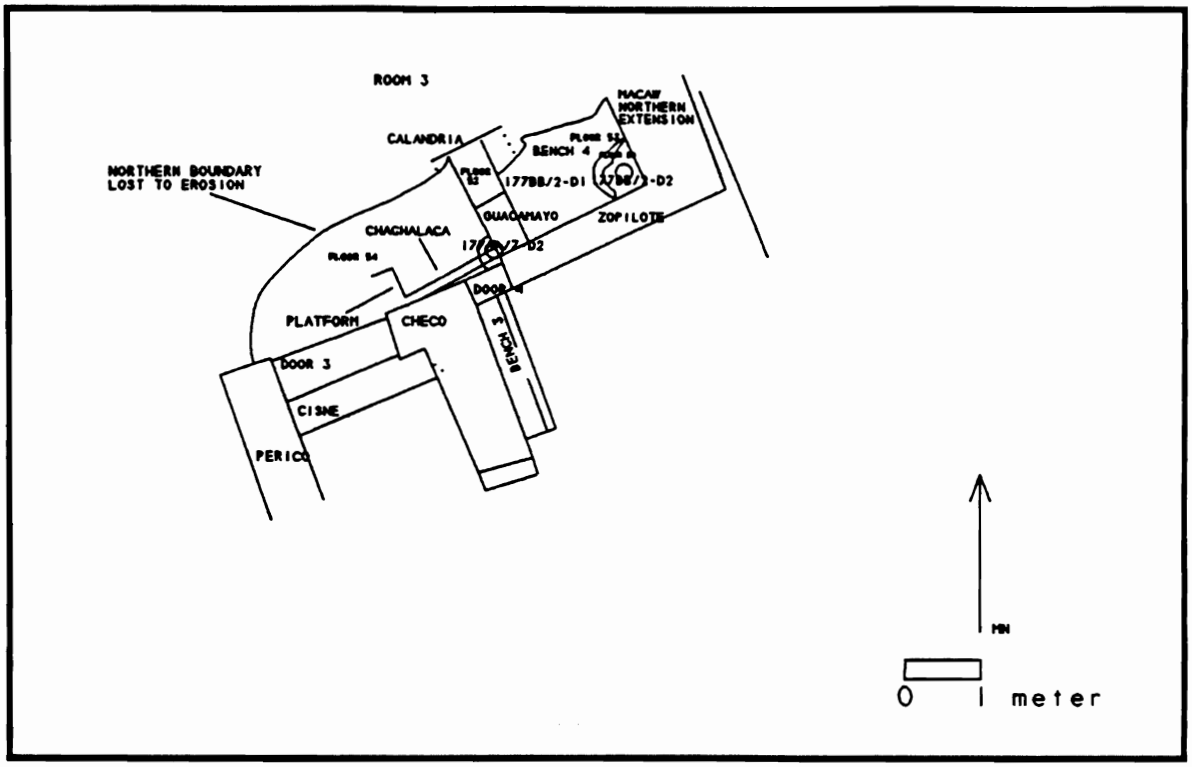

Figure 15. Room 3 - Plan View

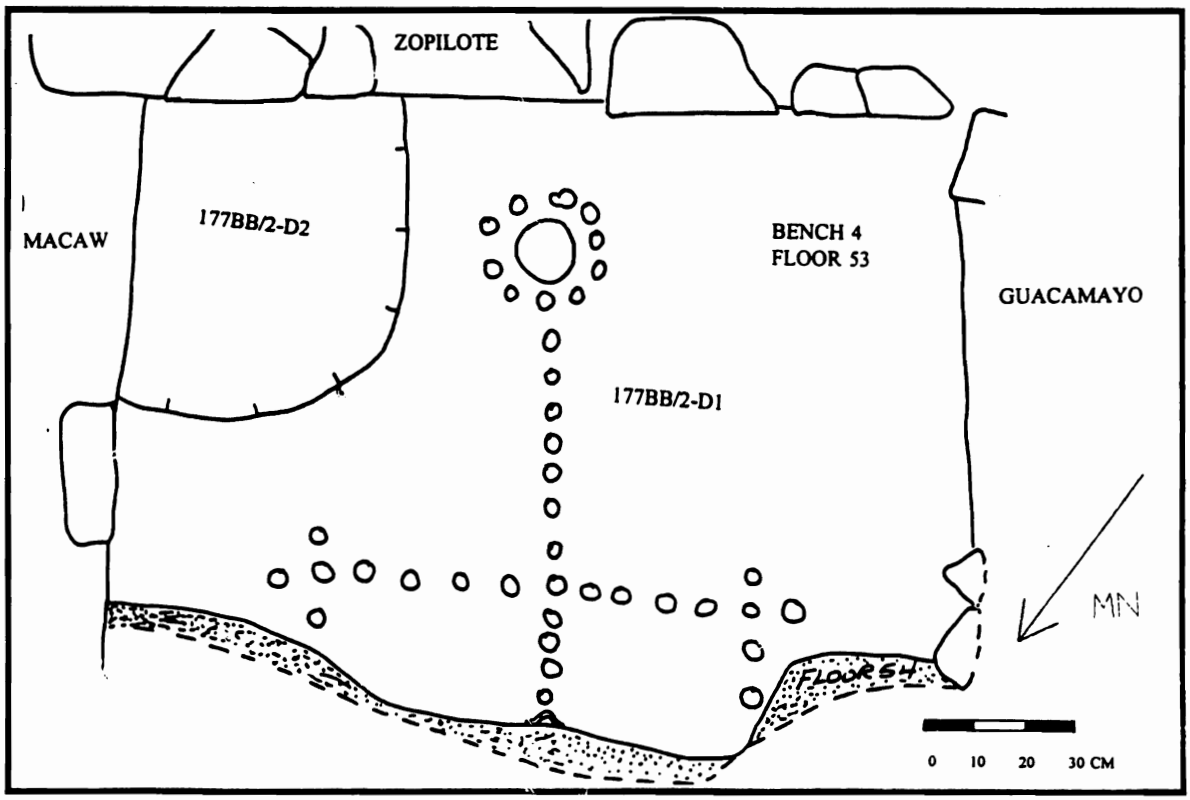

Figure 16. 177BB/2-D1 - Plan View

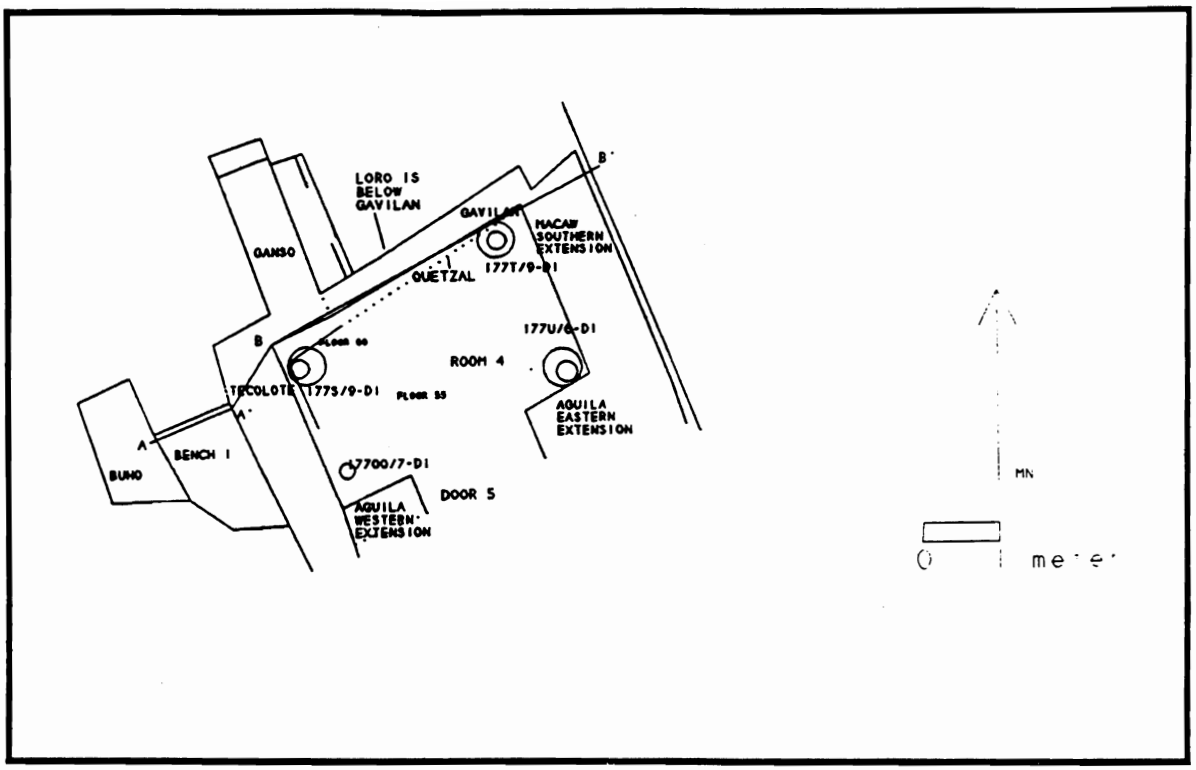

Figure 17. Room 4 - Plan View

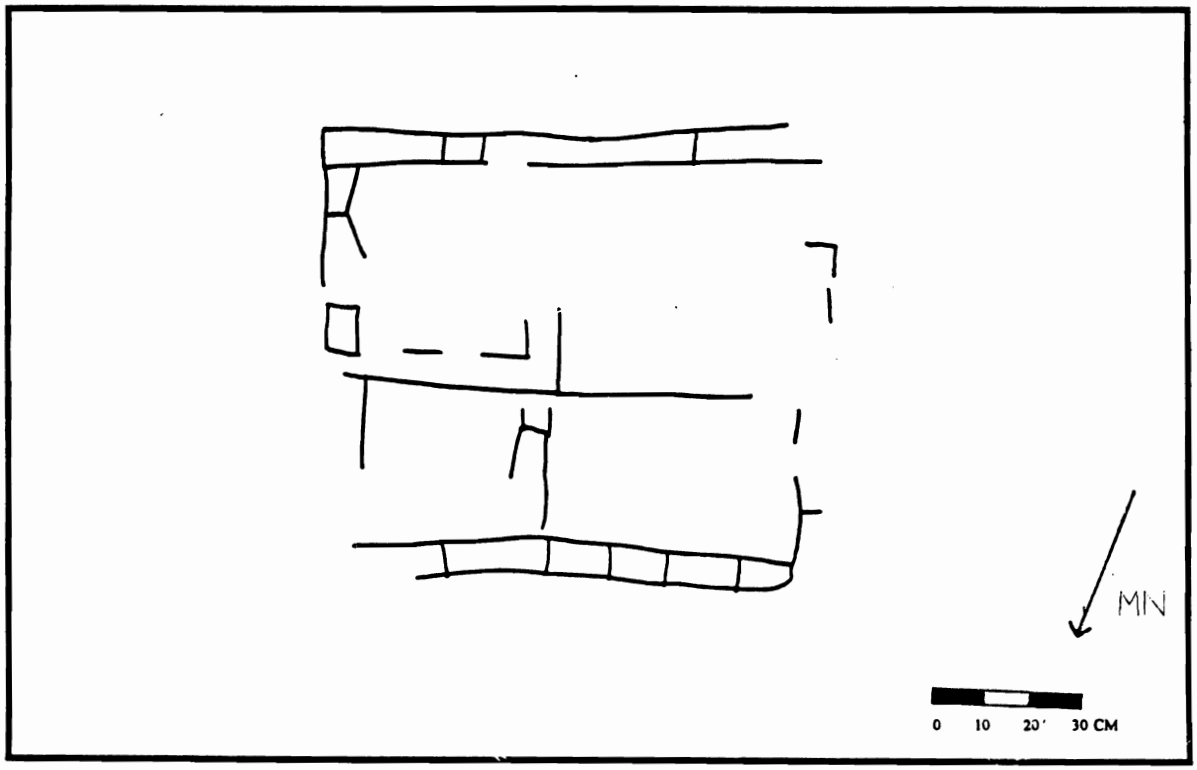

Figure 18. Patolli Board - Plan View

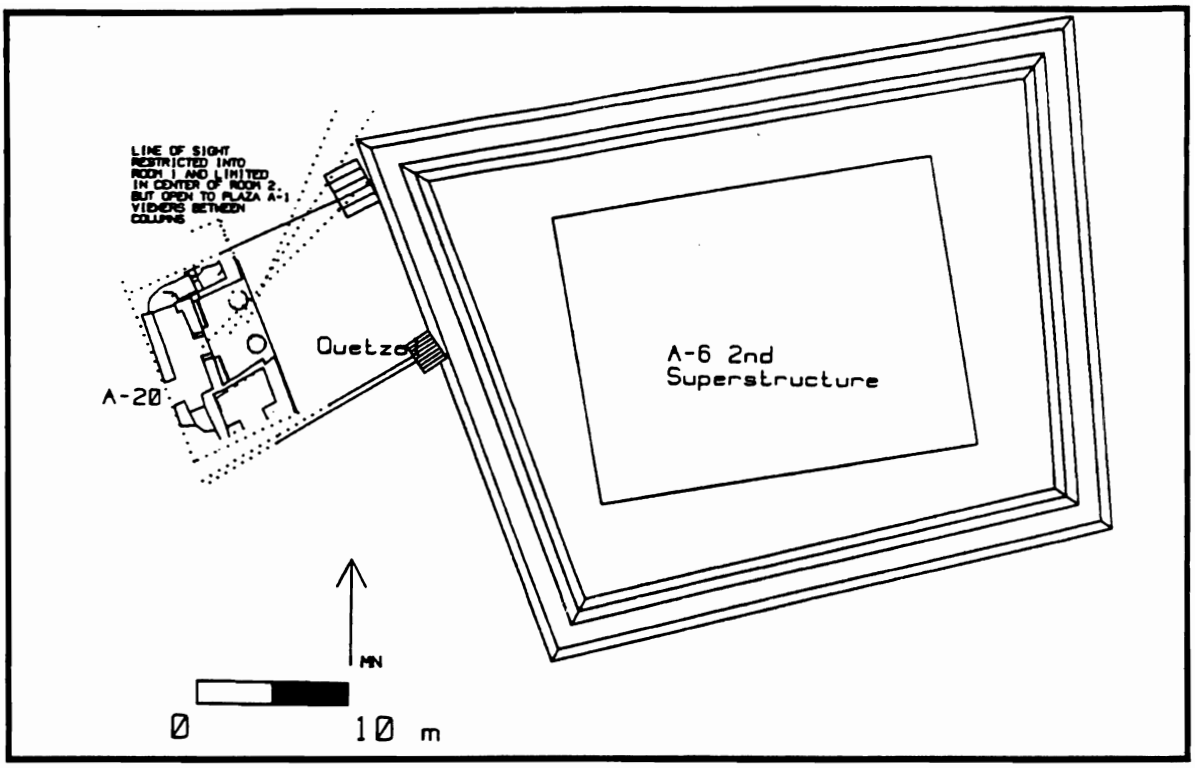

Figure 19. Room 2 showing central axis and line of sight - Plan View

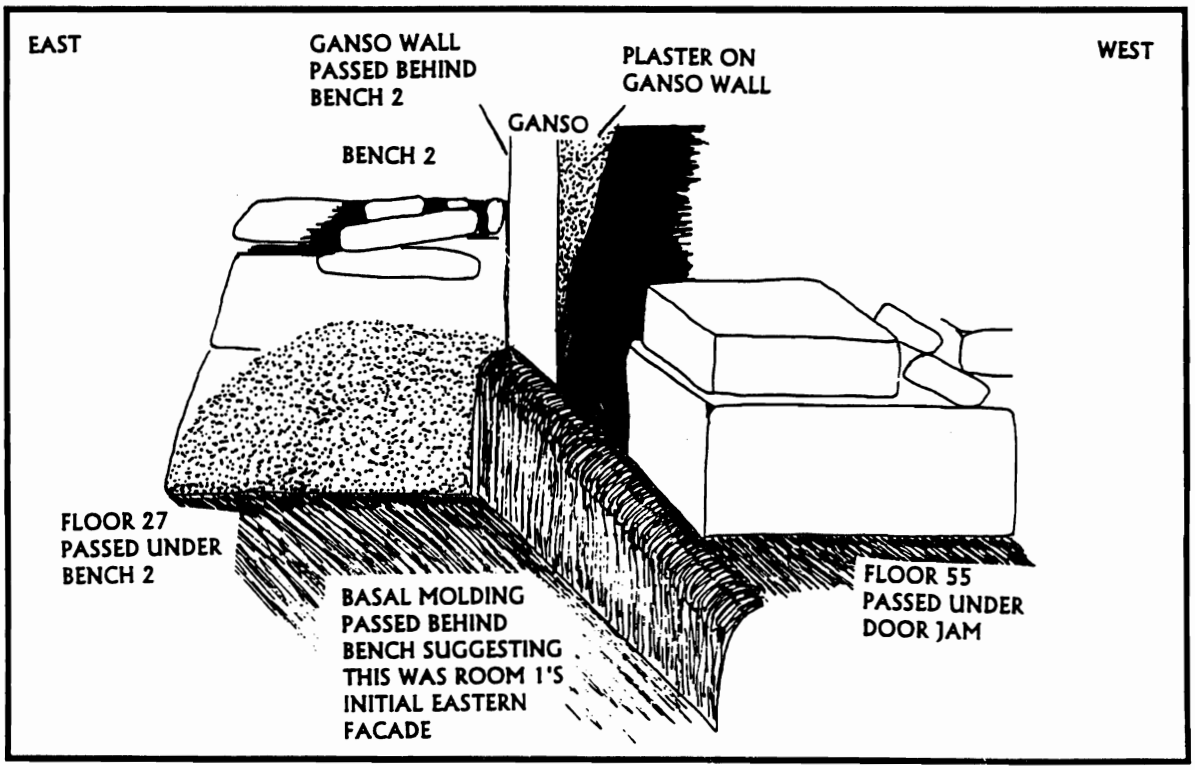

Figure 20. Ganso wall basal moulding/Bench 2 - Interpretive Perspective

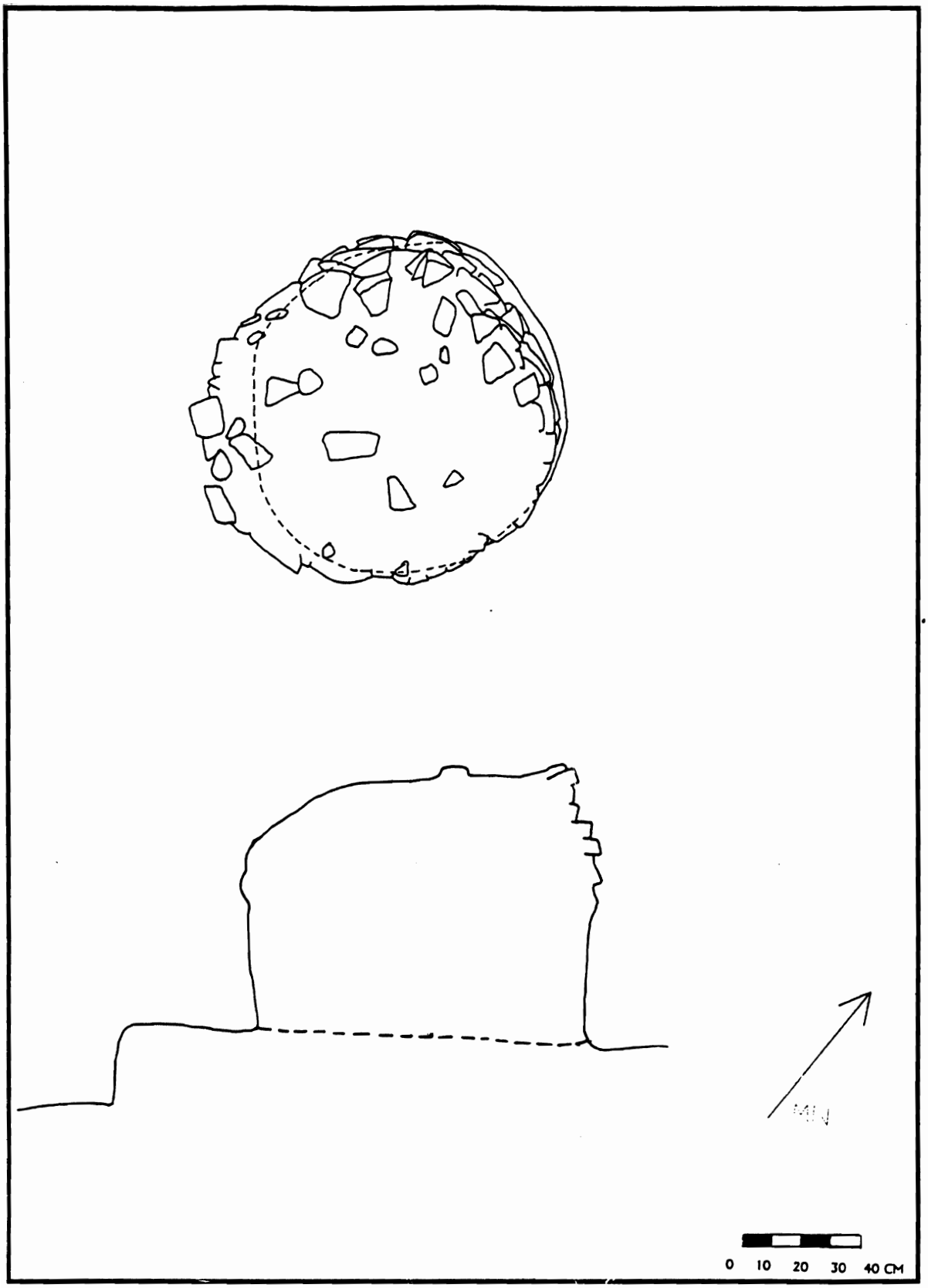

Figure 21. Column 1 - Plan and Profile Views

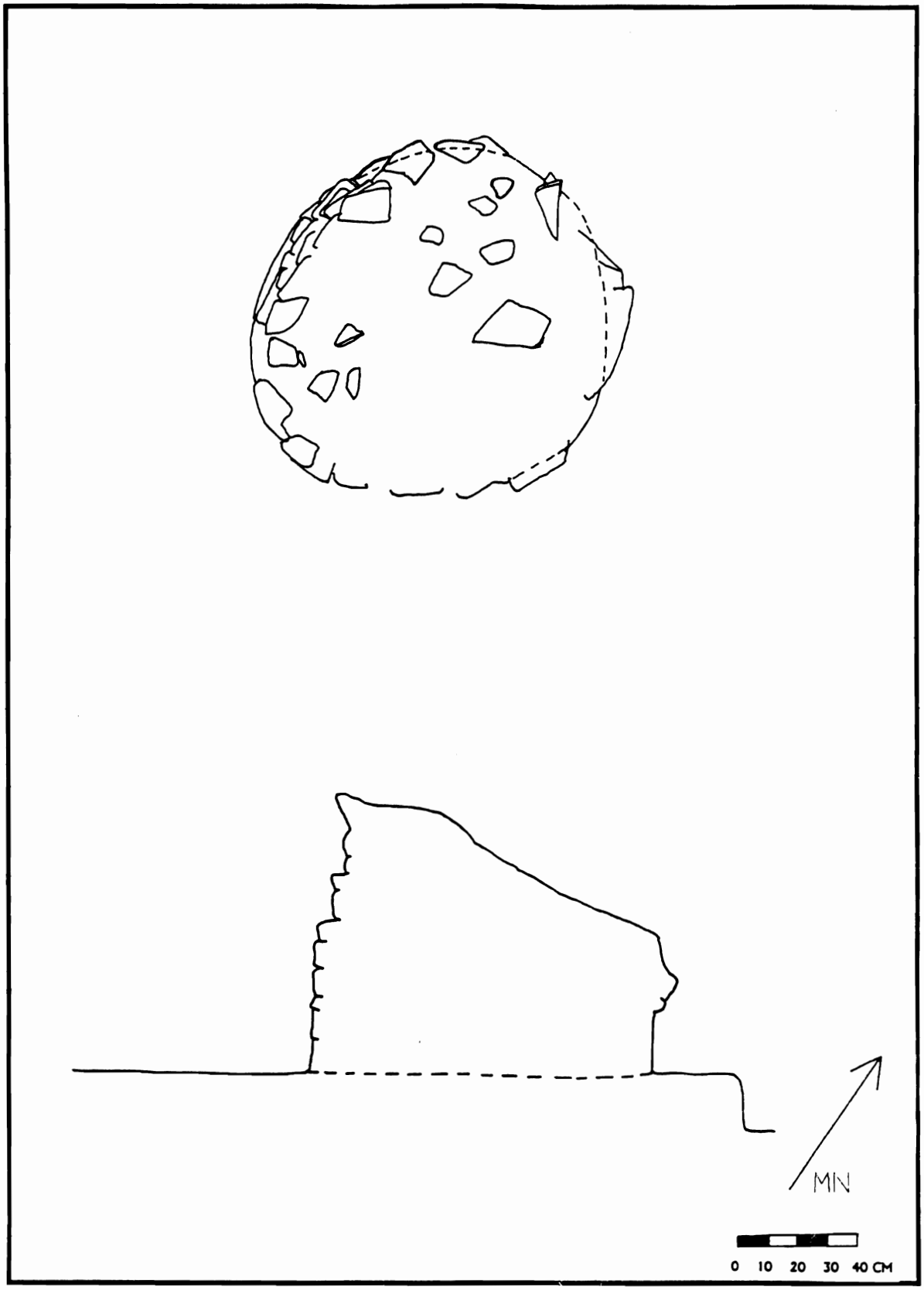

Figure 22. Column 2 - Plan and Profile Views

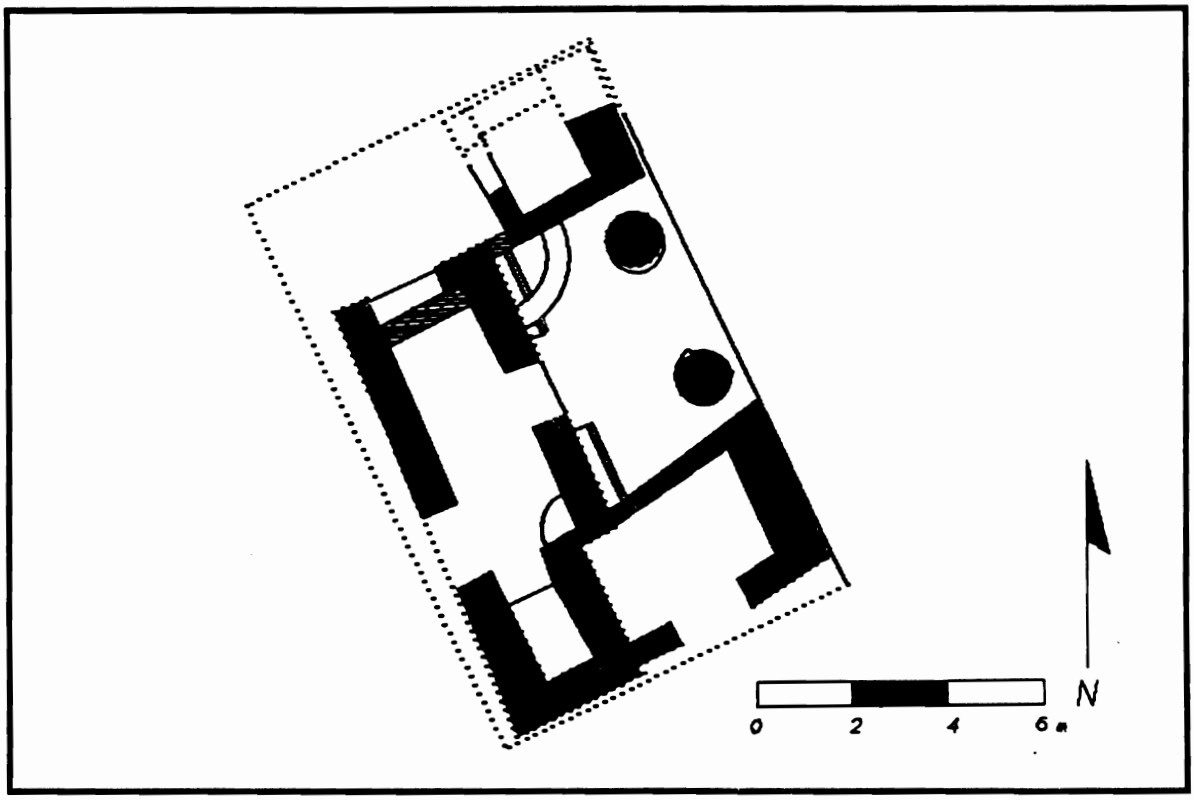

Figure 23. Phase IV Construction - Plan View

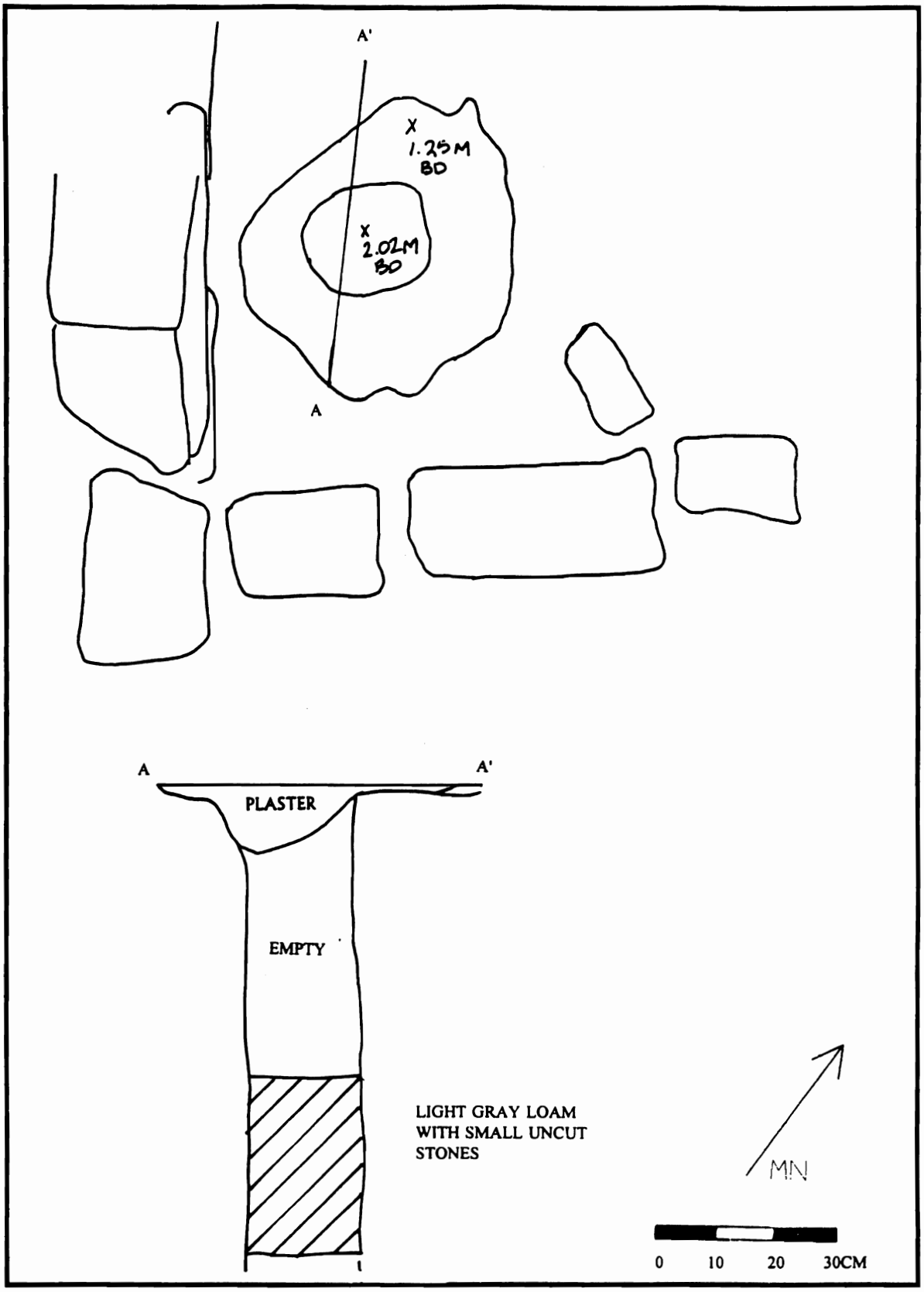

Figure 24. 177OO/7-D1 - Plan and Section

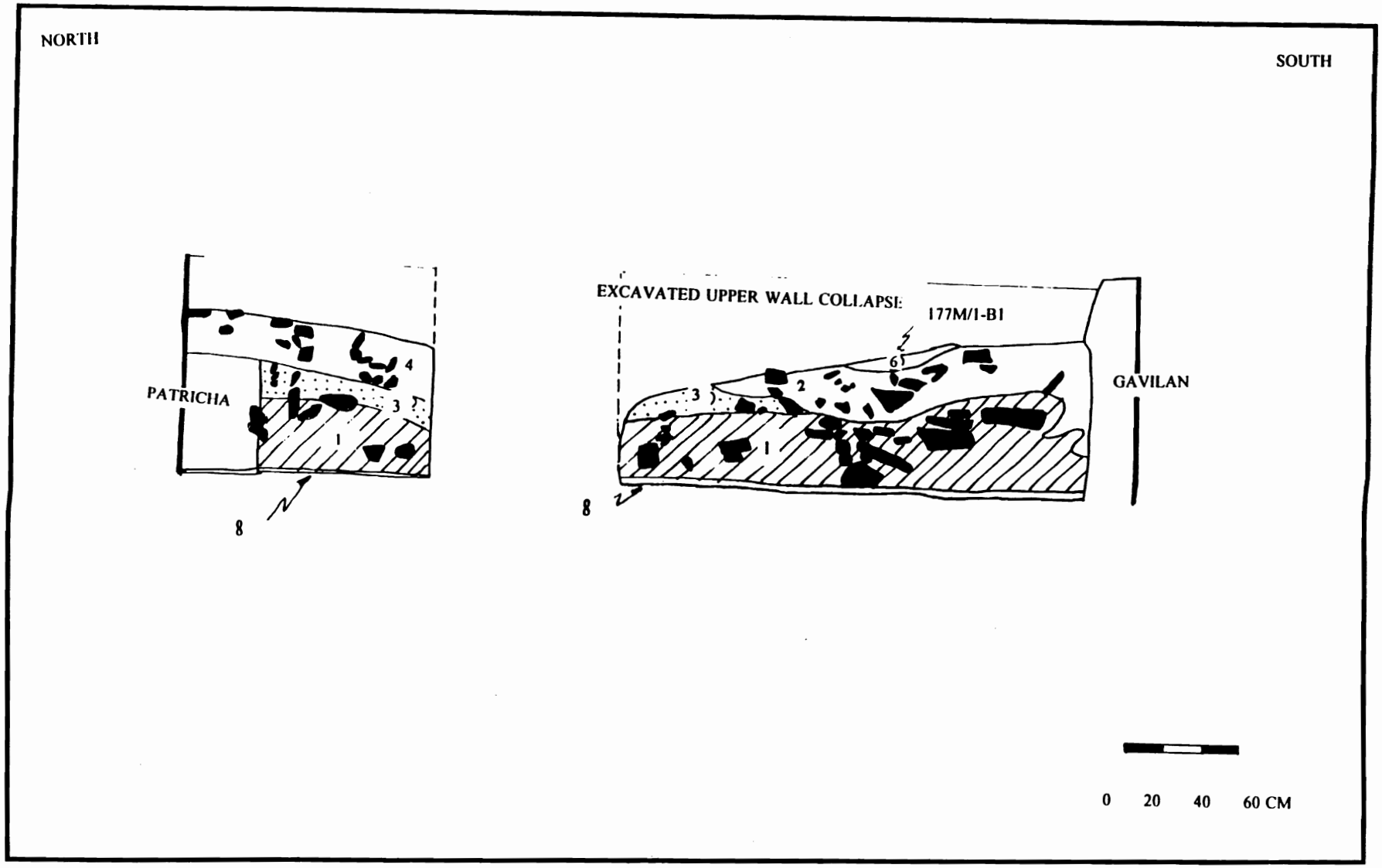

Figure 25. Room 2 - North/South Section

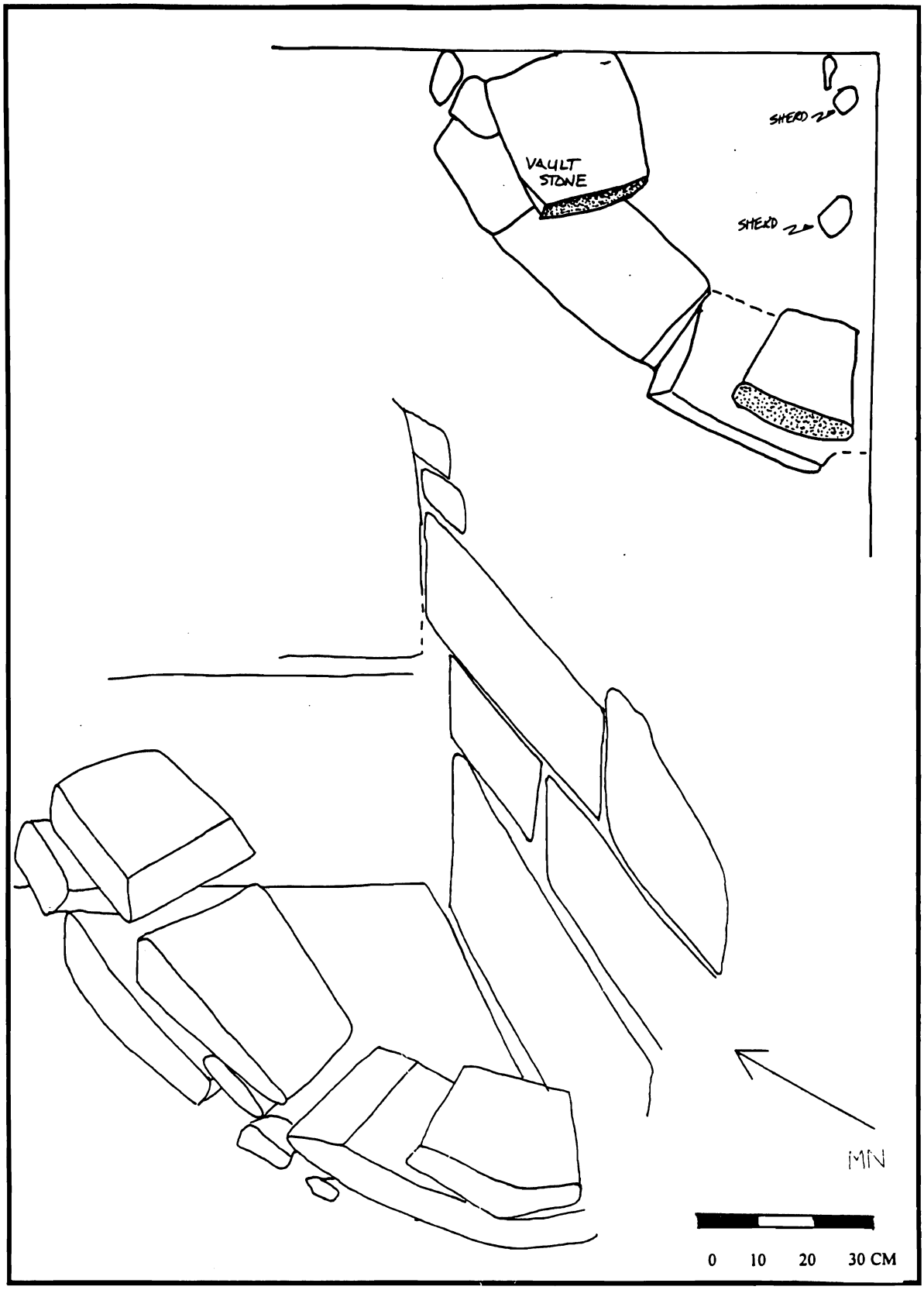

Figure 26. 177X/1-D1 - Plan and Perspective

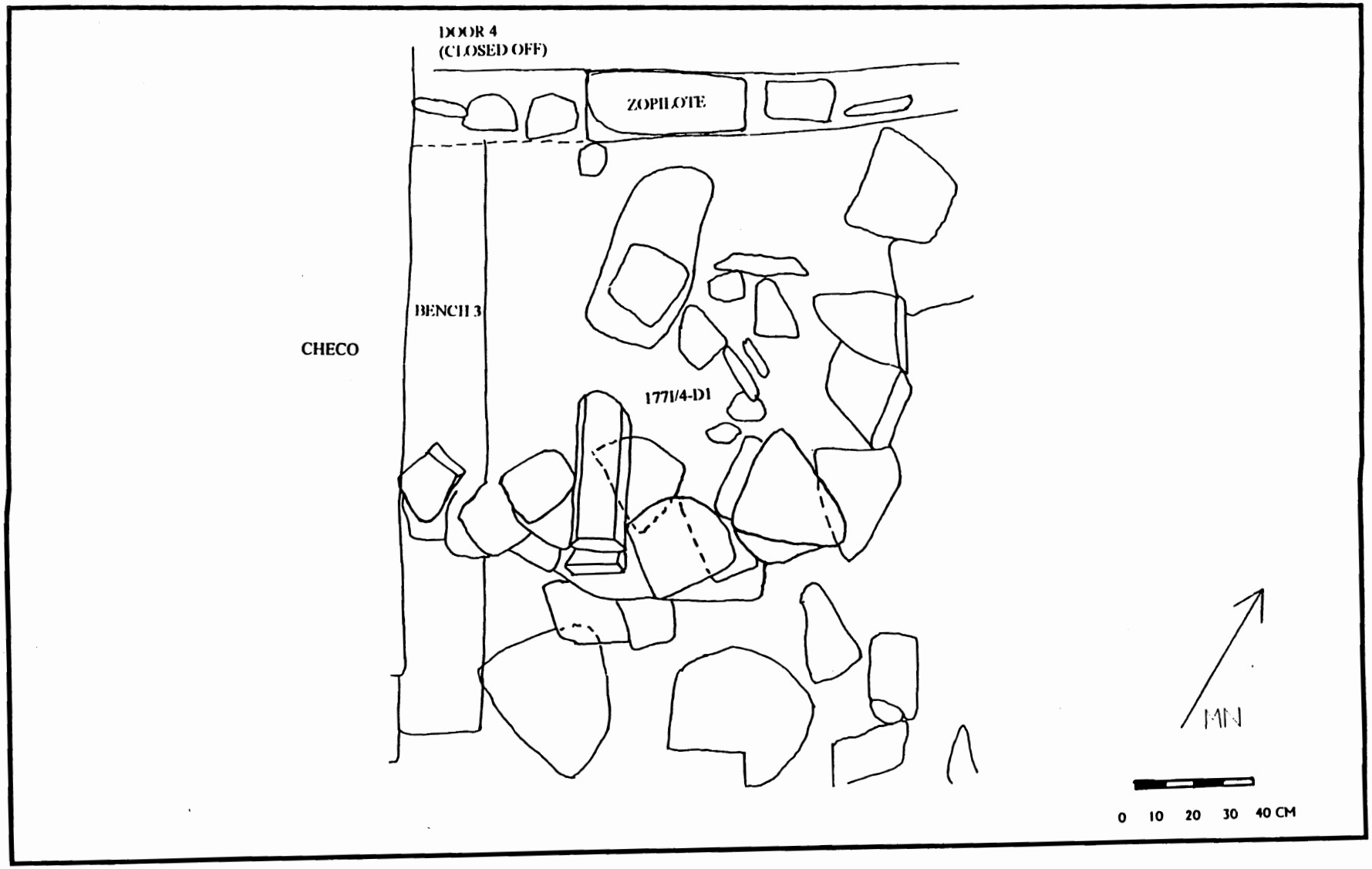

Figure 27. 1771/4-D1 - Plan

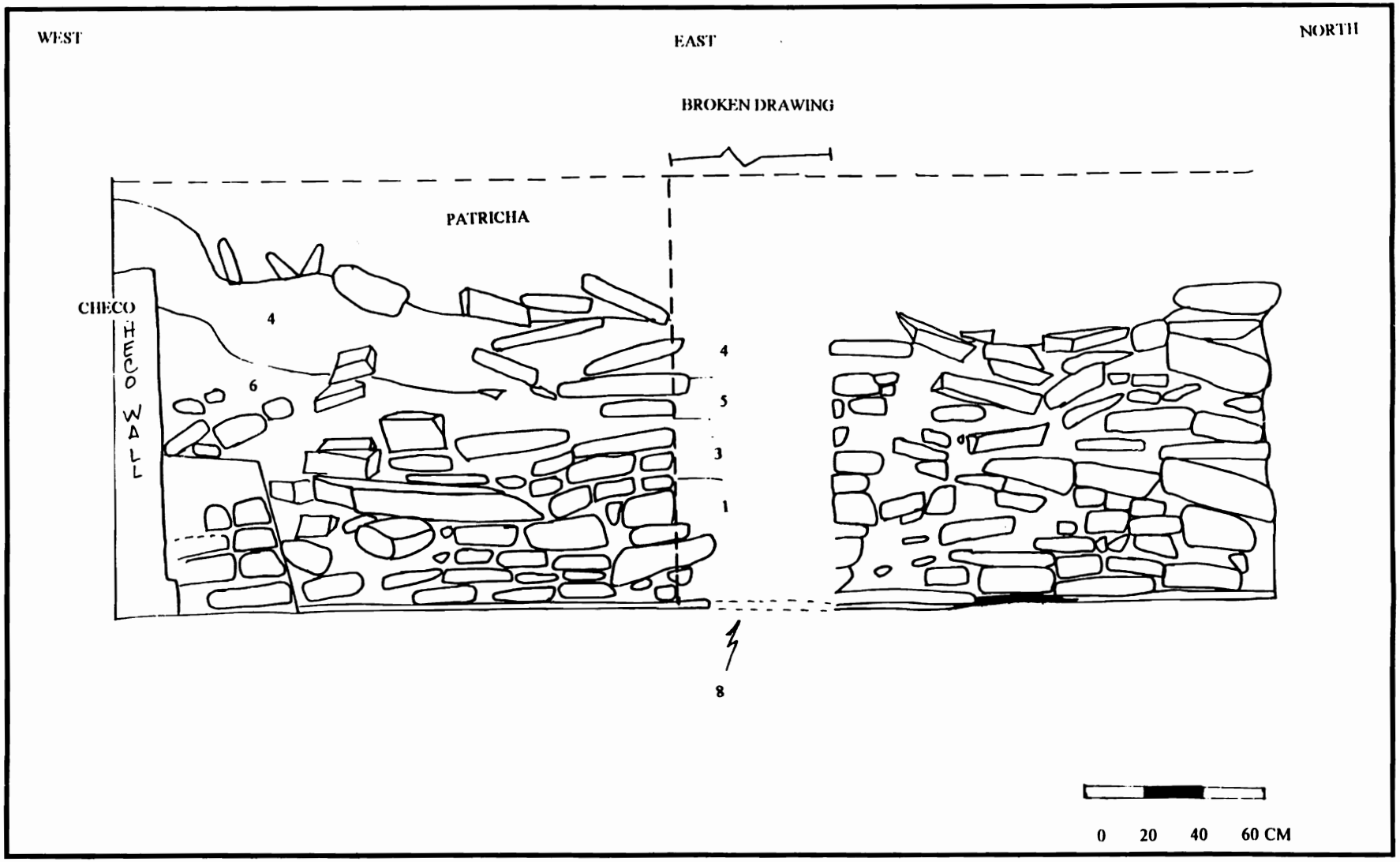

Figure 28. 177I/4-D1 - Elevation

Access to the Castillo from Group C

Linda Stephen Neff
Northern Arizona University

Operation 216 was a continuation of C. Robin's 1994 Operation 147. It attempted to discern the relationship between the lower south terrace to Structure A-6's upper south terrace. When was there continual access from ground elevation to the upper south terrace and when was this access disrupted? Due to time constraints, we excavated one suboperation 216A. 216A was a test pit designed to define the relationship of A-6's lower south plaza to the upper south plaza. Suboperation 216A began as a 2 m N/S x 2 m E/W suboperation that I expanded to a 3 m N/S x 2 m E/W suboperation. I located 216A in a place where I thought we would catch the corner of the terrace wall as well as the easternmost edge of the inset stairway. In doing so, I hoped to confirm our assumptions that an inset stairway once existed therefore supplying access to the south plaza. 216A did expose the corner of Aqua wall -- a terrace wall or stairway outset -- as well as ten steps of an inset stairway (Figure 1).

Aqua wall had an interesting face. A majority of the stones were irregular in shape. The south face was extremely rough and reminiscent of a construction wall. Yet, the few dressed stones and its consistent shape insinuate this was the final exterior form. Plaster or mortar did not preserve anywhere on the wall. The exposed lower portion stood 3.2 meter and the poorly preserved upper portion (above Floor 61) roughly measured 1 meter in height. The top four steps were not as well preserved as the lower six. Additionally, the configuration of the stairway depicted at least one modification and a possible reorientation.

Based on the results of suboperation 216A, an inset stairway connected A-6's lower south plaza to the upper south plaza. The possible reorientation of the stairway suggested the ancient inhabitants modified the access way at least once. In concordance with Robin's 1994 excavations an extensive trash deposit overlay ancient collapse and the stairway. The well-preserved trash deposit dated the Late Classic II time period (Robin 1994). This suggests that parts of the lower terrace collapsed and were abandoned at the end of the Late Classic II period. They threw trash, presumably from the still in use upper south terrace, down onto this unused and collapsed area. More recent collapse capped the trash deposits. The questions that remain address the context and content of the south terrace and what was its role when it was in use? Additionally, was the lower south terrace as well as the entire south side of El Castillo in disuse during the continual occupation on the upper south plaza?

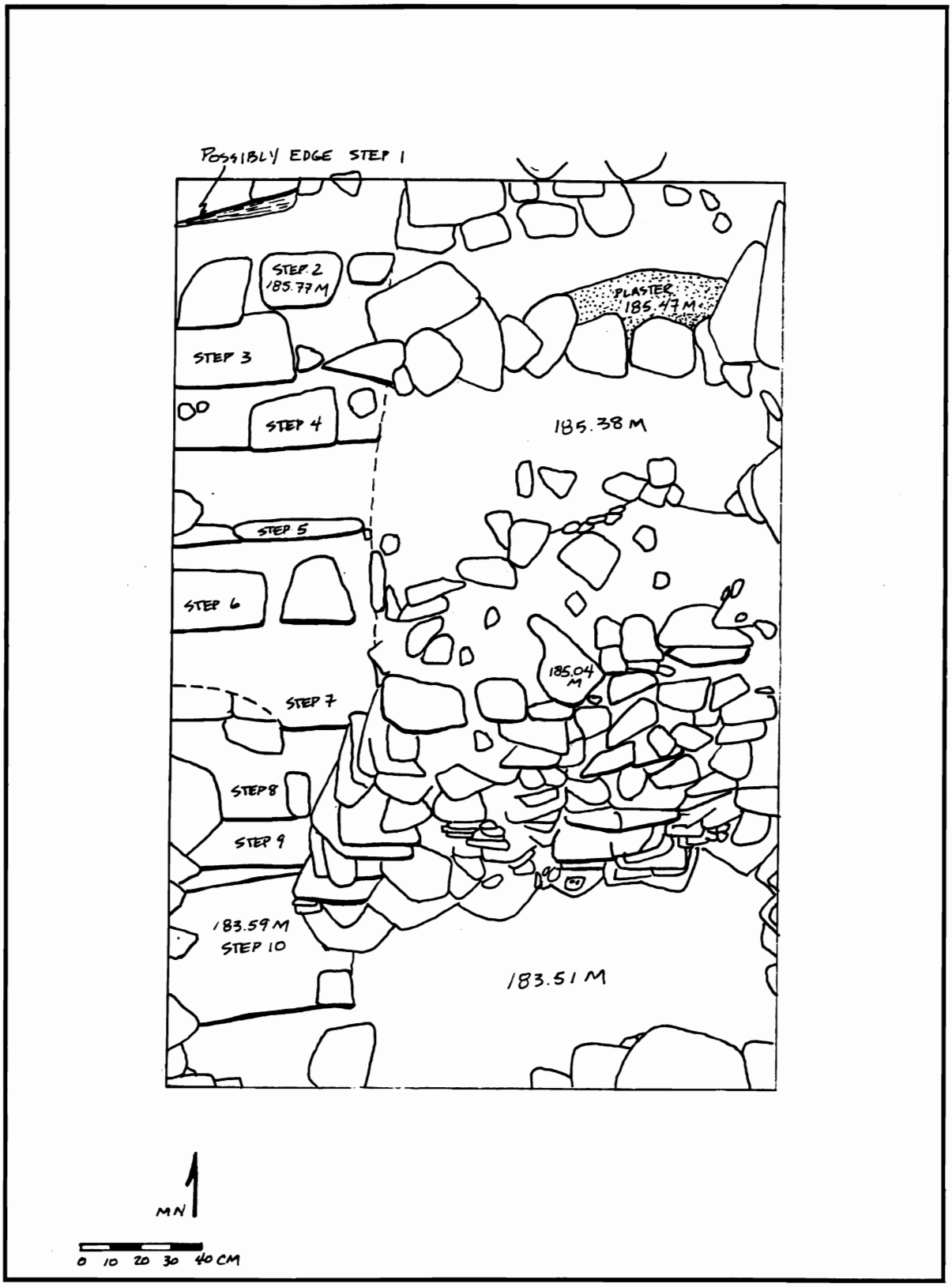

Figure 1. 216A Plan View

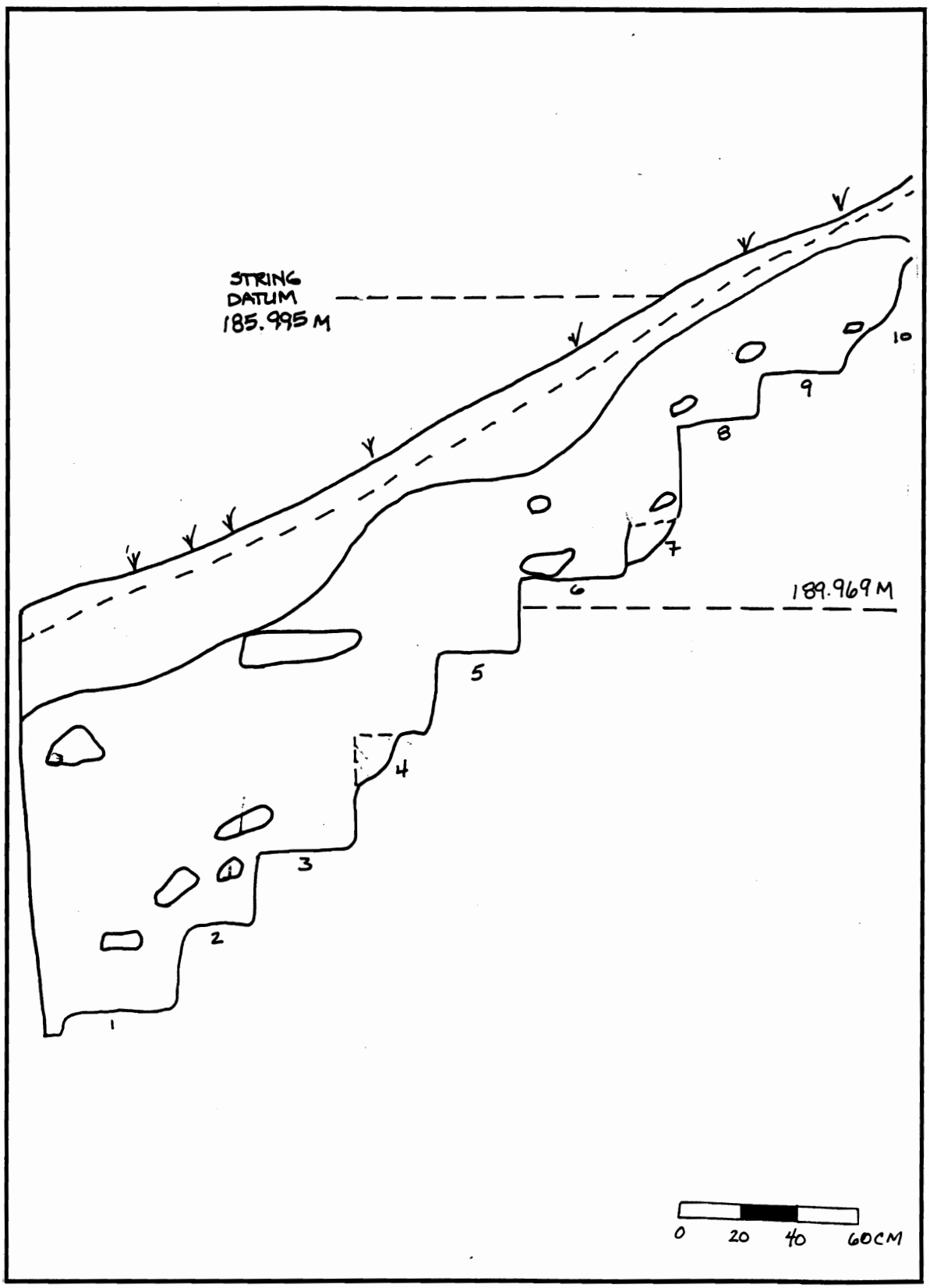

Figure 2. 216A - West Face Section

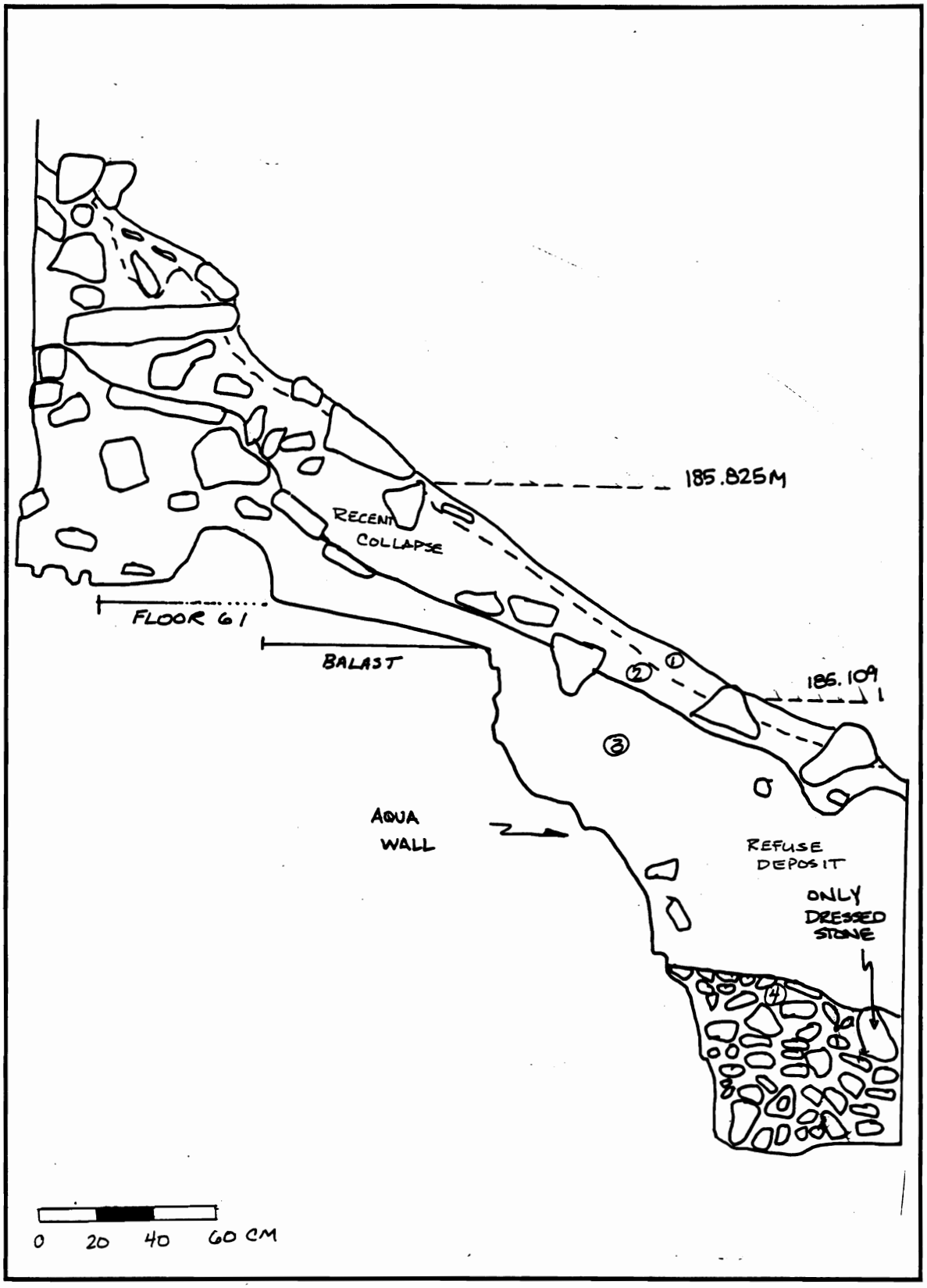

Figure 3. 216A - East Face Section

Excavations of Structures A-3 and A-4

Brandon Lewis
University of California, Los Angeles

Introduction

The Xunantunich Archaeological Project is a regional research program which (1)examines the spatial and temporal components of Xunantunich and its associated settlement, (2)investigates the role of Xunantunich in the regional growth and political development of the Belize River Valley, (3)re-evaluates the dynamics of Maya social and political collapse, and (4)fosters public awareness and appreciation for Belize's patrimony through a concerted eco-tourism and architectural consolidation program. This project represents a long-term, interdisciplinary venture under the directorship of Richard Leventhal, University of California, Los Angeles, and Wendy Ashmore, University of Pennsylvania.

Research undertaken by the author addressed the aforementioned goals to varying degrees. The 1995 field season examined structures A3 and A4 of Plaza 1, their relationship, and their articulation with the central plaza, both functionally and conceptually. Excavations were conducted at three separate loci: (1)the plaza area located immediately in front of structures A3 and A4, (2)the juncture of A3 and A4's first terrace surfaces, and (3)atop A3's superstructure.

This paper begins with a cursory discussion of the project's primary theoretical arguments. This provides the intellectual foundation from which excavation data are evaluated. An overview of previous investigations conducted at A3 and A4 follows. Excavation data from the 1995a season are then presented. General interpretations and comments conclude the paper.

Theoretical Background

While numerous research endeavors articulate to produce a comprehensive investigation of Maya social, economic, and political integration, the primary research foci relate to (1)the time frame of monumental construction at Xunantunich and (2)the degree of Terminal Classic occupation. Does Xunantunich attain its monumentality through prolonged, accretionary growth, or is construction a product of a short, intensive Late Classic building phase? What is the extent of occupation and structural modification during the Terminal Classic Period?

Developmental History of Xunantunich

While Preclassic ceramic remains have been recovered at the site center, few, if any, represent sealed deposits. Furthermore, no existing architecture is securely dated to the Preclassic. Leventhal suggests that the monumentality of Xunantunich was achieved in a very short time period. The central plaza is seen as a product of intensive Late Classic construction. The degree of centralized leadership needed to command such an intensive investment of labor and material would have significant implications regarding regional political and economic authority. A rapid rise of Xunantunich would signify a dynamic scenario of Belize River Valley political integration.

Another question being examined details the relationship between Xunantunich and Naranjo. What is, if any, the connection between the rapid development of Xunantunich and the expanding and ebbing fortunes of Naranjo? Among those explanations being considered is Xunantunich role as a satellite center to administer and coordinate Naranjo's extensive regional activities. Ongoing research will continue to address the temporal component of monumental construction at Xunantunich.

Terminal Classic Occupation

Many lines of archaeological evidence exist for Terminal Classic occupation of the central plaza at Xunantunich (e.g., structures A1 and A20). While the extent of occupation is relatively less than the preceding period, an investment into the political economy must still be considered as a sign of continuing, albeit reduced, centralized authority.

The continuance of Xunantunich's political economy into the Terminal Classic is significant on many accounts. First, the Maya collapse generally has been seen as a comprehensive decline in lowland political structure. As evidence comes to light for centers surviving this decline, questions as to causality are crucial. For Xunantunich, any explanation of success should consider its location, both relative to the Belize River and the central Peten. Proximity to the Belize River may have permitted sustainability through continued access to trade and communication routes and the critical resources offered by the river. Furthermore, Xunantunich's distance from the central Peten may have provided the center with a degree of political and economic flexibility. In this scenario, the nested, centralized political hierarchy of the Peten prevented adequate responses to failures in the political economy. Xunantunich's geographical separation enabled its rulers to exercise options unavailable in the Peten.

Xunantunich's presence in the Terminal Classic is not without organizational change. The Terminal Classic marks a shift in the conceptualization, definition, and use of plaza space. Residents of A20 redefine structure layout to eliminate visual access (i.e., public view) from the plaza floor. In addition, the focus of Terminal Classic elite activity now appears to be restricted to Plaza A1. Corresponding structural modifications result in highly restricted plaza access. Leventhal argues that this reflects a reduction in the level of public participation in centralized activities, and a corresponding attempt by the elite to solidify their waning power.

Previous Excavations/Interpretations Of A3/A4

Extensive excavations of structures A3 and A4 have been undertaken by Schmidt (1969-1974; manuscript files in Department of Archaeology, Belize), Jamison (1992), and Jamison and Wolff (1994). These excavations examined the mechanics of A3 and A4's later consolidation (Schmidt), and the function and chronology of the respective structures (Jamison and Wolff 1994). Insight into the developmental history of these buildings is critical to address the central research questions discussed above.

If construction predating the Late Classic is present at Xunantunich, structures A3 and A4's incorporation into what resembles a Preclassic E-group alignment would demand consideration. Jamison and Wolff's excavation began addressing this

proposition. Investigation first focused on defining the form and temporal component of the final construction phases. Consequently, the extent of Terminal Classic construction could also be determined, thus simultaneously addressing the second major research question.

Jamison and Wolff's examination (1)identified a series of linear alignments adjoining A3 and A4, (2)exposed the outline of an outset staircase for both respective buildings, and (3)identified the existence of a low-lying connection between the southeast corner of building A1 and the northwest corner of A3's outset staircase. The datable architecture was a product of Late Classic construction, although Jamison and Wolff proposed a Terminal Classic assignment for some of these additions (1994, 39).

Of primary interest to this discussion is the complex series of stone alignments identified immediately west of A3 and A4. Preliminary interpretations regarding form, function, and chronology were provided (Jamison and Wolff). The data discussed below will build upon and refine these analyses. Complicating interpretations of this area is the extensiveness of Schmidt's prior excavations. Schmidt's objective was to understand the mechanisms of articulation between structure A3 and A4, both at the plaza level and above. Excavation commenced at the plaza level and extended eastward towards the lower terraces. During this phase of analysis, considerable portions of these linear features were removed. Consequently, interpretation must be based on fragmentary evidence.

1995 Excavations

Locus #1:Plaza Area Immediately West of A3/A4

Intensive excavations were initiated (1)to resolve the ambiguity surrounding relative chronology and function of existing linear features, and (2)to examine the extent of Terminal Classic construction present.

Considerable effort was expended attempting to differentiate between <u>in situ</u> matrix and redeposited backfill. In fact, nearly 2 weeks of controlled excavations were necessary before definitive statements could be rendered regarding depositional context. (At this point, I had not gathered all necessary excavation records. As such, I was unaware of the extent of prior analysis and proceeded as if I were the first to investigate.) Fortunately, this detailed, if not somewhat repetitious fieldwork permitted accurate determination regarding sequence and date of constructions.

Excavations began at the southern outset wall of structure A3 (immediately north of the primary concentration of linear alignments). Previous excavations identified portions of a north/south running wall a few meters to the north. Sub-operation 168B was situated south of this linear feature to determine whether this alignment extended towards A4. Evidence for its continuation was in the form of a two course high wall construction. This wall, though, terminates in the southern quarter of the unit, approximately 1.8 meters south of the first outset wall of structure A3. In rough alignment with this terminus is a relatively crude, perpendicular wall extending eastward. This feature likely represents the remains of an interior retaining wall. Sub-

op 168C extended operations to the south to identify whether this structural break demarcated the intended southern terminus or instead was a product of earlier excavations. The recovery of neatly stacked, faced stones lacking appreciable quantities of intermixed matrix suggested that we were in redeposited backdirt. Earlier excavations likely removed large segments of this linear feature and piled the stones close to their original location. Consequently, a low-lying platform is argued to have extended to the south. Based on the height of the remaining fill, a minimum platform height of 1.1 meters is indicated.

The focus of attention shifted towards the concentration of alignments directly to the south. The following reconstruction of events is based on the interrelationship of existing floors and linear alignments, and excavation data. A relative chronology is provided, with more precise dates being forwarded as ceramic data permit.

The first evidence of plaza modification in locus #1 is in the form of a poorly preserved plaster floor, immediately west of structure A3's southwest corner. While this floor may have extended south, in its current condition, a definitive statement can not be rendered. A second replastering occurs with minimal sub-floor ballast (less than 3 cm). At this point or later, a rectangular cut was made into the plaster floor in front of A3's southwest corner. Sub-operation 168P-D1 pertains to the excavation of this feature. Based on dimension (1.2 x 2.5 meters), depth (1.7 meters), and location, this feature likely represents a burial crypt. (I have been unable to locate any notes referencing excavation of this feature.) Since the opening had not been replastered, a subsequent re-entrance would have removed any associated remains. Based on the tightly packed nature of the soil within the crypt, it is possible that the contents were looted before the construction of the overlying platform (discussed below). Dense fill would be necessary to stabilize a foundation for subsequent constructions.

Series of Linear Features

Alignment #1 represents the first linear construction (see map #2). This north/south feature underwent considerable modification (discussed below), and as such, the original height and dimension are difficult to discern. It appears that it may extend southward to the outset staircase of structure A4. This feature represents either an outer wall demarcating a large platform extending eastward, or a step construction to raise the adjoining area above the plaza floor. Considering the absence of any north/south interior retaining walls, and the fact that two formal east/west walls (alignments #3 and #4) were subsequently constructed immediately to the east (in what would have constituted platform fill had alignment #1 functioned as an outer wall), the most parsimonious explanation is that of a stepped construction. A similar function has been proposed for the nearby Motmot wall (Jamison 1994).

Conceptually, alignments #2 and #3 are functionally related. The former represents an interior retaining support for the formal wall directly to the south (#3). This construction demarcates the southern boundary of the first platform. The northern terminus abuts the outset wall of structure #3. The western extent would have been coterminous with alignment #1. Preserved fill indicates a minimum height

of 1.1 meters. Associated ceramics date this platform to the Late Classic II period, circa 800 AD (LeCount, personal communication).

Minor modification then occurs directly west of alignment #1. There is a replastering of the plaza surface, followed by the addition of a thin layer of chinking stones to raise the outer plaza to the level east of alignment #1. Another resurfacing ensues.

Linear feature #4 extends platform #1 (defined by alignments #1 and #3) to both the south (.5 meters) and west (.9 meters). Many of the formal, faced stones used to construct the western wall of platform #1 were recycled during this enlargement. Consequently, the function of alignment #1 now changes from that of an outer, formal wall, to that of an interior retaining wall for the west face of platform #2. Ceramic data support a construction date shortly after 800 (LeCount, personal communication). Visual inspection of surface contours many meters to the north suggest that this western extension of platform #2 may continue and connect with the linear feature first discussed in this section. Considering conditions of preservation, missing architecture, and limited time, visual determination must currently suffice.

The final construction sequence for locus #1 is defined by linear feature #5. A north/south wall faced on the west leads south from the east/west segment of platform #2. Platform #3 appears to have abutted the outset staircase of structure #4. Available in situ fill suggests a minimum platform height slightly over one meter. Associated ceramics indicate a construction date of 850-900 AD (LeCount, personal communication). This date falls at the very end of the Late Classic. No terminal sherds were recovered in this construction, or any of the plaza additions discussed above.

Locus #2: Junction of A3 and A4's First Terrace Surfaces

Excavations at locus #2 were initiated to resolve the ambiguity surrounding the construction sequence between structures A3 and A4. Inspection of interlocking, faced stones at the juncture of A3 and A4's lower terraces was inconclusive. Before resolution of this question could be reached, the remaining architecture associated with a later construction phase had to be removed. Once representing adjacent structures, later modification adjoined structures A3 and A4 to produce a shared, single superstructure. This modification entailed the construction of a faced wall connecting the respective second terraces. A series of north /south interior retaining walls extend eastward, with varying degrees of associated fill present. The author's excavations were facilitated by Schmidt's earlier clearing. The formal wall used to cover the structures' inner space was removed along with much of the associated fill.

Excavations began at the westernmost edge (plaza side) of the terrace floors and continued eastward (towards the interior of the buildings) for approximately 5 meters. An interesting fill pattern was quickly realized. From bottom to top, the following progression of deposits was encountered: (1)a thin lens of cultural material directly atop the terrace surfaces, (2)a one meter thick deposit consisting of a series of varying matrices, (3)a 30 cm lens composed of medium sized cobbles intermixed with mescla, and (4)a medium to large cobble fill which continued to the summit.

Directly atop the respective surfaces were deposited hundreds of ceramic sherds, a human skull fragment, and obsidian. Concentrated areas of burnt soil were identified. (Numerous carbon and soil samples were taken throughout this operation.) Covering these offerings was a series of varying stratigraphic layers totaling one meter in thickness (e.g., bright tan, somewhat clayey soil, greyish, clayey soil with small cobble fill, light brown, clayey soil, rusty/mauve colored clayey matrix, light brown, clayey soil with gravel sized stones, hard sascab lens with small to medium sized stones, sascab with light brown soil, tanish/orange clayey matrix, and medium to dark brown burnt loam). The quantity of different matrices indicates the complexity of deposition and the requisite thinness of the respective lenses. This deposit produced numerous remains worthy of mention, including: two Mount Maloney vessels, a cut, circular ceramic disk, human remains, incensario fragments, drum fragments, marine shell, a glyphic sherd with a picture of a deer head, and obsidian. Thousands of sherds were recovered, with the assemblage solidly dating to LCII (800 AD). Interestingly, the entire collection is composed solely of LCII material. Diagnostic ceramics from different temporal periods were not present.

As one proceeds upwards, the next distinctive lens is a 30 cm thick, medium sized cobble fill intermixed with mescla. Covering this deposit was a medium to large cobble fill which continued to the summit. Ceramics, sporadic human remains, obsidian, shell, and a grinding stone fragment were included. Excavation of this latter matrix proved to be a methodological challenge. The height of the fill rose precipitously to the east, producing a sheer, unstable face. Shoring was required to secure exposed walls.

The offerings placed atop the terrace surfaces and the overlying one meter of variable matrices constitute a ritual deposit associated with the consolidation of structures A3 and A4. This event marks the termination of these buildings as functionally separate structures. A3 and A4 are now to be viewed as conceptually linked.

The care with which the multiple lenses were laid deserves consideration. Every effort was made to protect architectural integrity before consolidation. One meter of soft, less destructive material (as compare to the large cobble fill utilized at a higher elevation) overlies the terrace surfaces. In addition, all special deposits (e.g., inverted Mount Maloneys) were carefully capped to prevent breakage. Furthermore, the energy and time invested to differentiate among the many matrices makes a purely economic argument of labor efficiency difficult to forward. The effort expended clearly signifies the ritual importance of this consolidation process. Based on the quantity of ceramics recovered and the characteristics of the east wall profile, this deposit likely continues inward and may have extended the entire east/west dimension.

The previously discussed excavations were necessary before determination of relative chronology could be addressed. Sub-operation 168BB excavated into the terrace surface of A3 to examine the nature of structure articulation with A4. (Sub-operation dimensions were reduced to minimize impact on preserved architecture.) A plaster floor was discovered at a depth of 15 cm. At a depth of 27 cm was found a well

preserved, earlier terrace surface. The upper portion of the associated lower terrace wall could be discerned. It continued downward being abutted by structural fill from A4. Based on the manner of articulation, it is clear that the last major architectural phase associated with A4 occurs after construction of the earliest identified A3 terrace. The intermediate floor represents the initial surface that would have been constructed after the joining of A3 and A4.

Finally, an outset staircase on the south face of A3's second terrace wall was identified. Three steps ascend to the east. These steps appear to be associated with the earliest terrace surface identified in 168BB. (The steps articulate with the basal terrace surface.)

Locus #3: Top of Structure #3

Excavations atop structure A3 were undertaken to identify the (1)extent of the remaining architecture, (2)types of activities associated with the superstructure's rooms, and (3)date of latest occupation.

Considerable portions of the superstructure's original dimensions are lacking. The eastern half of the upper rooms has collapsed off the backside of the structure. Poor preservation limits comprehensiveness of excavation and ease of mobility.

Excavations primarily examined a low-lying, level portion of A3's summit. (From a practical standpoint, less collapse had to be removed.) This area was located roughly in the northern third of the superstructure. The remains of a well-preserved wall demarcated the western terminus of the excavations. This plaza facing wall represents the outer, formal wall. Construction fill associated with this feature was quickly identified as were outlines for an interior bench and inset wall. The remains of a poorly preserved floor abutted both the bench and western wall. A variety of stone concentrations of dubious significance were recovered. These features either represent structural collapse or loci of construction fill. The conditions of preservation prevented discrimination. Sub-floor testing should resolve ambiguities of function. In addition, considerable portions of the superstructure's collapse were removed. A 7 x 3 meter block extending south from the aforementioned excavations was brought down to approximately 30 cm above the plaster floor. This work was done to secure the slope against instability.

The limited research conducted atop structure A3 addressed, to varying degrees, the primary research objectives for this operation. Nevertheless, some comments can be forwarded. While preservation conditions limited artifact recovery, temporally diagnostic ceramics dated to the Late Classic period. A drilled marine shell ornament was recovered directly atop the interior plaster floor. It is possible that the low-lying portion of the superstructure is a product of earlier excavations. If so, the reduced artifact inventory would not be surprising. Continued analysis of the 7 x 3 meter block (recall that considerable amounts of <u>in situ</u> collapse were removed) may generate a greater artifact recovery.

A comment on function is warranted. A point of personal interest regards the possibility of variable structure function. Structures similar to A3 (i.e., in dimension, location, and height) have traditionally been referred to as temples. A residential function is quickly eliminated. What I find provocative is that utilization of temple floor space, associated internal features, and general room dimensions often find parallels in residential structures. While I am not arguing that A3 served as a primary residential unit, apparent structural similarities may suggest that elites spent considerably more time atop these structures than previously thought. Interior conditions would have been both commodious and comfortable, quite like their residential units.

The interior comfortableness versus the awe-inspiring impression of the exterior produces an interesting dichotomy. What is produced is a situation of image versus reality. The requisite effort to climb the structure, the restricted access, and the sheer monumentality of A3 would have created a very regal, non-domestic image. Once inside, the physical layout produced a relaxing environment finding affinity with residential households. I would argue that the greater amount of time invested atop a 50 foot temple, the more prestigious or powerful the individual would appear. The construction of A3's interior to resemble a domestic layout would encourage and facilitate extended periods of occupation.

Comments

Leventhal's model of intensive Late Classic construction is supported by current excavation data. While further research is needed, those construction episodes investigated all date to the Late Classic period. As data increasingly argue for a rapid rise of political and economic authority, analysis must focus on understanding the mechanisms by which centralized leadership developed. Did Xunantunich develop in response to political instabilities internal to the Belize River Valley, or was it in response to forces external to the region (e.g., through its ties with Naranjo)?

Accompanying the intensive building episodes of the Late Classic is a shift in the use and conception of plaza space. Structure A3 and A4 are adjoined at 800 AD. Contemporaneous with this consolidation is the construction of platform #1 which bridges the connection of these two structures at the plaza level. Within the next 50-100 years, two structural additions (platforms #2 and #3) extend the focus of activities towards the center of A4. A continuous platform connecting A3 with the outset staircase of A4 results. This construction provides a better balance, or symmetry, to the A1 plaza. In addition, the platform connecting the structures at the plaza level is mirrored by the single superstructure created as a result of terrace consolidation. Structures A3 and A4 are to be seen as one conceptual unit.

No Terminal Classic material was recovered. Structures A3 and A4 were completed during the Late Classic and exhibit no evidence of subsequent use. Strong evidence for Terminal Classic occupation exists atop structures #1 and #20. Further research may identify additional loci of occupation. Current data argue for a noticeably reduced Terminal Classic presence.

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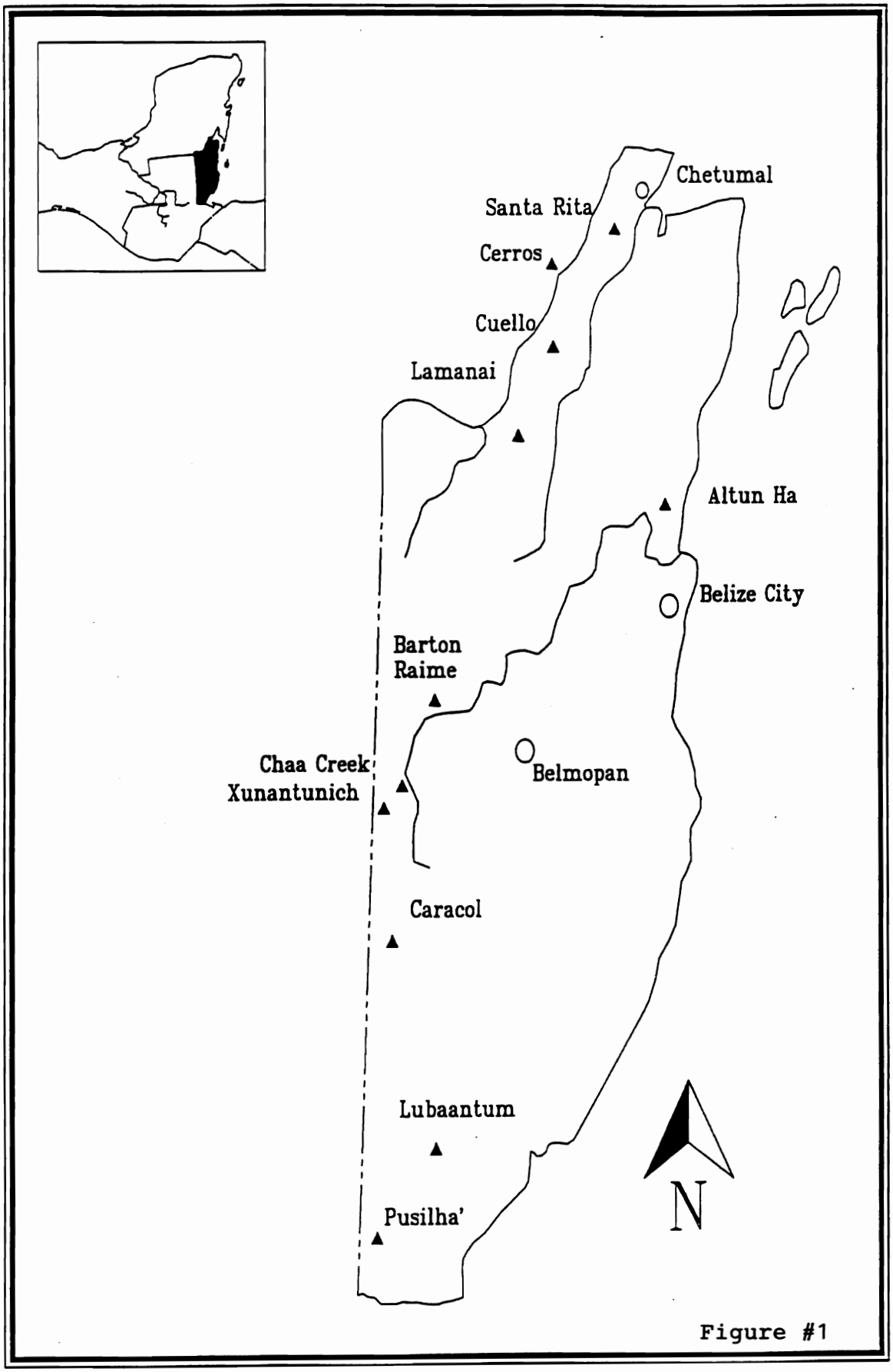

Figure #1

(Carpenter et al. 1992)

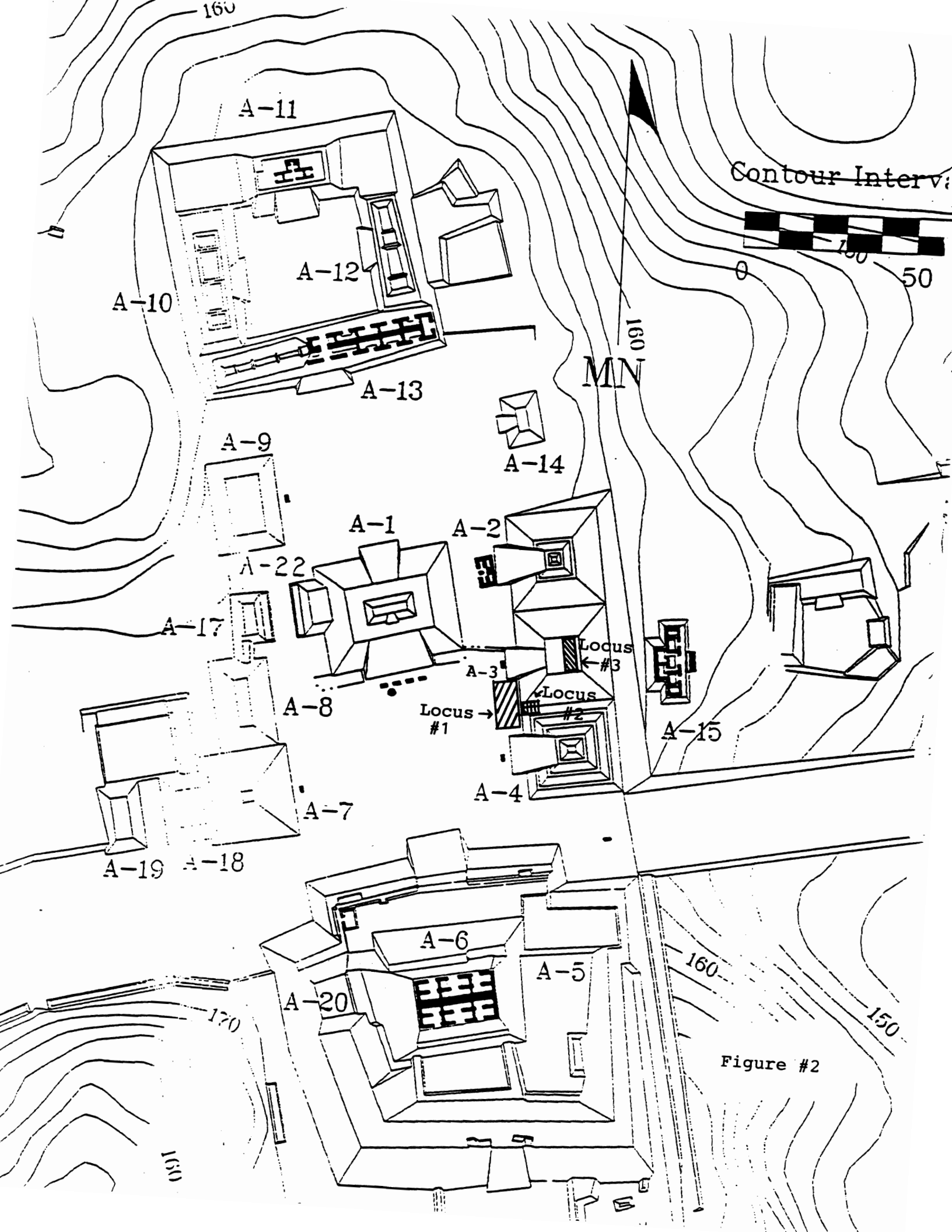
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Figure #2

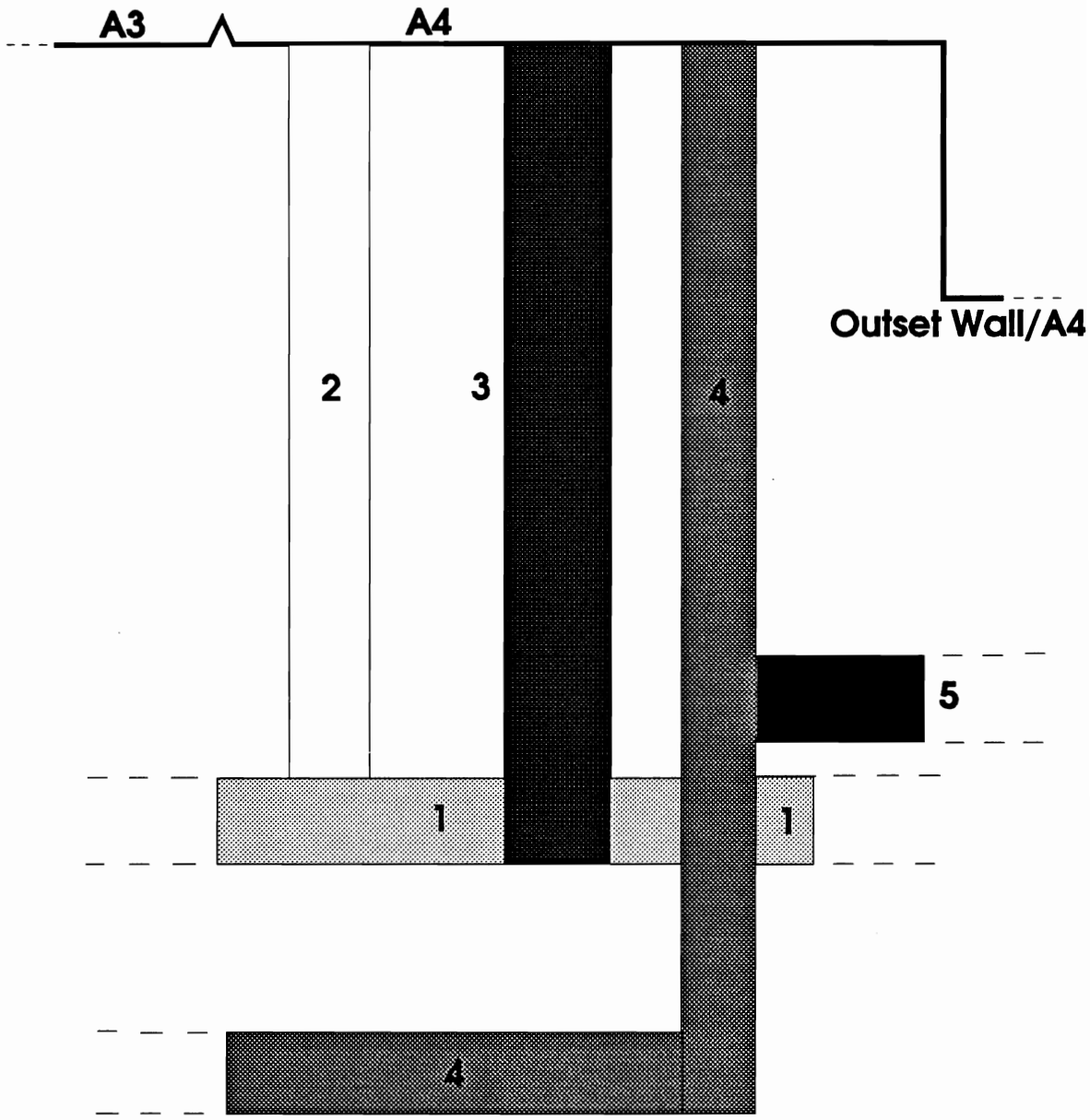

Figure #3
Xunantunich A3/A4
Locus #1
Delineation of linear features #1-#5
Not to scale (Stylized drawing)

N

Excavations at Group B, Structures A-2, A-3, A-4, and the Stela House (A-16)

Bevin Etheridge

Excavations At Group B

Description and Excavation History

Group B, lying approximately 125 m west of Str. A1 in the main Plaza A at Xunantunich's site core, is typically considered to be a residential group associated with the site during Classic time. Initial excavations at Group B, conducted by J.E.S. Thompson from February 7 -27, 1938, focused on Str. B1 and six rooms in Str. B3. Thompson excavated here in order to recover a sherd collection that would be substantial and representative of the site, thereby enabling him to establish a ceramic sequence for the site of Xunantunich (also known as Benque Viejo)(Thompson 1940, 2-4). Group B was not excavated again until Xunantunich Archaeological Project's (XAP) 1991 season, in which Jason Yaeger excavated several test pits in Group B as part of a larger test pitting program at Xunantunich. Much like Thompson's goals in the 1938 excavations, these test pits were placed in areas where it was likely to encounter a large number of ceramics (XAP Report 1991). Areas between two structures are commonly used for the disposal of refuse, either resulting from sweeping it off the neighboring structures or from one or more depositional events. The 1991 test pit, set between Str.s B1 and B2, was 1 m (at 30 degrees) x 2 m (at 300 degrees) in size. The saddle area between these structures at the time of excavation stood ca. 1 m off of the plaza side ground surface and ca. 2 - 3 m above the eastern ground surface reflecting the eastward slope of the underlying bedrock. The 1991 excavations revealed not only what appeared to be a dense concentration of sherds, possibly a midden, but two complete vessels below this, most likely representing a ritual deposit, resting on bedrock. Reexcavation of this test pit in 1995 also revealed that the bedrock at the base is carved into two east-west oriented basins, open to the north. The exposure of the possible midden, and the two complete vessels underlying it has since incited interest in continuing research in this particular location. By exposing and exploring more of the midden we hope to reach a better understanding not only of the ceramic sequence, but also of the nature of the midden's deposition and its stratigraphical and contextual relationship to the other deposits encountered here.

Research Goals and Procedures

The overall goals of the excavations initiated in 1995 at Group B are 1) to understand the nature of events and use in this area and 2) to obtain an accurate sequence of ceramic types and styles given that the midden is stratified and not a result of one depositional event. The 1995 excavations began 3 weeks before the end of the season with ca. 4-8 workers on any given day. In order to complete the proposed research at Group B, work will most likely be carried into the 1996 season. Due to time constraints, the 1995 excavations were primarily concerned with reexcavating the 1991 test pit for reexamination and contextual reference, as well as demarcating the midden's extent, as this was necessary before studying it.

The excavations began by reexcavating the backdirt from the 1991 test pit in order to reexamine the profiles. A 7 x 4 m grid consisting of 1 x 1 m units oriented with the original test pit was placed over the saddle between Strs. B1 and B2. Originally, the grid was to be excavated in a checkerboard pattern, allowing features and similar contexts to be exposed at horizontal levels, while at the same time preserving the profiles and facilitating an understanding of the area vertically. One-by-one-meter units

were also placed in the plaza to the west of the raised area, outside of the plaza to the east, as well as in the north and the south to verify the absence of and encounter the limits of the midden. Due to the absence of the midden in the eastern and western units, and the presence of a wall in the northern unit, excavations moved in closer to the raised area. In the plaza, excavations focused on the newly exposed wall, which was assumed to be a likely boundary for the midden. In the east, excavations were undertaken to expose a counterpart to the plaza wall. Uncovering the base of the walls would show whether the deposit was contained within them, or was deposited previous to the wall's construction. The grid pattern was later abandoned due to the difficulty of recognizing similar features and contexts not horizontally adjacent to one another. It was thought wiser, given the variability and preservation of the features, to excavate from the known features to the unknown, thus selected units were excavated next to one another in order to expose and better understand more of the encountered features.

Initial Excavation Results

The raised area, or saddle, between Strs. B1 and B2 will be referred to as the *platform*, since, the latest evidence of occupation here is a level of floor ballast which extends horizontally across most of the saddle. Many flat-lying sherds are associated with this ballast, as is a one-course high and wide wall oriented along the east-west axis. The platform, to be described in detail later appears to extend the full length in the north and south between the two buildings, although detailed excavations of the platform's abutment with the two structures have not been undertaken.

To the east, the platform is bound by a 1 m wide terrace preserved as a few linearly arranged, east-facing, cut stones embedded in an extremely hard matrix. The terrace, .7 m high from its base to its top, increases .35 m in height from its eastern top to its western top, and lies at a slightly acute angle to the plaza wall exposed in the initial northern unit. The west face of the terrace is only one course high, and is built onto the platform to the west. Like the east face only much less defined, linearly arranged west-facing cut stones were noted, however the preservation of this wall is so poor that no assertions concerning whether the terrace was also faced on the west can be made. Sherds were recovered from platform fill along the west face of the eastern terrace, which, if diagnostic, could give the earliest date possible for the wall's construction. The eastern terrace's function was probably one of support to the platform area and the earlier deposits to the west. The initial 1 x 1 m units east of the platform exposed at least two episodes of collapse associated with this eastern terrace. Approximately 250 small, eroded sherds overlying small to medium-sized (ca. .05 x .1 - .2 x .3 m) cobble stones were deposited above an earlier layer of more eroded sherds, obsidian and chert debitage, as well as a groundstone axe. Based on differences in the matrices and especially the small and eroded nature of the ceramics, it was determined that this was an entirely separate phenomenon from the midden west of the eastern terrace. The deposit's absence in these units and the presence of the eastern terrace point to the terrace as the northeast limit of the raised platform area.

To the west, on the plaza side, two parallel, terraced walls oriented north-south lie .5 m apart from one another and close off the western edge of the platform. The westernmost wall, constructed of .6 x .4 m and .3 x .2 m cut blocks, is a parapet. The higher of the two walls, the parapet is 1.14 m high from its eastern base, its base resting

.5 m west of and at the same elevation as the eastern wall's top. Extending between the two walls is a layer of mezcla (its thickness unknown), from which a few ceramics were recovered. Hopefully, if the sherds are well enough preserved and diagnostic, an analysis can give an earliest possible date for the emplacement of the mezcla and the construction of the parapet. The fact that the westernmost wall is faced on both sides suggests that the wall was constructed originally with the forethought that the wall would be exposed and seen on both sides. It could have functioned to obstruct passage to the plaza, or possibly as a wall of a residence, but at least initially, was not built to merely fill in the area with the midden and subsequent deposits. The top of the lower, inner wall was encountered on the last day of excavation, thus its base and its relationship to the underlying bedrock remain unknown until further excavation. The apparent north-south orientation of the exposed portion of the inner wall leads one to expect to see its northern extension in the western profile of the 1991 test pit. Its absence suggests that it has collapsed, for it seems likely, if it is indeed a wall, that it would have originally extended to the northern structure. Another possibility, of course, is that the stones exposed east of the parapet wall represent some sort of a bench, in which case it would not be necessary for it to extend into the test pit. It is also possible that this lower wall is only one course high and was removed in the excavation of the test pit. In Yaeger's drawings, there are two roughly north-south oriented cut stones, ca. .2 m east-west by .5-.6 m north-south, at the base of the midden. The orientation, size, and elevation of the stones, along with the plaster traces found associated with them, point to their either being part of or collapse from the lower western wall.

Excavations along the west face of the parapet show the platform extending west over the wall ca. 1 m, sloping gradually westward. At the inset of the west face of the outer plaza wall and south of the extension, excavations were undertaken to expose the base of the wall and to see its relationship to the plaza floor and bedrock, while at the same time exposing the south face of the extension. The excavations here yielded unexpected results, namely that the extension was built above a burial. The south end of the burial was encountered in profile (see Fig. 1), and excavations resumed to the north, above the burial. Between the top of the apparent extension and the capstones above the burial, a deposit of a medium-brown, silty loam rich in artifacts splayed out from the plaza wall. Immediately south of the burial (from the level of the platform to the plaza floor) this loam yielded 4 chert oval bifaces, each ca. 5" in length and 2" wide, one censor leg, parts of a mano and a metate, 6 pieces of worked chert, 10 bone fragments, 350 sherds and a small ceramic mask, 2-3" in diameter, with a headdress flaring over its partially whole face, all associated with this burial. Above and to the west of the capstones ca. 1650 small, eroded sherds, 75 bone fragments, 1 carved shell ear flair, 2 metate fragments, 5 obsidian fragments, one 3-pronged handle, one censor foot, and 33 pieces of chert were recovered from this same matrix. This concentration of sherds and other artifacts in this matrix represent a localized refuse deposit either associated with the burial directly, or more than likely, because it was deposited on already displaced capstones, was deposited some time after the initial burial. Further analysis of the sherds recovered can hopefully render the deposit datable. It is probable that the deposit served to build up the specific area to extend the latest platform floor west over the parapet, therefore postdating the latest platform surface. Beneath this refuse deposit, three capstones, one displaced to the west, and an array of small, eroded potsherds, small bone fragments, chert and obsidian debitage covered the body.

Preliminary analysis of the burial was undertaken in the field by Ana Maria Boada, who determined the sex and age of the burial based on analysis of the skeletal remains. The burial was determined to be a female, 20-25 yrs. in age. She was interred above the plaza floor, lying parallel to the parapet wall with her head to the south. This north-south orientation is common and is consistent with other burials at Group B (Thompson 1938, 27-8). The body lay on its side, facing the parapet to the east, with the legs bent behind her so that the lower leg bones were nearly parallel to her femurs, an angle which suggests that her legs were most likely bound. Just north of the knees, a broken jar and some teeth were recovered. The angle of her head, faced down at an extreme angle instead of east as did the rest of her body, indicates that her neck was broken at the time of interment. Her head rested at a lower elevation than her body, due to its lying on the subsided fill of an earlier cut in the plaza floor. Also noteworthy is that the vertebrae show evidence of the beginnings of arthritis. A small chert blade was found between her 2nd and 3rd cervical vertebrae. Analysis of her bones in the field did not reveal whether this was the actual cause of death, and further analysis is necessary to determine whether the blade's placement between the vertebrae was a result of settling or of a deliberate act. The placement of her legs, and the angle of her neck, however, seem to indicate the sacrificial nature of her interment. The cut in the plaza floor, over which the head rested, was filled in but never replastered over, accounting for the eventual subsidence of the fill, and thus the slumping of her skull into this cut (see Fig. 2). Just underneath the level of the plaza floor, the cut was lined with medium-sized stones set roughly parallel to the parapet. The tops of two skulls were exposed at the base of these stones and consequently, the excavations here halted, as the burials inhibited any further search for the base of the parapet on the plaza side.

To the west of the platform, the initial 1 x 1 m unit in the plaza exposed a corner cut out of bedrock. The corner is shaped like a layer cake, with two layers total, and is aligned with the north face of Str. B1. This would seem to indicate that the two features were once exposed at a similar time, but is not necessary as an east-west orientation is commonly employed. Only upon further diagnosis of the ceramics, as well as excavation around the structure itself, could the precedence of one feature be established, however. At some point, the area around this bedrock corner was filled in with small to medium-sized uncut stones and refuse. This is most likely the fill of a plaza floor, although the floor's surface was not preserved in this exposure. Ceramics, animal bone, chert, obsidian, and groundstone fragments were also recovered here. The sherds were small, very eroded, and in many cases, standing on end rather than flat-lying. The nature of the refuse was, for the most part, similar to the refuse east of the platform area. Factors such as these lead to the conclusion that this deposit was not in any way associated with the sherd deposit inside the platform area.

The platform area, then, is defined by the two structures in the north and south, the two western walls in the plaza, and the terraces in the east. Further excavations in 1995 focused on the features within this defined platform area, revealing more features and construction phases (discussed in the next section) to be added to those uncovered in the 1991 testpit.

Phases of Use and Construction

The earliest evidence of use at this area was exposed in the 1991 test pit. Here, two half circle, basin-like features oriented east-west and open to the north are carved

out of bedrock. As mentioned previously, bedrock was also exposed in the 1995 units inside the plaza, as well as east and downslope of the platform. The bedrock corner in the plaza, as of yet, cannot be dated. Analysis of the ceramics associated with this feature must be undertaken before a date can be proposed.

The next occurrence here is seen in the two ceramic vessels recovered from the 1991 trench. Here, it appears that these were deliberately placed and then buried as a "ritual deposit" (see Yaeger's notes for Lot 12). In the profiles of the test pit, it is evident that at least two different strata rest directly upon this bedrock. A buried A horizon lies directly on and blankets almost all of the bedrock, suggesting that the natural processes of soil deposition had taken place prior to the burial of the vessels. In the northwest portion of the trench, however, Yaeger notes that the two vessels rested on a thin reddish-gray sediment which overlay bedrock, seen in 1995 in the reexamined profile, as well. The fact that the sediment in the west underlying the ritual deposit is not the buried A horizon seen elsewhere, strengthens the argument that the A horizon was cleared away to deliberately bury these vessels.

Above this ritual deposit, the western profile in the 1991 test pit shows a line of medium-sized stones, one course high and apparently 1 course wide. The stones are probably associated with the ritual deposit, although it is not known as of yet whether they were placed specifically to cap off the deposit as mentioned earlier, or are also part of the lower inner wall seen to the southwest. The western walls could have been constructed either before or after the ritual deposit, but definitely before the next evidence of use, which is the midden. This .5 m thick deposit is seen in the 1991 test pit, as well as directly east of the western parapet (and, consequently, above the lower inner wall). The similarity between the two exposures, seen in the matrices, both a light gray ashy silt, the large, scarcely eroded, flat-lying sherds, as well as their similar elevations all point to these deposits being one and the same. According to Yaeger's notes, the analysis of the sherds recovered in 1991 revealed a limited amount of vessel types, as well as an unusually high amount of metate fragments and animal bones, primarily that of the feet. This, as well as the large size of the sherds and the clean breaks all seem to indicate that this is some sort of ritual deposit. However, as seen in the 1995 excavations, the matrix is so evenly distributed and ubiquitous that it leads me to question whether this is the result of sherd being smashed upon sherd in a ritual deposit, which would seemingly result in less matrix, or is a deposit with other rubbish, the sherds having settled into flat-lying positions. Flotation and pollen samples of this deposit, as well as all of the different strata seen in the profiles of the test pit have been taken, and will hopefully shed light on the nature of the deposit. The clean breaks and the lack of erosion on the sherds does indicate, nonetheless, that this was deposited over a short period of time.

The 1995 excavations show a sherd concentration at the base of the midden, resting directly on the lower inner wall. This concentration was only partially exposed but seems to represent at least 3 apparently whole plates and/or vessels. These are at the same elevation as those stacked sherds exposed in 1991 in the western test pit wall at the southwest corner. Both of these seem to represent a deposit placed above the stones before the area was to be used as a midden. The practically identical elevations of the base of these deposits, and the similar matrices and preservation quality seen on the sherds suggests that these are the same deposit. It is likely that the plates at the base

of the midden, as well as any other notably denser concentrations of complete or nearly complete vessels at the base of the midden represent a ritual deposit associated with the midden. This is supported by the near absence of any sediment between these vessels, as opposed to the abundance of the light gray ashy sediment between the smashed sherds above it. It is possible that the midden extends even further to the eastern terrace. The eastern terrace was probably necessary to contain the midden, and was most likely constructed before the midden's deposition, and/or gradually built up as the deposit to the west grew in elevation.

East of the parapet, .5 m above the base of the midden, a plaster surface caps off the midden. It is intact at its abutment with the parapet, and slopes eastward in its 1 m exposure ca. .15 m, where it is fragmented and eroded. The surface is not picked up east of the test pit as it has probably eroded or collapsed. However, at approximately this same level, Yaeger notes a level of friable, medium gray sediment with a lot of small rocks and many sherds, which although the actual plaster surface has since eroded, is probably the remaining fill of the plaster surface preserved to the west. A sherd smash on the surface included a small circular vase, complete except for its neck. The shape and size of the vase suggests that it might have held mercury or cinnabar and thus have some sort of ritual significance (Leventhal, pers. comm.). The sherds seem to make up at least 3 different vessels, excluding the small, circular vase. This sherd smash signifies the end of the use of this surface and/or the beginning of yet another phase of construction and use.

Above the plaster floor and the termination ritual, a layer of fill was placed upon which another surface, recognized now only in the remaining floor ballast, lies at the level of the parapet's top of the outer wall. The fill in between the surfaces included an abundant amount of ceramics dated by Lisa LeCount to the Terminal Classic - implying that the surface above this and the sherds on it are no earlier than the Terminal Classic period. The abundance of the ceramics employed in the fill between the two surfaces would suggest that this is another midden, deposited above the plaster floor and its associated termination ritual. The platform represents the last surface inside the area, and is the platform by which the saddle has been defined. This surface was recognized by the remaining ballast and the horizontal uniformity of flat-lying sherds in the raised area east of the parapet wall and west over the extension. The floor ballast is poorly preserved and breaks up east of the 1991 test pit. Yaeger notes a lens of light grayish material with limestone at this elevation, suggesting that this may be the eroded remains of the floor. Associated with this last surface were the remains of an east-west oriented wall set at a 90 degree angle to the western parapet wall. This wall is one course high and wide, constructed with large cut blocks, ca. .6 x .4 m in size resting on the floor ballast. Most of this wall was removed in the 1991 excavations. Beside the western extension, this wall is possibly the last recognizable modification to the platform.

The relationships of the plaza floor and the associated burials to the deposits east of the parapet are not known as of yet, except for that they are all later than the construction of the parapet, and thus all the features constructed before the parapet. The two earlier burials clearly precede the one above the plaza floor, which in turn precedes the latest platform surface. The refuse deposit above the displaced capstones and the subsequent use of this raised area as an extension of the platform surface

seemingly postdate the platform surface, although may be contemporaneous with the one course high and wide east-west oriented wall associated with the platform.

Thus, it appears that this area is much more complicated than previously thought, showing evidence of multiple phases of construction and use, as well as at least two and possibly three ritual deposits terminating and /or initiating these phases. A proper analysis of the stratigraphic contexts and their associated sherds, especially those at the base of the midden and above the plaster floor can aid in dating these phases and assigning the ritual deposits to their appropriate phases. Integration of the analysis of the flotation and pollen samples taken by David Lentz will add greatly to the understanding of these deposits, especially in the case of the 2 middens, which at least in the case of the first one, indubitably holds more information to be gleaned in the way of paleobotanical remains. Not only do excavations here promise a better understanding of the ceramic chronology through study of the middens, but also a wealth of information regarding the reuse of this space through time, the different uses to which it was put, and the rituals with which each was associated.

Excavations At Structures A2, A3, & A16

Description and Excavation History

Excavations in 1995 on Structures A2 and A3 continued work begun by Thomas R. Jamison and Gregory A. Wolff in 1993. In 1993, Jamison and Wolff defined Str. A3's staircase, the additions to the west, as well as Motmot wall, which connects the northwest corner of Str. A3's staircase to Str. A1's southeast corner. This represents a late, probably Terminal modification to Plaza A-1, which effectively blocks access from the north to the plaza (Jamison and Wolff 1994: 37). In 1995, the excavations sought to determine the relative construction dates, and any attainable specific dates of Str.s A3 and A2's terminal phase architecture. Excavations here were also concerned with the quality of preservation and whether or not it was possible and worthwhile to consolidate the west faces of Str.s A3 and A2. Excavations on Str. A2's west face focused on its relationship with Str. A16, the "stela house," as it is possibly the latest recognized modification to Plaza A -1, holding clues to understanding the final occupation at Xunantunich. The modification of Str. A2's staircase and the construction of this building around the stela has long been a focus of interest, as it suggests a shift not only in the manner of worship, but possibly a change either leading up to the collapse at Xunantunich, or on the other hand, is a result of this collapse (Stewart nd).

Excavations of Structure A3 and A2's Western Terraces

Excavations in 1995 opened up north-south oriented trenches to clear the west face of Str. A3 just north of its stairway's north face. The first western terrace was immediately propped up with wooden planks due to its severe westward slumping. Str. A3's first terrace is constructed of cut blocks ranging in size from .5 x .1 m to .4 x .2 m and stands from 4 to 13 courses and 1.5 m high at its corner in the north. The first terrace extends north 7.7 m, where its northwest corner then curves to the east and is abutted by the straight, north-south oriented lower terrace of Str. A2. Str. A3's second terrace extends 6.7 m north of Str. A3's stairs. It is constructed of stones ca. .4 x .2 m in size and stands, including its basal molding, ca. 7 courses and 1 m high. The remnants of a plaster surface, ca. 2.2 m above the plaza floor and .5m above the second terrace's basal molding, are seen at the inset of the stairs and the second terrace. The second

terrace's northwest corner, above and 1 m to the south of Str. A3's corner, consists of 4 stacked cut stones, faced in the west and the north, and slumping westward out of the eastern trench wall.

Str. A2's lower terrace extends 5.2 m north from its abutment with Str. A3, where it joins another north-south oriented outset that extends .86 m west from the terrace. The first terrace is constructed of stones .6 x .2 m in size, standing only 2 courses and .4 m high. Here, neither the outset nor the wall extend beyond the other, indicating that they were constructed in the same construction phase. The outset extends north from the northernmost edge of the lower terrace 4.15 m to the southern edge of the A2 stairway. The outset is constructed of stones ranging from .7 x .2 m to .5 x .3 m in size, stands two to 4 courses and .5 to .7 m high. Here again, both the outset and the stairway appear to be constructed during the same phase, as one does not extend beyond the other. The terrace and outset corner abutments suggest that the joining of Str. A2 to Str. A3, occurred in the same construction phase as the construction of Str. A2's western outset and staircase.

A construction wall, 4.2 m long a.e. (as excavated), behind Str. A2's first western terrace extends from Str. A3's northwestern corner 4.2 m long as excavated. It is constructed of cobbles .5 x .3 m in size, and was exposed to a height of 8 courses and 1.6 m., most likely its original height. Immediately above and to the east of this construction wall, Str. A2's second terrace's corner lies .8 m north of Str. A3's first terrace corner, extending north ca. 3 m a.e. It stands 4 - 6 courses high including the basal molding, and is constructed of stones .2 x .1 and .2 x .3 m in size. In the eastern trench wall above the western outset of Str. A2, a 1 course high, north-south oriented line of five .7 x .2 m cut stones slumps .6 m from north to south over 2.5 m. They appear to have fallen from further up the building to the east, and probably represent the base of the second or third terrace at Str. A2.

Excavations at Structure A2's Staircase and Str. A16

The southern wall of Str. A2's staircase is only 1 course high and wide, and is preserved to a height of .3m. It extends 2.3 m west from Str. A2's western outset to the corner of Str. A16 and continues for another 1.16 m under the base of Str. A16 (see Fig. 3). Inside Str. A16, a north-south oriented, 1 course high line of rocks runs directly behind the stela. This is most likely the original western edge of Str. A2's staircase and would coincide not only with the projected angle of the existing staircase fill, but also lines up exactly with the westernmost stone in the south face of the staircase. The northern wall of Str. A2's staircase, 8.5 m north of the southern wall, stands 3 courses high and is constructed of cut stones .6 x .2 m in size. This type of construction changes .36 m east of Str. A16, where small .1 x .1m and .2 x .1 m cobbles stand ca. 5 courses high. This construction continues east 1.5 m a.e. underneath Str. A16. The north face of the stairs, unlike the south face, was apparently cut here when Str. A16 was constructed, most likely to facilitate the building's construction. Between the two staircase faces, ca. 1 - 1.5 m above the plaza floor and 1 m below the top of Str. A16's east face, a platform is set at a much flatter angle than the staircase fill above it (see Fig. 4). A trench in the middle of the stairs, above and to the east of the area to which we are referring was excavated by Michael Stewart in the 1950's. This was cleared out in 1995 and revealed only staircase fill, showing no signs of an earlier staircase in the trench profiles. Two sets of narrow, .5 m wide stairs are set directly east of the stela house, providing access

to the platform from the north and the south. The steps themselves are 2 -3 courses wide and 1 course high, constructed of .3 x .2 m cobbles, and are poorly preserved, as they are practically at the level of the ground surface today. On the platform itself, two north-south oriented, one course high and wide steps ascend Str. A2 at a low grade, rising only .4 m over .75 m. The steps are constructed of stones .4 x .2 m in size, and are ca. .4 m apart between the western step faces, the rest of the area behind the steps being filled in with a hard packed mezcla. The slope at which they are set is so mild compared to the slope of the fill of Str. A2's staircase that they, as the profiles from the excavations attest, can be assumed to be part of a later modification.

A unit set at the surface behind Str. A16 and immediately northwest of the lower platform step's northwest corner was excavated to see not only if the steps were 1 course high, but also to establish the precedence of construction regarding Str. A16 and the platform immediately to the west (see Fig. 5). Excavation to the east of this unit had also revealed what appeared to be two stepped levels of mezcla, possibly an earlier staircase below an internal construction wall. Thus, a third goal of the unit east of the stela house was to excavate to the level where a third step would be expected if that was, indeed, the case. Excavation of this unit revealed platform steps to be one course high, as well as showed Str. A16 resting atop the platform, thus confirming that the platform's construction predates that of Str. A16. Excavations also showed that the third step of mezcla was not there, confirming that the stepped levels of mezcla in the east were fill associated with the staircase, but not representative of an earlier staircase. It is noteworthy that many cut stones had to be cut through in this trench. These were probably once part of the original stairs before the stairs were cut. Given the results of Stewart's trench into staircase fill, and the exposure of more staircase fill levels in this unit, it does seem that the fill of Str. A2's stairs is that of the original staircase, and thus its slope would match with the line still seen behind the stela in Str. A16 today.

The latest plaza floor lips up to all of the architecture cleared on the west, including the south face of Str. A2's staircase. Four additional plaza floors were revealed just south of the stela house. Beneath the latest plaza floor, two earlier plaster floors were exposed (see Fig. 3), which in turn rested on two earlier dirt floors. Ceramics were recovered between all of them, which will hopefully be datable. An earlier cut just south of the stela house's southeast corner was made by Stewart. Stewart had excavated an ca. 1 m wide, east-west oriented trench along the south face of the stela house to the west face of the lower terrace. It appeared that excavations east of the house extended into the staircase fill. This conclusion is based on the presence of backdirt underneath a layer of mezcla and collapsed fill, which must have occurred after Stewart's excavation. Glass was recovered directly on the plaza floor, as well as above the second plaza floor, confirming that this cut was made by Stewart.

In sum, excavations focusing on Str.s A3, A2, and A16 revealed a variety of construction phases and relationships between the buildings. Based on terminal phase architecture, the construction of Str. A3 predates the construction of Str. A2. Stewart's trench, as well as excavations between Str. A16 and Str. A2 in the platform revealed only levels of fill and construction associated with the staircase, showing no evidence of other construction associated with an earlier staircase. It is also clear that Str. A2's western terraces and its staircase were constructed and joined to Str. A3 in the same construction phase. It appears that the original stairs were later cut and a platform, to

which access was provided by two sets of narrow, cobble steps, as well as two steps ascending the structure were built. Str. A16 was then built after this platform, as excavations along the east face have clearly shown.

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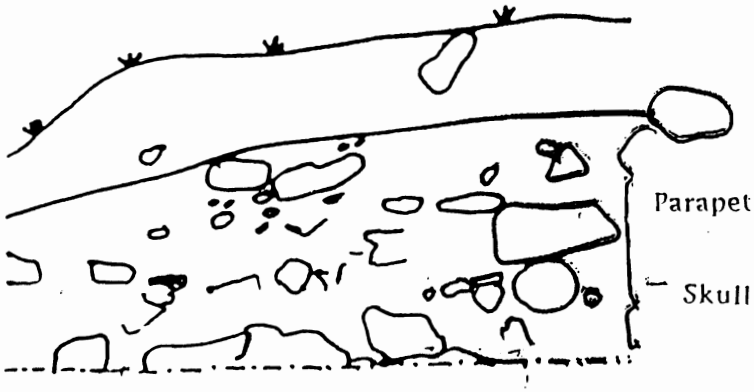
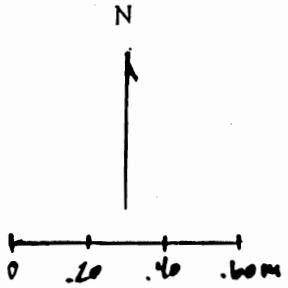


Figure 1
South face of burial above plaza floor directly west of parapet.



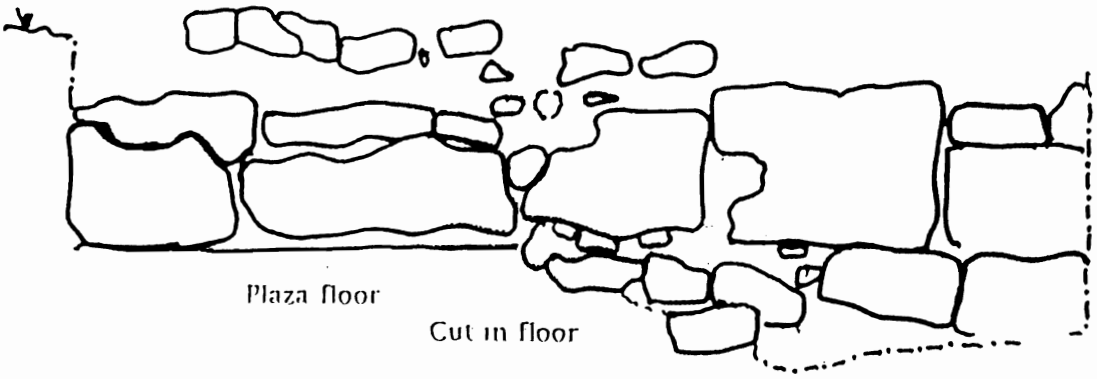


Figure 2
West face of Parapet after the removal of the burial, showing the plaza floor and the earlier cut to the south.

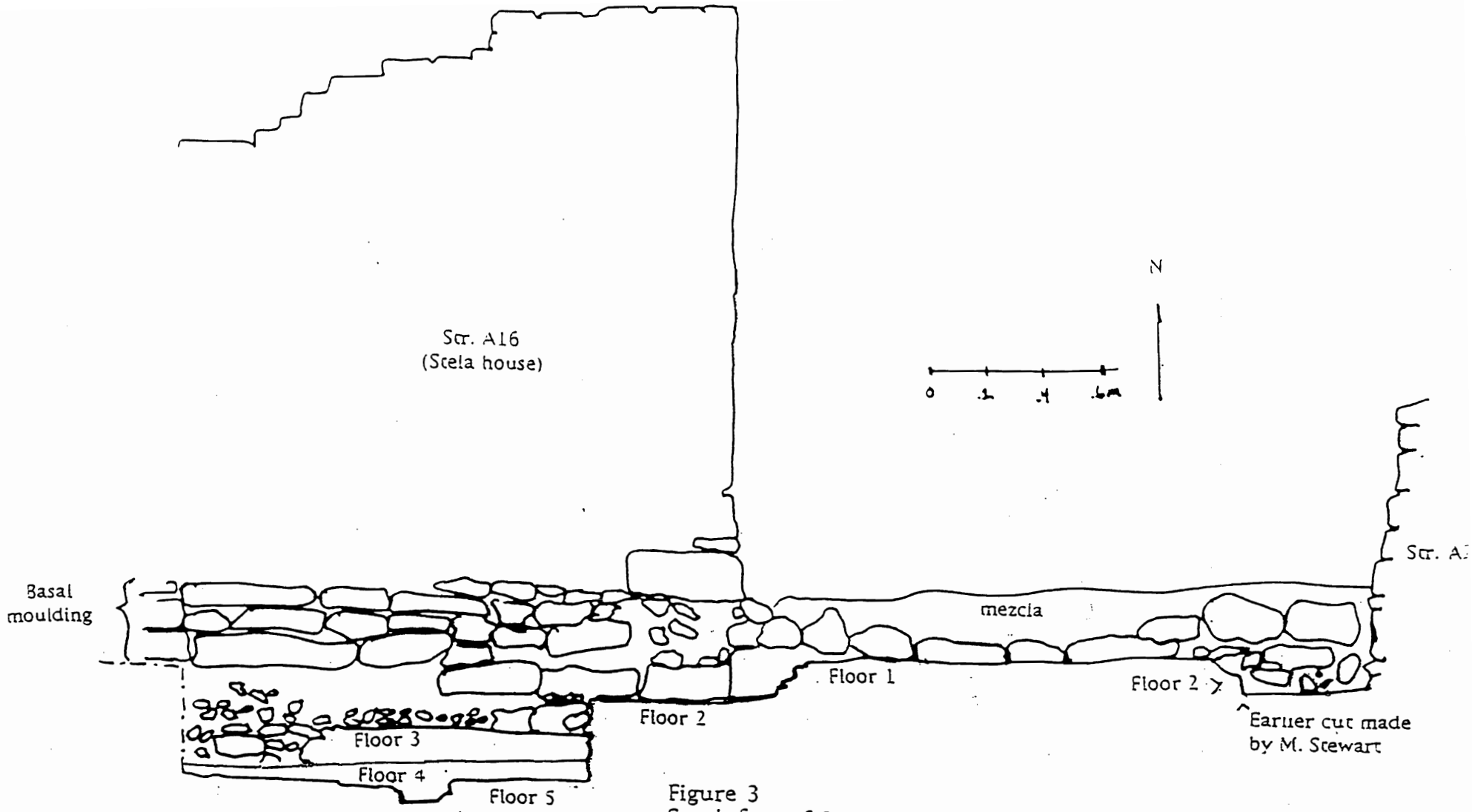


Figure 3
South face of Str. A16 and Str. A2's staircase.*

*The south face of the staircase is seen in the 1-2 course high wall running between the two structures and underneath Str. A16. It corners under the structure 1.16m west of Str. A16's east face.

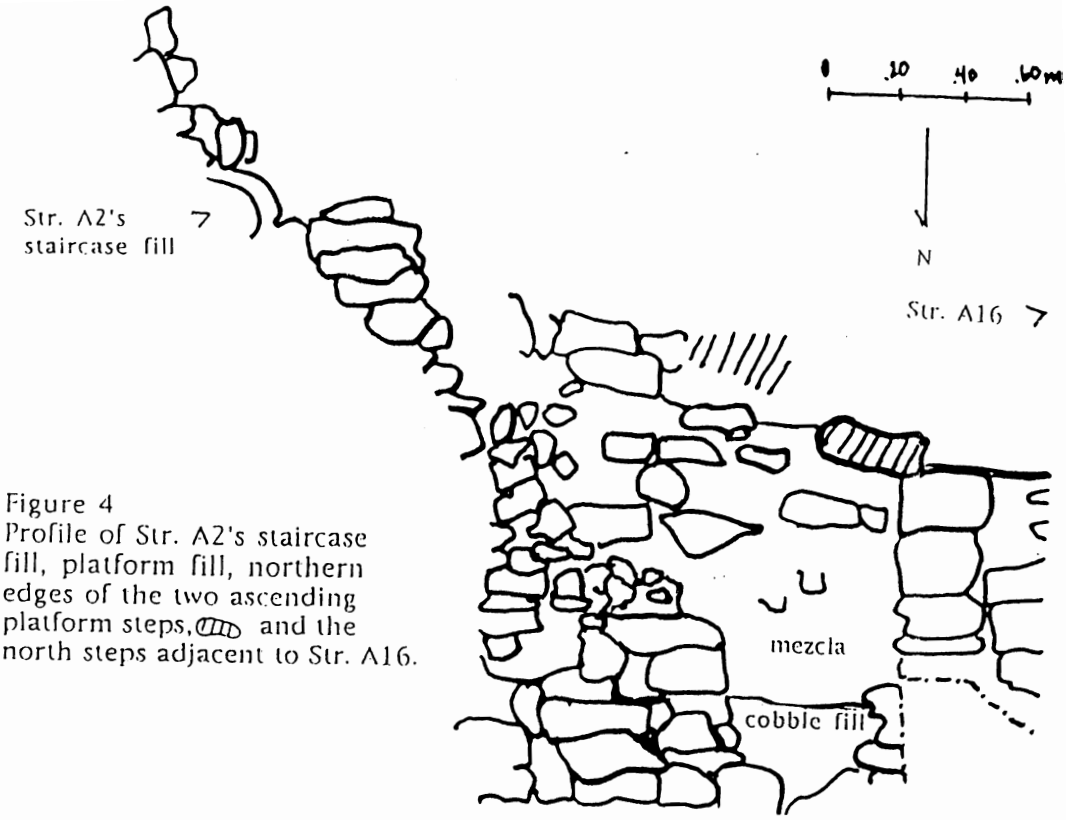


Figure 4
Profile of Str. A2's staircase fill, platform fill, northern edges of the two ascending platform steps, and the north steps adjacent to Str. A16.

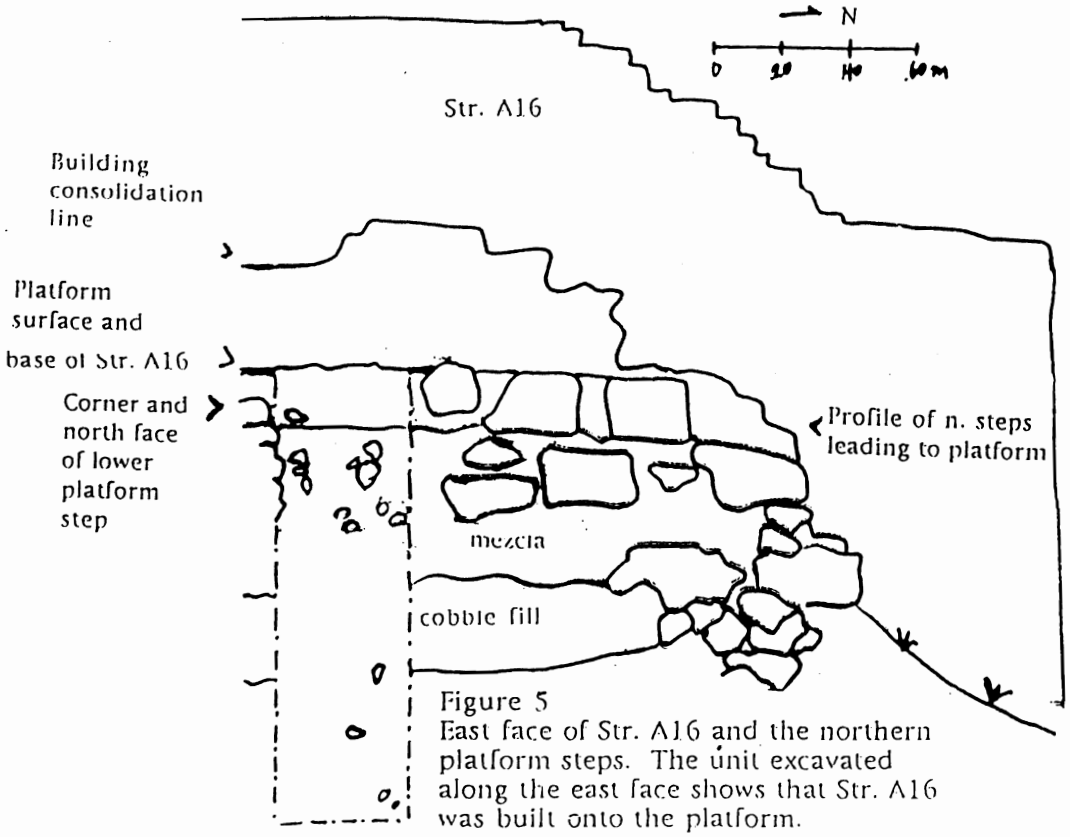


Figure 5
East face of Str. A16 and the northern platform steps. The unit excavated along the east face shows that Str. A16 was built onto the platform.

Getting Into Xunantunich: The 1995 Investigations of the Access Points and Accessibility of Xunantunich

Angela H. Keller
University of Pennsylvania

Introduction

> ". . . although created through dynamic behavior, *the archaeological record itself is static, dead, and non-informative.*"
> David Hurst Thomas 1989:155

It is all too easy to believe that bare archaeological facts really should speak for themselves, leaving higher level theorizing for later. The fundamental problem with this mind-set is that it invades our thoughts prior to excavation, and often leads us to dig in the same places and in the same manner that countless others have before. If we desire to know deeper and different things about the lives and actions of the ancient Maya, it is only logical that our questions and avenues of inquiry be modified to achieve new goals.

While systematic excavation and recording techniques are vital to our discipline, perhaps we need to reevaluate the ways in which we implement these methods. To this end, I have attempted over the past years work at Xunantunich to model a set of questions and archaeological investigations which consistently preface a certain range of actions of the ancient Maya, and which every day require me to think of the Maya as living people, now dead, but once full of movement and intention. Certainly, without the vision of people coming and going, stopping and looking, the unimpressive set of walls and structures uncovered through my excavations in the past two years would remain disconnected lines on a page, tiresome alignments of stone.

I would never assume that I am the only one thinking along these lines. At some level we all think this way, but I wish to make the intentional movements of the ancient Maya the foremost question of my research and therefore have thought about and dug in ordinarily neglected locations: access areas and associated peripheral spaces. To investigate how and why the ancient Belize Valley residents came to Xunantunich and what they may have *done* there that was so significant, I have examined the spaces which invited visitors of the past to come and join the elite on their sacred ground. These, unfortunately are also the peripheral places where parking lots are bulldozed flat, modern access roads are cut, backdirt is heaped, random trash pits are dug, and tourist service structures are placed. Nevertheless, at least in the case of Xunantunich, modern depredations have not completely obscured the nature of the ancient avenues of accessibility, and in places may have helped in their preservation.

Before presenting the "bare facts" of this year's excavations, I would like to include portions of a synthesis of my past three years' survey and excavation which was initially presented at the First International Symposium of Maya Archaeology held in San Ignacio, Belize from May 29th to June 2nd, 1995. The intent of its inclusion here is first to give interested readers a chance to review a brief theoretical account of my work which they may otherwise be unable to obtain, and second to put the "facts" of this season's work into a more coherent perspective which hopefully moves toward

reactivating the past as I have outlined above. I present these observations as a "work-in-progress" which can only benefit from the careful criticism of others.

A Theoretical Summary

When mentally reconstructing the lives of the ancient Maya, it is not hard to envision the bustling activity that must have characterized large Maya centers, and yet that activity is stubbornly difficult to document archaeologically. The problem, then, is how to establish the Maya of the past as active individuals within the dynamic complex of activities and structures that must have constituted an ancient Maya center. The method that I have chosen is: on the one hand, to examine archaeologically retrievable structures that by their very nature require us to consider the movement and gathering of ancient peoples at great centers as a significant activity - site core access points; and on the other, to take as a fundamental question the explication of why and to what effect the ancient Maya, living dispersed over the landscape, came to Maya centers in the first place. To contextualize these theoretical considerations, the access points of one particular site, Xunantunich, in Belize, Central America (Figure 1), are explored here as a set of spaces which appear to have functioned together to draw the outside world to Xunantunich in the Late Classic and ultimately to shut it out in the Terminal Classic.

The Site of Xunantunich

Over a period of scarcely more than 200 years the core architecture at Xunantunich was built or substantially remodeled utilizing labor on an unusually grand scale for the Belize Valley (Leventhal 1994 and in this volume). Between about AD 700 and AD 900, the populace of the Belize Valley clearly came to Xunantunich in large numbers to build and, presumably, to engage in activities which made their labor investment seem necessary and worthwhile. And yet, before the florescence and after the decline of the Xunantunich core, the people of the Belize Valley lived prosperous lives replete with fertile land, reliable natural water sources, exotic trade goods and "elite" ritual paraphernalia. It would seem, then, that the inhabitants of the valley did not really *need* Xunantunich, for their fortunes did not rise and fall with that of the site core (Ashmore 1994; Yaeger 1994). Still, the fact remains that for a flicker of archaeological time, valley inhabitants poured their labor into the city with such intensity that we are left to wonder why they bothered. Why did the populace of the Belize Valley come to Xunantunich at all, and what did they receive from the experience?

For the past two years, the fundamental question behind my research has been the identification of the "attraction" of Xunantunich - what were the spaces and activities that drew valley residents to the city during the Late and Terminal Classic? More specifically, I have focused on the manner in which people from the periphery "accessed" the city core using that term most generally. That is, how and to what extent did people from outside access literally the spaces of the center, and figuratively the activities, knowledge, wealth, and power contained by them. This line of questioning has led to the excavation of three spatially identifiable "access points" at Xunantunich (Figure 2), discoveries at which may give us a more complete picture of what a Maya city really did for its constituents.

The three accessways at Xunantunich differ substantially from one another: one is a highly formalized sacbe closed to general traffic (Sacbe I), another an open series of

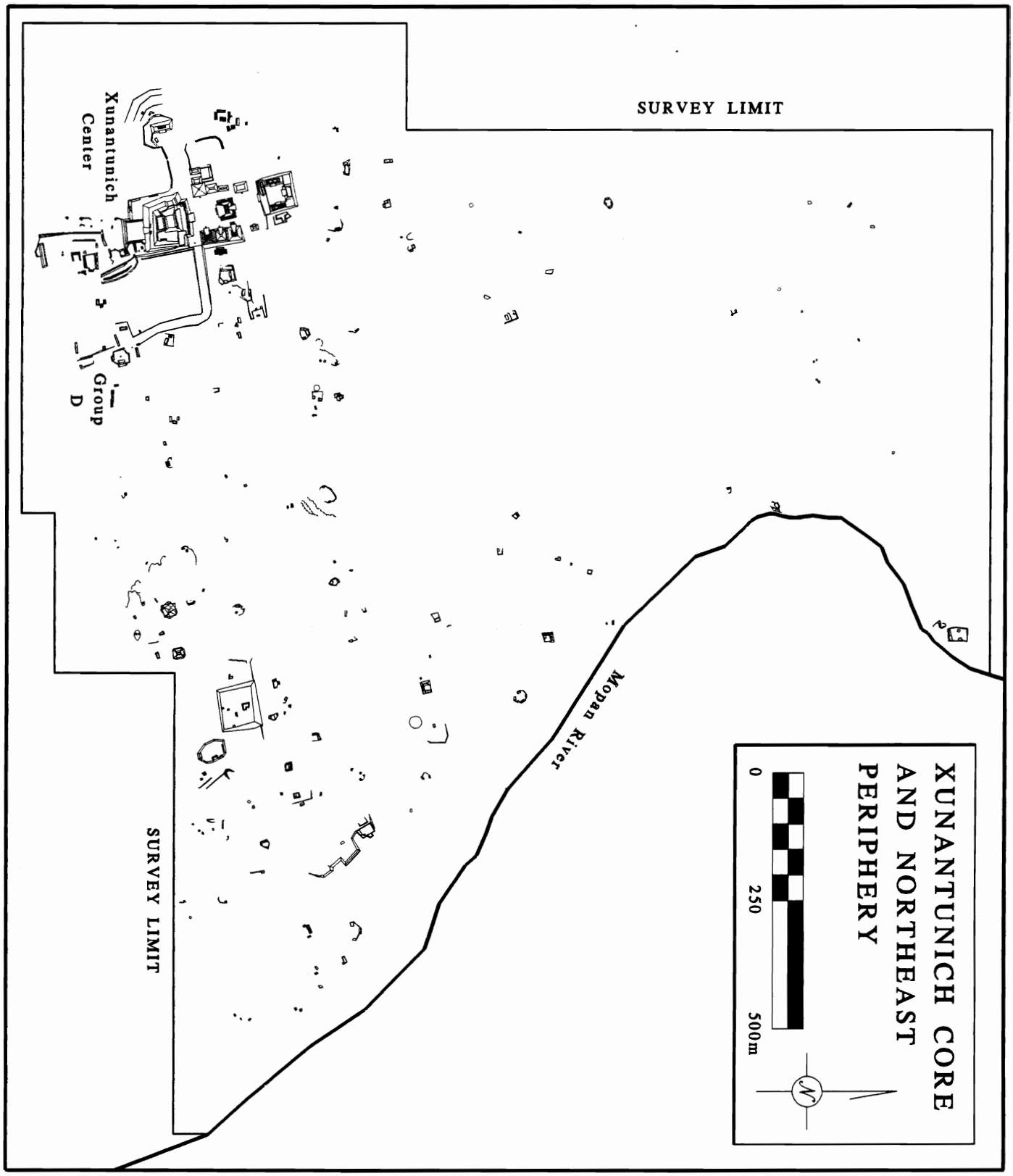

XUNANTUNICH CORE
AND NORTHEAST
PERIPHERY
0
250
500m
Mopan River
SURVEY LIMIT
SURVEY LIMIT
Xunantunich
Center
Group
D

FIGURE 1

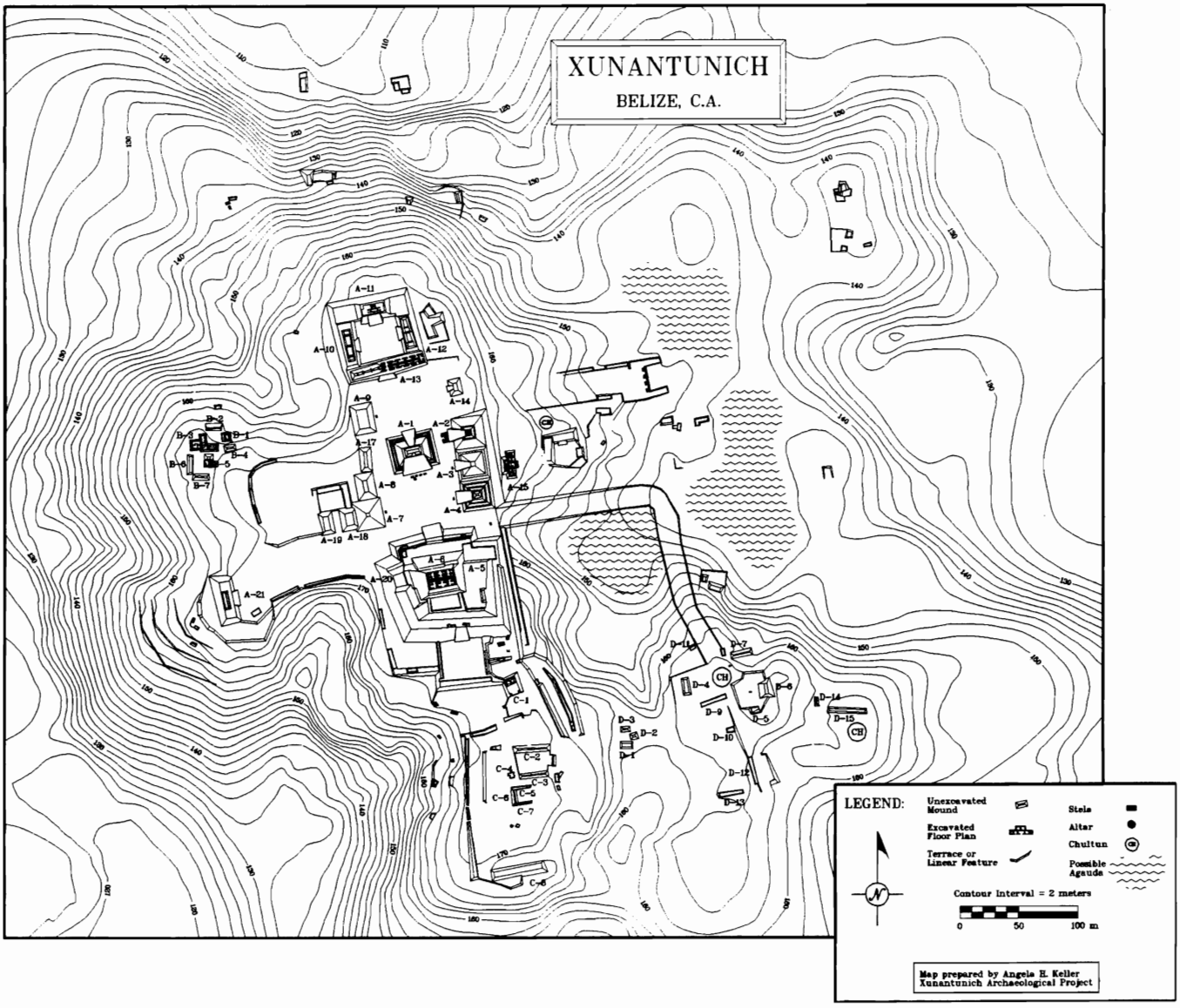

XUNANTUNICH
BELIZE, C.A.
LEGEND:
Unexcavated Mound
Excavated Floor Plan
Terrace or Linear Feature
Stela
Altar
Chultun
Possible Aguada
Contour Interval = 2 meters
0
50
100 m
Map prepared by Angela H. Keller
Xunantunich Archaeological Project

FIGURE 2

plazas, possibly commercial in function, stepping up the hillslope to a final monumental stairway (the Northeastern Access), and the last a steep ascent up a terraced hillside followed by a grand promenade past a ball court (the Western Access). On the basis of our present information all three access areas were built, likely for the first time, as part of the complete Late Classic remodeling of the site core mentioned earlier. Thus, all three access areas and related structures were probably used contemporaneously through the Late Classic forming a complementary set of spaces designed specifically to draw visitors to the city and structure their movement and experience once there. In the grandness of their scale, all three access points bear witness to the large numbers of people who must have visited the center on a periodic basis every year.

A Festival Model

Along these lines, I propose that one of the fundamental draws of the Xunantunich center, or any Maya center for that matter, would have been elaborate multi-purpose gatherings serving to connect disparate communities, legitimize authority, and instill a sense of common identity in the masses assembled (Folan 1991; Freidel and Sabloff 1984; Ringle 1993; Turner 1974). These "gatherings," so often imagined by archaeologists but rarely elaborated upon, might be best understood as periodic festivals involving processions, market fairs, ball games, court dramas, royal visits, graphic sacrifices, feasting, music and dance.

Just such a model of festival activity at Maya centers was proposed thirty years ago by Michael Coe (1965), reasserted more recently by David Freidel (1981), and variously explored by many other scholars of the Maya (Farriss 1984; Freidel and Sabloff 1984; Ringle 1993; Vogt 1976 -- for a dissenting opinion see Hammond 1991:275). Stated most simply, the primary activities underwriting the power and identity of a major Classic center would have been periodic festivals or state rituals tuned to an ancient ceremonial calendar. These festivals would have been the primary means for common people to interact with those from outside their small communities, and one of the few times that the entire population attached to the center might be expected to be present there (for an ethnohistoric example of this see Farriss 1984). As the material bridge between the general populace and the city center, the access points at Xunantunich have proven to be critical in reconstructing the actual use of the site during these peak festival times.

Sacbe I

Sacbe I is a walled, plastered roadway 15 meters wide, which links the site core, or Group A, with the closest outlying elite residence, Group D (Figure 3). Each end of the sacbe, at the threshold where the roadway meets the plaza space, was marked by a small uncarved limestone stela (Stelae 5 and 12). Generally, the exterior parapet walls are 50 to 70 cm in height, but in places they are preserved a meter or more high, apparently to follow the undulating natural ground surface and to meet the level of Plaza I at the entrance to Group A. Despite these differences in the exterior height of the parapets, the interior of the sacbe appears to have been fairly constant, with the interior parapet walls maintaining a height of two or three stone courses, or 40 to 60 cm in height, relative to the roadbed. As a whole, the sacbe would have seemed regular and coherent, without any notable changes in the formality or quality of its construction over its roughly 300 meter length (see Keller 1994 for greater detail).

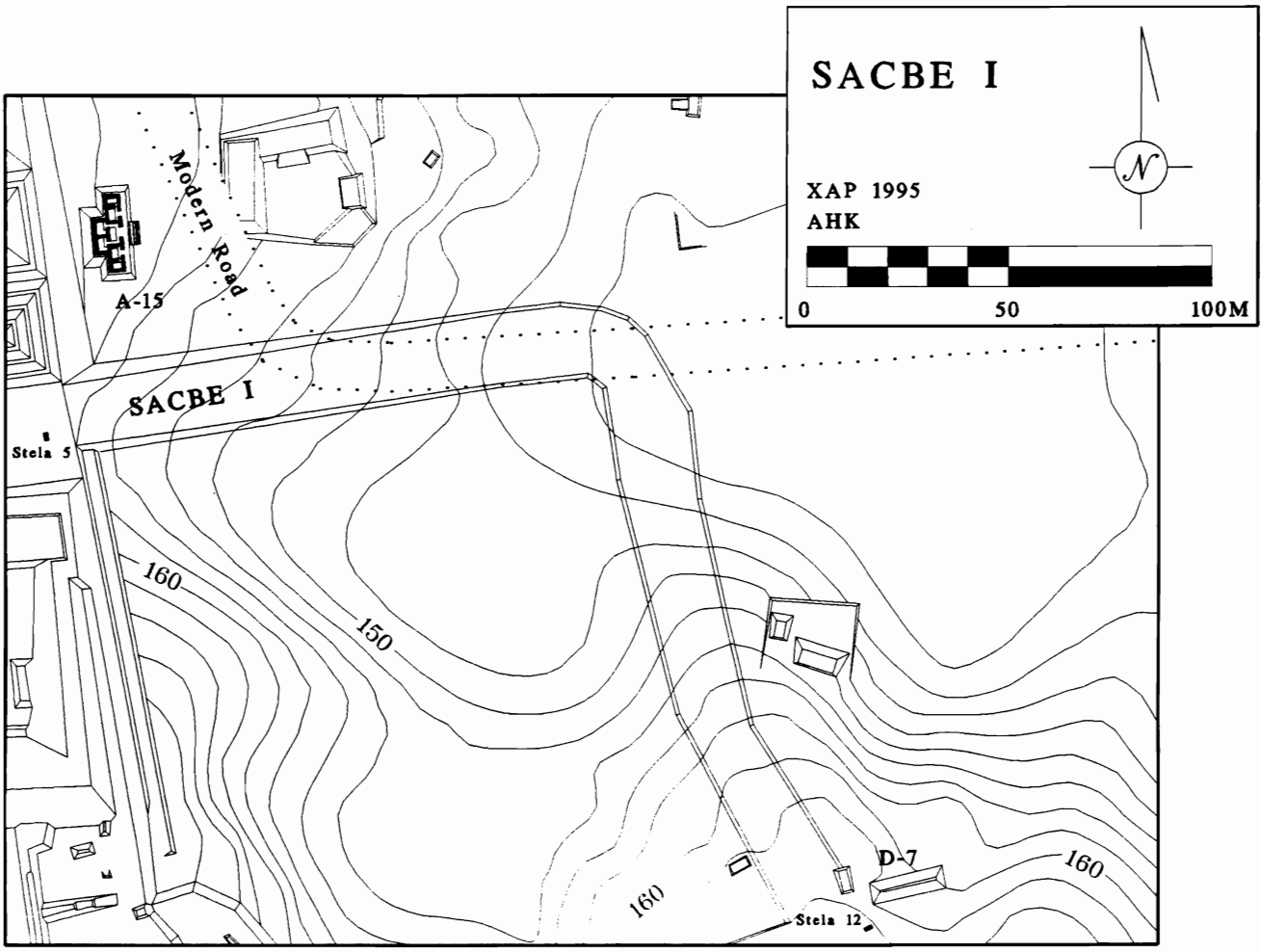

SACBE I
XAP 1995
AHK
0
50
100M
N
Modern Road
A-15
SACBE I
Stela 5
160
150
160
D-7
160
Stela 12

FIGURE 3

If our reconstructions are accurate, this sacbe conforms to what I would call the typical or archetypal Classic Maya sacbe: a strictly intrasite construction, linking one ceremonial part of a site to other ceremonial sectors within the same center (Demarest 1989; Freidel and Sabloff 1984; Ringle 1993; Villa Rojas 1934). Unlike longer distance, intersite roadway systems identified elsewhere, which may have had more prosaic functions, formal walled intrasite roadways like Sacbe I appear to have been essential components of Maya social, religious, and political performances -constituting "in effect extended stages for ritual" (Ringle 1993:13).

Further, the only entry points onto the sacbe are from Groups A and D: there is no defined access from the outside. Despite extensive testing along the length of the sacbe, we have found no other roadways or walls emanating from it, making the sacbe a closed loop between Groups A and D with no egress or ingress over its continuously walled sides. As such it does not appear to have been a thoroughfare for the transport of goods and people, but rather a formalized material connection between the elite of Group D and the ruling elite in the site core, Group A.

The closed circuit nature of Sacbe I suggests that it was probably not meant for day-to-day travel, but rather was used only for special processions between the two groups: as an extended performance area or "stage." In this regard, the sacbe seems similar in intent to the "roadways" that are specially cut by some Yucatec Maya communities today to move saints in procession from one town, or part of town, to another (Konrad 1991:135). Sacbe I is also reminiscent of the closed, albeit longer, ceremonial circuits that many highland Maya still walk during periodic festivals and curing rituals (Vogt 1970:89). The central point is this: the very "closedness" of the sacbe makes its interpretation as a ceremonial pathway even stronger. As such, Sacbe I surely would have been a prominent part of the complex of large public spaces used during Maya "state" rituals or festivals.

Data from the excavation of two structures spatially associated with the Group D sacbe increase the likelihood of this hypothesis. Structures A-15 and D-7 are extremely similar to one another in their proximity and orientation to Sacbe I, as well as in floor plan and construction. The two seem to have been built as a matched set in the Late Classic, to mark the ends of Sacbe I, defining its importance and use throughout the Classic Period (for further information on the excavation of Structure A-15 see Mackie 1985, and for Structure D-7 see Braswell 1994). Excavations at each structure yielded special items such as obsidian, fine groundstone, pyrite, figurines, and decorated serving wares — all suggesting a ceremonial and festal function. Additionally, the large, high interior benches and wide doorways adjoining spacious terraces hint that these structures were specifically designed to cater to large festival audiences - audiences which may have been barred from walking on the sacbe itself. Thus, Sacbe I is essentially not an accessway at all, but rather a physical link between two elite lineages, and a monumental stage for periodic procession.

The Northeastern Access

In marked contrast to the restriction and formality of the Group D Sacbe is the more open and unassuming nature of the site core access only 100 meters to the north (Figure 4). On the basis of excavation this year, we define this accessway as a long series of adjoining spaces composed of two attached patios, a paved walkway and the

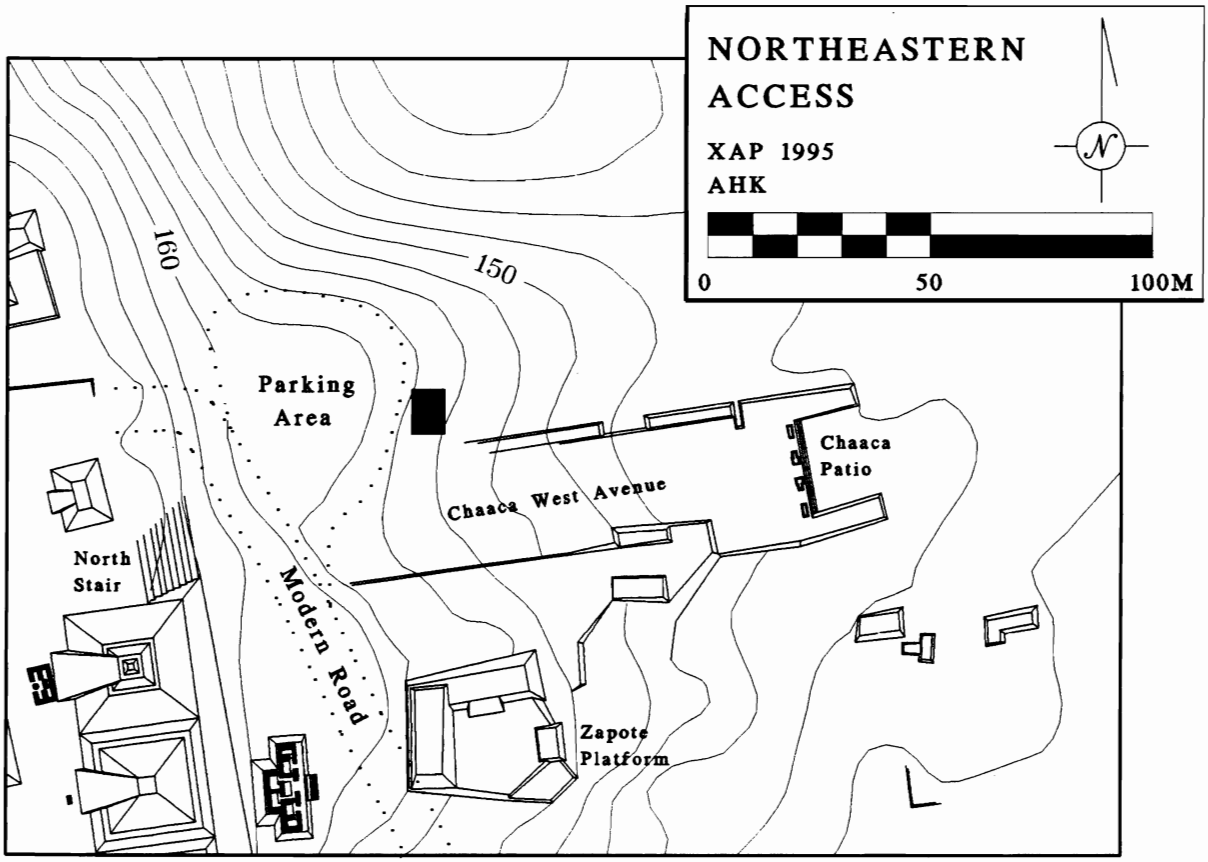

NORTHEASTERN
ACCESS
XAP 1995
AHK
0
50
100M
N
160
150
Parking
Area
Chaaca
Patio
Chaaca West Avenue
North
Stair
Modern Road
Zapote
Platform

FIGURE 4

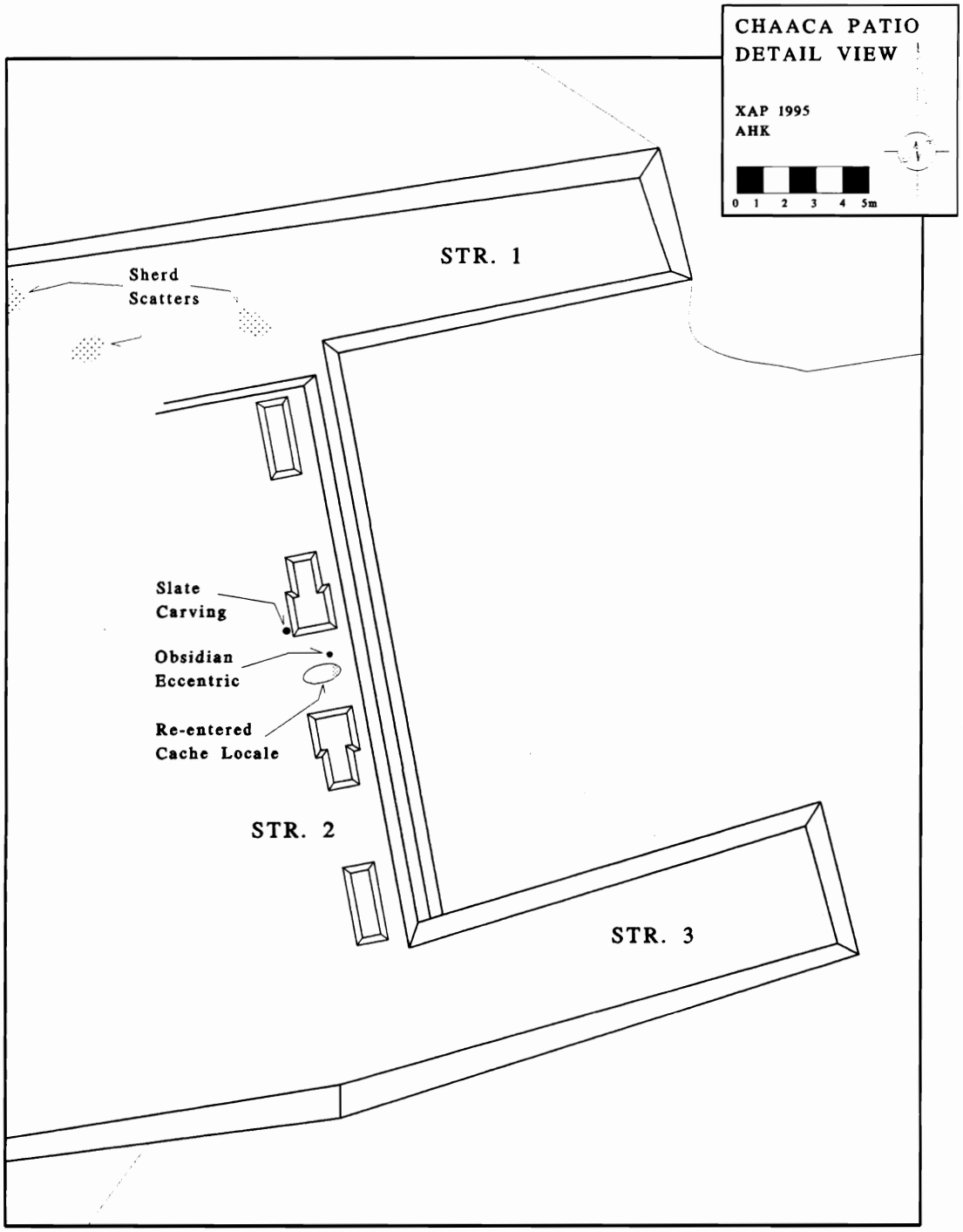

CHAACA PATIO
DETAIL VIEW
XAP 1995
AHK
0 1 2 3 4 5m
STR. 1
Sherd
Scatters
Slate
Carving
Obsidian
Eccentric
Re-entered
Cache Locale
STR. 2
STR. 3

FIGURE 5

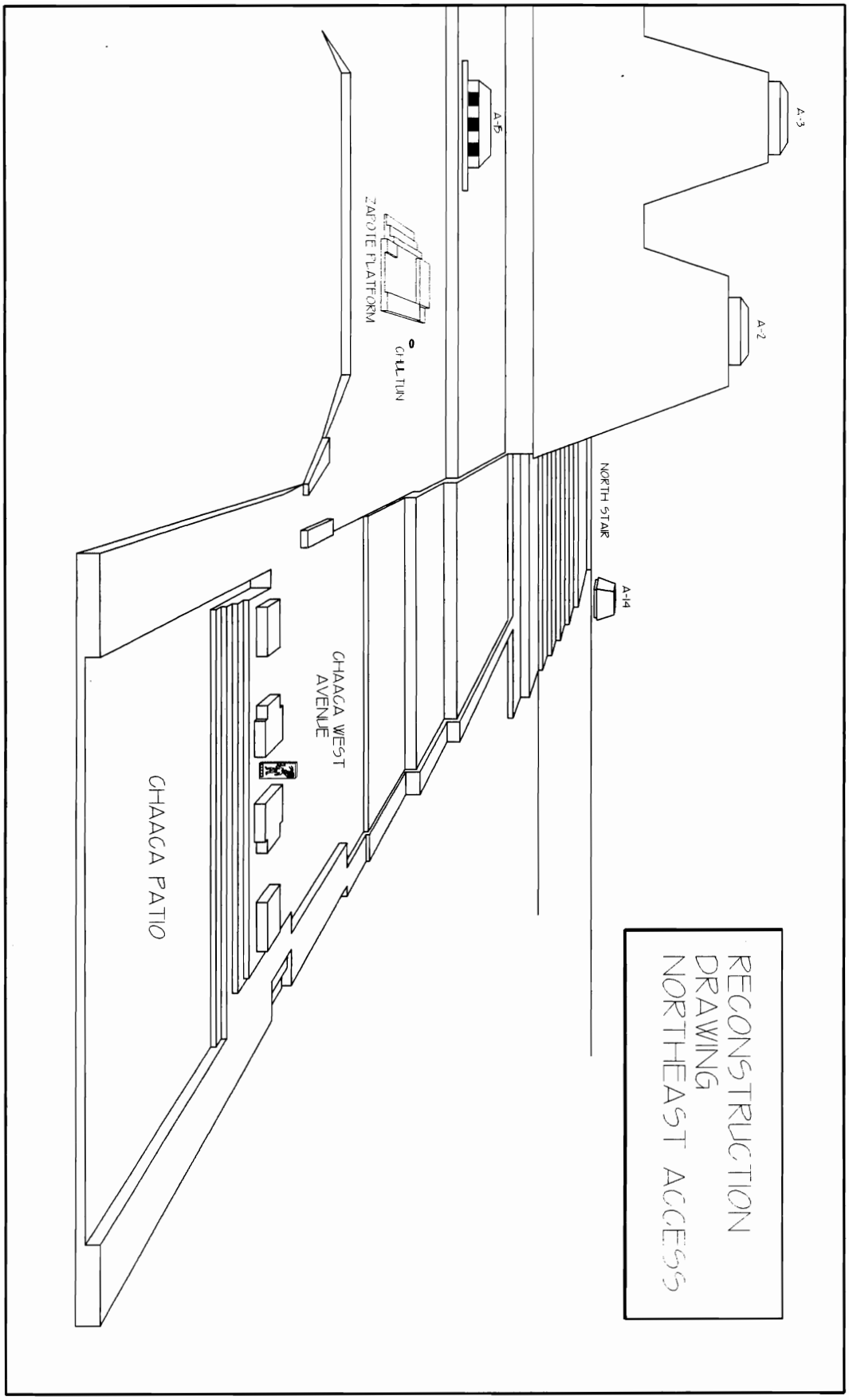

A-3
A-2
A-14
NORTH STAIR
A-15
ZAPOTE PLATFORM
CHULTUN
CHAACA WEST AVENUE
CHAACA PATIO
RECONSTRUCTION DRAWING NORTHEAST ACCESS

FIGURE 6

North Stairway which enters onto Plaza II of Group A. At the eastern extent of the accessway is a U-Shaped patio group which seems to funnel movement into the civic core (Figure 5). The western structure of this patio group is stepped across its entire eastern side forming a broad stairway, four steps high. At the top of the stairway, we identified four small masonry constructions spaced 3 meters apart, which function as low (50 cm) piers defining three open walkways. This stairway structure is flanked on the north and south by 5 meter wide, 50 cm high attached platforms with plastered floor surfaces and no identifiable super-structure walls or divisions. The west was apparently open to traffic entering from the eastern or Belize Valley direction.

After passing through this entryway, which may have been marked by a carved slate monument, akin to the uncarved limestone stelae at the ends of Sacbe I, the Xunantunich visitor would have entered another patio area composed of several very low (one course high) platforms. Judging from its formal arrangement, absence of masonry superstructures, and the lack of ordinary household refuse and groundstone items, the linked dual-patio area seems an ideal candidate for a periodically utilized marketplace with perishable stalls much like the marketplaces of modern Maya and Central American villages. Importantly, many modern market areas, used on a weekly or monthly basis, are regularly swept clean and do not contain any non-perishable architecture announcing their "marketness" (Silverman 1994). Often the only permanent structures to be found are low platforms, stairways, colonnades, fountains, statues and gazeboes - architecture which invites movement around and through, but does little to constrain that movement or the endless manipulation of the seemingly "empty" surrounding spaces. At Xunantunich, we have analogous architecture: a stairway, a possible slate monument, and a series of low platforms devoid of trash or internal divisions.

Moving on to the west, toward the city core, the visitor would have stepped up onto a broad, low walkway raised only 30 to 50 cm above the surrounding surface, which grades gently up to the monumental North Stairway and enters Plaza II between Structures A-14 and A-2 (Figure 6). Finally, the visitor would have arrived at the city core directly in front of Structure A-13, the southern building of the royal residence. Structure A-13 is plausibly interpreted as a formal audience hall, with its 8 benched rooms directly accessible from a broad stairway spanning much of its south side, reminiscent of the stepped U-shaped entryway below.

Thus, the whole northeastern accessway seems to have been a largely commercial and administrative space which could have formed the economic and political backbone of polity-wide interactions at Xunantunich during the Late Classic. Much like modern Maya market activities, the periodic market-fairs hypothesized to have occurred here would have left little trace artifactually - still those very same activities would have constituted a material and intellectual exchange vital to the maintenance of the Xunantunich polity and identity. Taken together, the hypothesized ceremonial processions along Sacbe I and the market-fairs of the Northeastern Accessway, would have constituted a set of activities fundamental to the attraction of Xunantunich for residents of the Belize Valley.

The Western Access

Originally identified in 1992 as a possible access point by then field director Tom

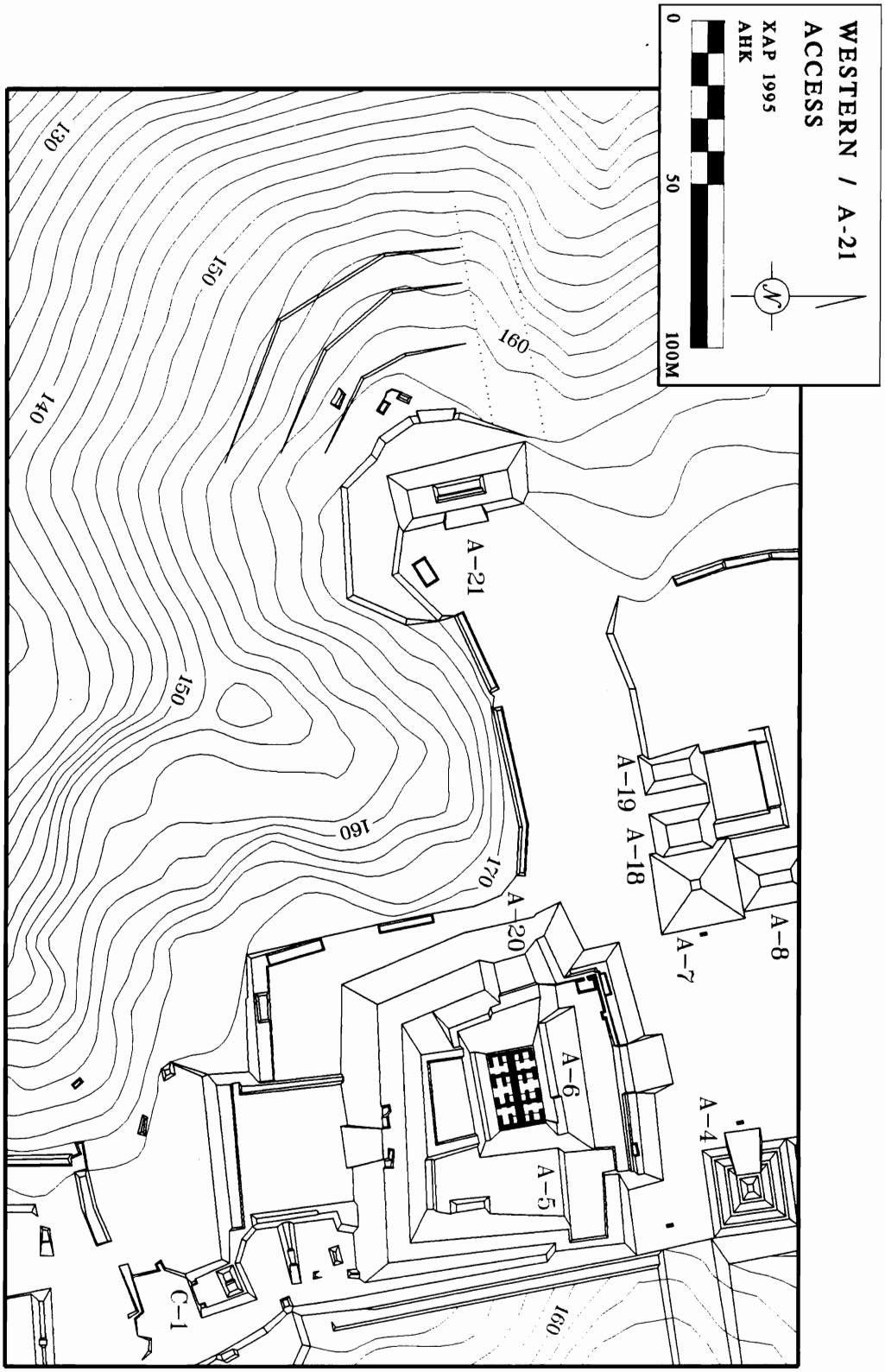

WESTERN / A-21
ACCESS
XAP 1995
AHK
0
50
100M
N
A-8
A-7
A-19
A-18
A-4
A-6
A-5
A-20
A-21
C-1
160
170
150
140
130

FIGURE 7

Jamison, the western access at Xunantunich has only cursorily been tested through excavation and thus remains a compelling but largely undiscovered space (Figure 7). Still, on the basis of survey and minimal excavation, we can say that this western accessway was surely the most impressive of the three in scale and vista.

The Xunantunich visitor from the west would have proceeded up one of the steepest ascents to the center, passing alongside large, stone-faced terraces which may have created the impression that much of the hillside was in fact a massive stepped substructure. Surmounting this clever deception is Structure A-21, which itself uses the natural hillslope for half of its height on the west. Because of the steepness of the climb and the great size of Structure A-21, the Castillo may not have been visible to the visitor until reaching the core plaza level and circumambulating Structure A-21. The visitor would have been struck with the full impact of the Castillo only at the end of the journey - much like standing directly under a skyscraper, chin to glass. From Structure A-21, a broad parapeted avenue leads past the south end of a Late Classic ball court and right to the foot of the Castillo.

This, the most awe-inspiring access point at Xunantunich, seems to beckon to the west and the more powerful cities of the Peten. Pending further excavation, we can only imagine that this area served a very different function, and possibly a very different populace, from those of the eastern entry points. This access was meant to impress with size, perceptual tricks, and its association with a ball court, place of the underworld and untimely deaths. From the eastern access areas to the western one, the manner of address has changed from commercial and ceremonial to stately and ostentatious. Apparently the powers of the Peten were not to be neglected in the Late Classic. While the Belize Valley residents were cultivated with processions and market-fairs, the lords of the Peten were presented with the most powerful image Xunantunich could construct of itself. Whatever connection Xunantunich maintained with larger cities to the west must have been another element of the center's attraction for the local populace.

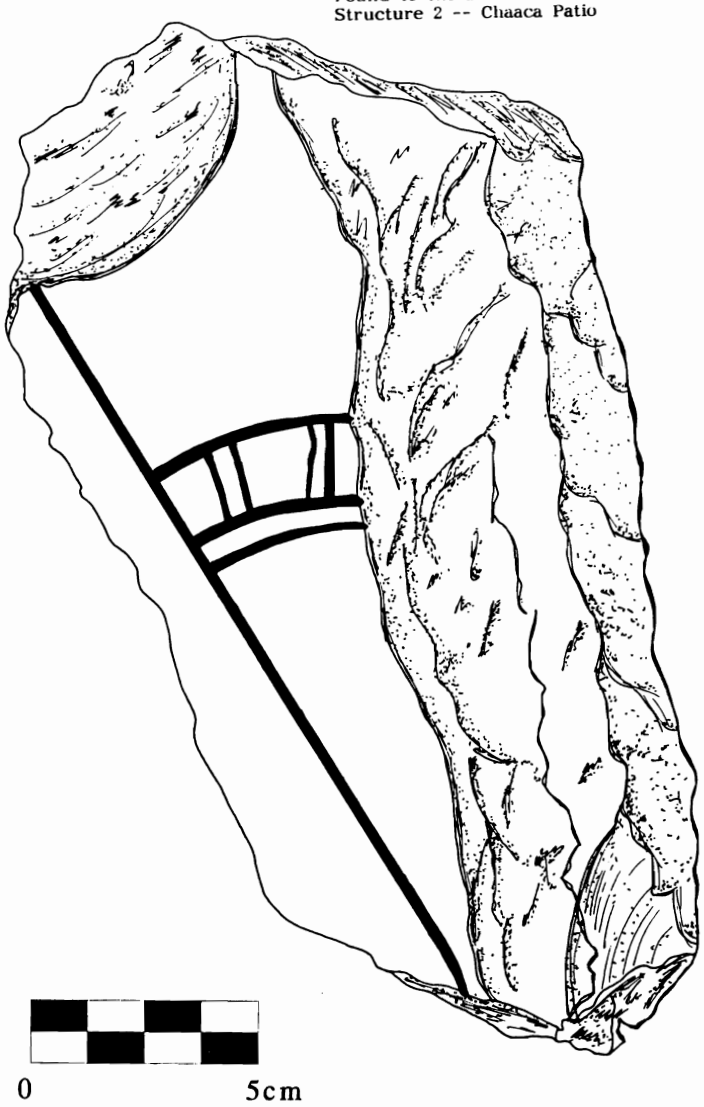
Terminal Classic Changes

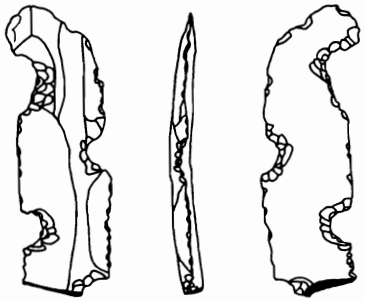
Together, the three accessways form a more complex picture of both the "accessibility" and the attraction of Xunantunich over the course of the Late Classic allowing a glimpse into the thoughts and experiences of both the site planners and users. Still, this picture is but a static snapshot until we add a diachronic dimension - movement in time as well as space. During the Terminal Classic period, the changes that occur throughout the site, and at the access areas in particular, highlight the significance of these spaces for the continuing coherence and prosperity of the Xunantunich polity. While at peripheral sites such as San Lorenzo (Yaeger 1994) and Chaa Creek (Connell 1994), occupation and construction are noticeably reduced during the Terminal Classic, in the Xunantunich center the reduction is very great indeed. Terminal Classic material, where we have it, is no more than a thin veneer of occupation trash, and practically no new construction can be dated to the Terminal Classic period in the site core (LeCount 1994). In terms of the accessibility of Xunantunich, access to the site was radically diminished and formerly significant activity areas simply ceased to function.

In the Terminal Classic, the whole northeastern accessway seems to have been

SLATE CARVING
157AA/2-P12

Found to the side of Re-entered Cache Locale
Structure 2 -- Chaaca Patio





OBSIDIAN ECCENTRIC
157C/2-P5

Found to the side of Re-entered Cache Locale
Structure 2 -- Chaaca Patio

FIGURE 8

not only abandoned, but also systematically dismantled. Despite extensive excavation of the Northeastern Access area including the North Stairway, we have found no Terminal Classic material whatsoever. In abandoning the northeast the Terminal Classic Maya seem to have made an effort to close or kill the area by removing a cache, possibly of obsidian eccentrics, and perhaps a slate monument from the western structure of the U-Shaped Patio group (Figure 5). During excavation, we recovered one broken obsidian eccentric placed to the north of a re-entered cache location, and one finely carved fragment of a larger slate carving, possibly representing the arm and armband of an almost life-size figure, also found north of the floor cut and lying directly on the preserved plaster surface (Figure 8 a,b). Additionally, many of the large finely cut blocks used as facing stones in both the lower patio areas and the North Stairway were robbed out by the Maya likely in the Terminal Classic, leaving behind a dismembered, dismantled shell.

At roughly the same time several other parts of the city seem to have been abandoned, including the western or A-21 access avenue, since no Terminal Classic material has been found in these locations either. The majority of Terminal Classic activity that we can identify seems to have occurred in Plaza I and its surrounding structures, effectively reducing the accessible, usable space of the site core to a fourth of its Late Classic size. The Terminal Classic Maya of Xunantunich cut themselves off from the commerce and activity of the Valley and the power and prestige of the Peten by effectively destroying the very spaces that had sustained those things. Of the accessways, they focused attention on Sacbe I and Structures A-15 and D-7 which are modified at this time. The constricted, dismembered city of Xunantunich placed its future in the internal alliance between the royal core lineage and the lineage of Group D, and quite literally, shut out the rest of the world. After 50 to 100 years of this existence, the city closed down all together. Without the spaces to house them, festivals at the site must have been very strange affairs indeed -and without that attraction Xunantunich turned in on itself and ultimately did not survive.

Operation Summaries

A discussion of the nomenclature used in XAP excavations was presented in last year's report (Keller, 1994), but a brief recounting of these and the structure of the present operation discussions seems in order. In organizing and recording excavation data the Xunantunich Archaeological Project (XAP) uses a set of terms and principles which are common to the Maya area, but differ slightly from those used elsewhere. We use a limited set of terms to organize and later retrieve archaeological data from individual finds to excavation photographs: *operation, suboperation, lot, special find, special feature, and burial*. An *operation*, designated with a number, is a unit of space conceived by the excavator to be related in some fashion, for example: a large single structure, a patio group, a chultun, or even an individual burial. The definition of the extent of an operation is left to the individual excavator and remains flexible in order to accommodate the differing organizational and recording requirements of unique archaeological remains. A *suboperation*, given a letter or letters, is usually a horizontal subsection of an operation (i.e a 1x2m pit) which may or may not be contiguous with other suboperations. Within a suboperation the excavation is conducted in artificial or natural levels called *lots* that are designated by consecutive numbers. Lots are generally vertical or stratigraphic subsets, but they may also be used to collect material in distinct horizontal sets (i.e. in a large special deposit where the general horizontal location of

artifacts and any other special collections is significant). In addition to these three classifications, which will always be present on any bag of artifacts, drawing, photograph, or special collection, important individual items or sets of items may be further subdivided from the rest of the material with *special find* or *special deposit* numbers. These are the basic terms used throughout the rest of this report with the addition of a parenthetical verbal identifier after each operation (i.e. Operation 210 (chultun)) to assist the reader.

The operation summaries are organized into larger related areas, such as "Sacbe I" or "Northeastern Access," as they were conceived in the field. Each operation summary follows a consistent format to ease reading comprehension. Summaries begin with an account of the purpose of the operation as originally envisioned and as it was modified through excavation. This is followed by several brief discussions on: the architecture revealed, the artifacts and or special finds and deposits encountered, the nature of the soils and stratigraphy generally, the preliminary chronological placement of the material as defined by the ceramics found, and finally a summary of the whole.

Sacbe I Excavations

Operation 122 (sacbe testing)

Operation 122 (sacbe testing) was begun in 1994 to follow and test the sacbe segments emanating from the east of Group A and the north of Group D. As expected, the two segments joined to form one sacbe, but unexpectedly showed no signs of any accessways or adjoining roadways at the juncture or along any of the portions mapped and excavated (Figure 3). In 1995 we reopened Operation 122 (sacbe testing) to test further for any possible point of entry onto Sacbe I in the inundated and partially destroyed sections along the modern road to the site. A second concern was the possible water management function of the curving roadway which today appears to straddle and block one of the major drainages off the Xunantunich hilltop. The curve of Sacbe I would appear to be "in the way" of natural water runoff during the rainy season, and therefore was either intended to hold water, and/or was constructed with some sort of water drainage or diversion features to allow runoff during heavy rains.

Human Construction

After three weeks work, we found evidence for neither the proposed point of entry, nor the water drainage mechanism. What we did find, though, was further evidence that a massive jolt, probably an overflow of seasonal rain waters, caused the collapse of the curve of the sacbe which spans the drainage avenue in question (see Figure 9a). In the 1994 report on Operation 122 (sacbe testing), a heavy accumulation of yellow clay along the southeast edge of the sacbe curve was cited as possible evidence of this flooding activity (see Keller 1994). In this year's excavations, we concentrated on the better preserved northwest edge of the sacbe curve and found the exterior parapet wall there to have fallen dramatically in antiquity toward the north and east, as if pushed from the south -- the direction of flow of the hypothetical flood waters. Figure 9a is a cross-section of the parapet (facing northwest) showing the topmost intact wall stone teetering precariously over the rest of the 3 to 4 courses of stones which fell *before* the subsequent deposition of nearly a meter of dense black clay. The strata upon which the fallen stones rest is the layer of gray to yellow clay found consistently in the 1994 excavations to be the sterile sub-surface upon which the sacbe was built in the Late

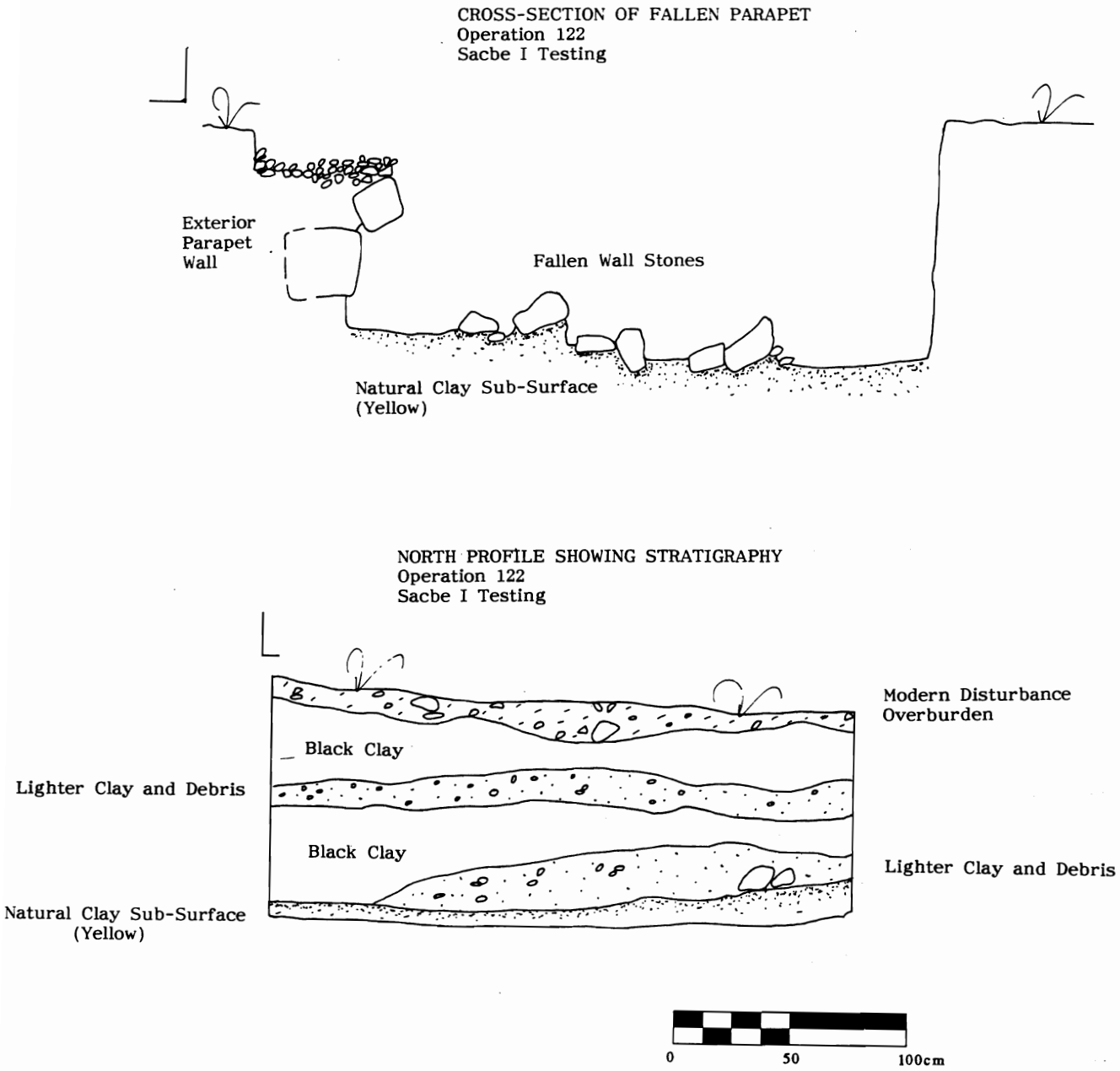

CROSS-SECTION OF FALLEN PARAPET
Operation 122
Sacbe I Testing
Exterior
Parapet
Wall
Fallen Wall Stones
Natural Clay Sub-Surface
(Yellow)
NORTH PROFILE SHOWING STRATIGRAPHY
Operation 122
Sacbe I Testing
Modern Disturbance
Overburden
Black Clay
Lighter Clay and Debris
Black Clay
Lighter Clay and Debris
Natural Clay Sub-Surface
(Yellow)
0
50
100cm

FIGURE 9

Classic period (again see Keller 1994 for more detail). This would indicate that the sacbe curve fell fairly early in the post-use phase of the sacbe.

Additionally, the distance that the fallen stones were thrown from their original standing position indicates that the force which precipitated their fall was both strong and rapid. Only three possible forces come to mind which might be capable of inflicting such damage: human intentional destruction, earthquake, and flash flooding. Because of the location of this structure along a natural drainage line, and the evident deposition of large amounts of clay here both before and after the Maya occupation, I am inclined to favor the flash flood hypothesis.

This leaves us with the question of what measures the Maya took to manage the annual rain waters that surely accumulated to the southwest of Sacbe I at the curve. Despite the fact that we could find no evidence of any form of culvert or other drainage device in this year's testing, I still believe that some kind of drainage, or maybe even water diversions uphill, must have existed during the active use of Sacbe I, even if some water was retained behind (to the southwest of) the sacbe walls. When the maintenance of these water management measures ceased, probably coincidental with the abandonment of the site, the waters trapped by the sacbe curve may have finally broken through and leveled the parapets as we find them today.

Artifacts

Only one item of any note was recovered from these excavations, a large mano (122KKK/4-P2) apparently thrown off the top of the parapet along with the top courses of stone. This find is reminiscent of the mano and metate set found jostled off the side of the southwest parapet along the curve in 1994 (see Keller 1994). These large grinding implements are enigmatic in association with a sacbe. Still, their placement along the curve of Sacbe I where those visitors not participating in the processions held upon the sacbe may have gathered is suggestive. Whatever was ground with these large manos and metate may have been intended for common visitors as they viewed the festivities.

Soils and Stratigraphy

As mentioned above, all of the soil covering the sacbe today is an accumulation of dark black clay of the same type we find deposited in low, wet pockets along the Xunantunich hilltop. Below this, we encountered the gray to yellow clay identified by our soil scientist (Bill Woods, personal communication 1995) as an old clay probably antedating the arrival of the Maya. Again, this is the strata upon which Sacbe I is constructed in these low, damp areas (further uphill the sacbe is built directly on the bedrock).

Intriguingly, we also noted two thin strata of lighter material composed of small limestone gravel and flecks along with some artifacts (Figure 9b). These two distinct strata within the otherwise homogenous and virtually sterile black clay may represent occupations of the area, or, possibly more likely, periods of rapid accumulation or flooding which transported the larger stone flecks and some leached artifacts. These more dramatic deposition episodes would have been separated by years of slow deposition resulting in the thick layers of black clay.

Chronology

As with our 1994 excavations, we found no evidence of any Terminal Classic modification of Sacbe I. The ceramics found this year, concordant with those found last year in Operation 122 (sacbe testing), seem to squarely position the construction of Sacbe I within our Late Classic II period.

Summary

While our hopes of finding some point of entry or drainage along this portion of the Sacbe I curve did not materialize, the larger excavation of the northeast side did allow us to more fully appreciate the dramatic destruction of the parapet walls.

As a side note, when we began our excavations in February, at the tail end of a light rainy season, we found the southwestern side to be inundated 30 cm above the level of our final sterile excavation levels from 1994 (when all excavations were dry). The sacbe did appear to be holding water to the southwest, albeit below the present ground surface. Further, as late rains stalled our work, the northeast excavation unit also became filled with water suggesting that this area in the past, as today, would have required continual water management.

As of yet we have not located the hypothesized reservoir or *aguada* that many XAP researchers feel must have existed in close proximity to the site core. The inundation and heavy deposition of clay to the immediate northeast of the Sacbe I curve make it a good candidate for the long desired hilltop *aguada*. If there was an *aguada* to the northeast of the sacbe curve, and possibly a small one behind (to the southwest of) the curve, they have been effectively masked by centuries of heavy deposition leaving a frustratingly flat, wet area.

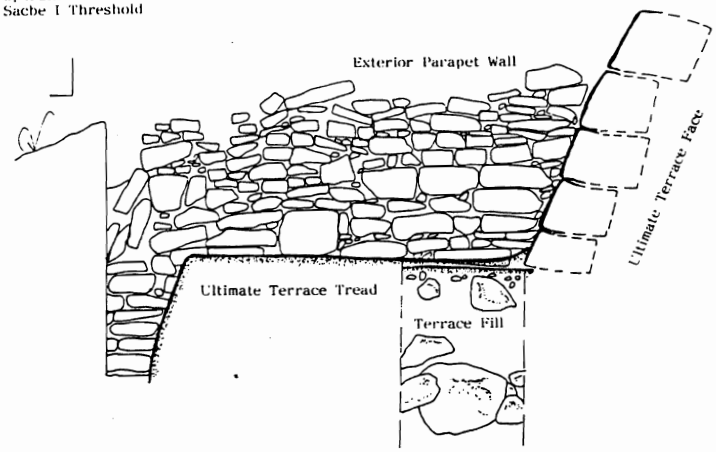
Operation 172 (sacbe threshold)

Operation 172 (sacbe threshold) was initiated in 1995 to examine the "threshold" where Sacbe I meets the level of Plaza I of Group A (Figure 3). Unfortunately, because of a heavy accumulation of backdirt from XAP and previous excavations, the central roadbed portion of the threshold, where Stela 5 was mapped in 1992, could not feasibly be excavated. That in mind, we chose to locate our excavations along the north side of Sacbe I where it appeared to join with the terraced back (eastern) side of Structure A4. Beginning to the north of where we imagined the northern parapet of Sacbe I to lie, we revealed a terrace face and "tread" (horizontal element) which we followed to the south ultimately locating the juncture between the northern sacbe parapet and the Structure A4 back terrace. We then proceeded to the west, following the line of the northern parapet, until we reached the actual threshold point where the sloping plaster surface of Sacbe I met with the more level Plaza I plaster floor.

Human Construction

Before encountering the northern sacbe parapet, we cleared over 7 meters of the Structure A4 back terrace. The terrace's vertical face and horizontal "tread" were plastered and well preserved closer to the sacbe parapet. Upon testing, the terrace and the sacbe parapet walls were revealed to have been built upon the same plaster surface (the plaster surface of the "tread" of the terrace), probably contemporaneously. The parapet wall abuts but does not interlock with the terrace face wall. After construction of the terrace and parapet walls, another plaster floor was laid above a thin layer of sub-floor ballast (Figure 10a). The thinness of the ballast between the two plaster surfaces, and the generally good condition of the earlier floor, suggest that the earlier

SOUTH PROFILE OF EXTERIOR PARAPET WALL
AND ULTIMATE TERRACE
Operation 172
Sacbe I Threshold



NORTH PROFILE OF INTERIOR PARAPET WALL.
ULTIMATE AND PENULTIMATE TERRACES
Operation 172
Sacbe I Threshold

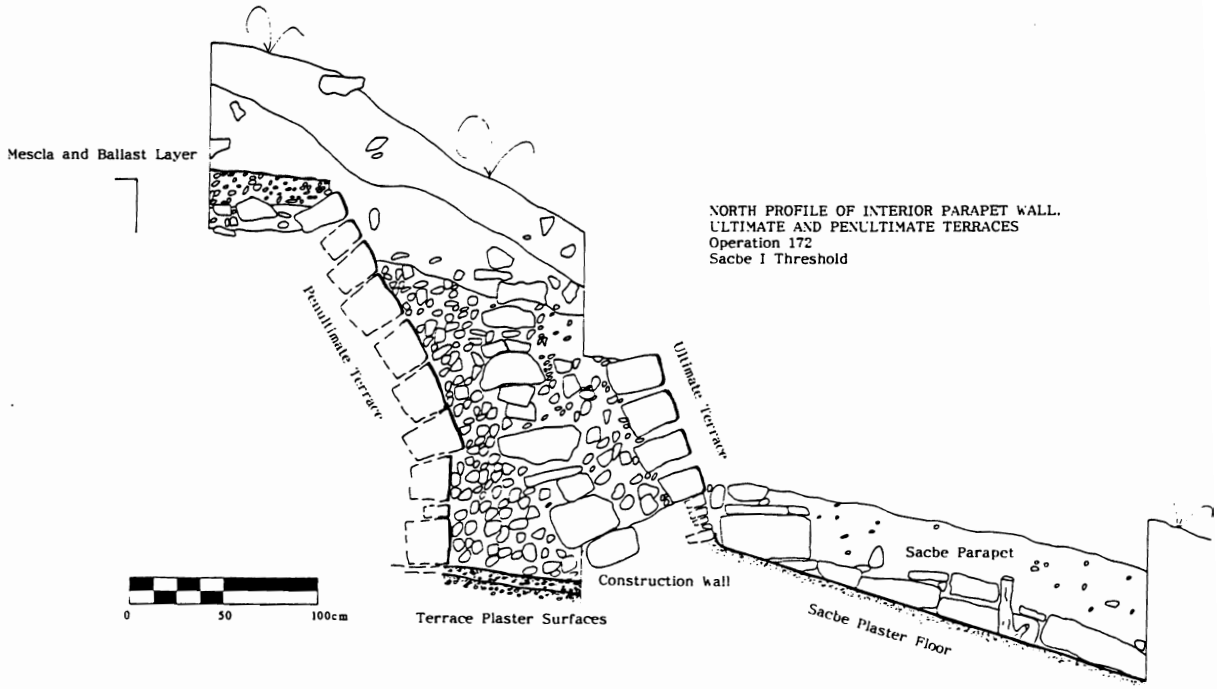


FIGURE 10

floor was a construction floor upon which the two walls were built, and the later floor was the final finished surface. That is, the two floors may not indicate two separate phases of construction, but rather two parts of one and the same construction episode. Certainly, if the second (later) floor was a later addition, it did nothing to change the overall appearance the terrace.

After further testing of the construction, we found an earlier terrace face upon which the sacbe and the later terrace were erected as a unit (Figure 10b). This earlier terrace appears to have been cut and dismantled to accommodate the new sacbe, and may have formerly been a continuous wall from Structure A4 to the base of the Castillo. If this were the case, the construction of Sacbe I in the Late Classic, would have created an entrance where there previously had been none, thus totally remodeling the patterns of movement in and out of the site core.

The sacbe roadbed was exceptionally well preserved due to the large amount of collapse debris from Structure A4. The interior parapet wall, like the other segments excavated in Operation 122 (sacbe testing), consisted of large, well cut limestone blocks, in this case preserved only one course high. Covering this wall was the final plaster surface of the sacbe roadbed. This ultimate plaster floor was a remarkable 14 cm thick (all a concrete-like plaster material). Below the ultimate floor and it's subfloor ballast, we encountered an earlier sacbe floor which also lipped-up and covered the interior parapet wall. Finally below these two substantial floorings, we found larger fill and terminated the test unit at the appearance of very large boulder-sized fill.

Initially, based on the steepness of the incline, we had hypothesized that the Sacbe I ascent to Plaza I might have been stepped. After clearing 7 meters of the sacbe roadbed (at the threshold and below at the sacbe/terrace junction), we discovered no evidence for steps anywhere along the final ascent. The sacbe walking surface was a continuous, steep, smooth plaster floor that we can only imagine was perilous when slicked with rain.

Uphill to the west, the actual "threshold" where the sloping Sacbe I floor meets the level Plaza I floor was located in suboperation 172M. We found no evidence that this threshold point was marked architecturally (i.e. with outsets or a low wall). It is possible that perishable constructions, like wooden walls or screens, may have been placed periodically, or possibly the front (southwest) corner of Structure A4 was the more significant "entry" point, as that is where the sacbe corridor opens on to the larger Plaza I space. Time permitting, the southwest corner of Structure A4, the southern side of the sacbe threshold and the presumed location of Stela 5 will be examined during the 1997 season.

Artifacts

In the collapse debris layers above the back terrace of Structure A4 (which joins with the northern sacbe parapet) we recovered two interesting items which because of their context cannot be directly associated with the use of Sacbe I or its adjoining terrace area. The first was an obsidian flake (172H/2-P4) that may be debris from the preparation of a blade core, and which is discussed in greater detail below in the Obsidian Analysis section. The second was a small (roughly 1 cm square) fragment of a well-polished mirror (172N/4-P5). The clarity of reflection of this tiny mirror piece is

remarkable, hinting at the beauty of the whole object in antiquity. Little can be made of it in relation to activities upon the sacbe though, as it probably fell out of either the fill or occupation debris from the top of Structure A4.

Upon reaching the plaster surface of the Structure A4 terrace "tread" we did find *in situ* refuse (Special Deposit #D1) which was likely thrown there during the use life of Sacbe I. This thin, continuous layer of sherds, lithics, and one non-human bone fragment (172D/2-P2), was completely mapped and collected in 1x1m lots as part of suboperation 172J. While no analysis has been completed upon these materials, from extensive field observations, all of the ceramics fall into the Late Classic period, with no obvious Terminal Classic period diagnostics. On the whole, the accumulation appeared to be a small trash deposit of common wares and materials with no painted wares noted.

This pattern of trash disposal off the side of a sacbe threshold was also found at Seibal during excavation and mapping there (Willey, et. al. 1982). Still, the lack of Terminal Classic debris in this terrace deposit is intriguing. Because of the modification of Structures A15 and D7 (the two structures which mark the ends of Sacbe I) in the Terminal Classic period, we propose that Sacbe I was still in use at that time. It would appear to be one-time deposit from the Late Classic, possibly having some ceremonial significance.

Soils and Stratigraphy

Below the mixed topsoil, fall and backdirt level, we removed over a meter of typically light-colored fall material (10yr7/2 to 6/2) before reaching the terrace or sacbe surfaces. No unusual deposition patterns were noted which might indicate intrusive pits or any other later Maya activity. Where excavated, the construction fill layers were unremarkable, generally tending toward lighter soils (10yr7/2 to 7/3) with small to medium sized rubble. In the three test pits which probed the terrace and sacbe surfaces, we consistently encountered very large boulder-sized dry-laid fill stones below the more compact fill. The size of the fill stones suggests that Sacbe I and its associated terrace were built rapidly over the partially dismantled previous terrace.

Notably, a distinct thin (4 to 5 cm) layer of soil overlay and contained the trash deposit strewn along the terrace floor. The soil was darker (10yr4/3) in color and more compact in texture than the light-colored, loose fall above it. This thin strata appears to be the leached remains of a topsoil layer that formed before the collapse of Structure A4. Whether this soil layer formed after or before the complete abandonment of the site core is impossible to determine.

Chronology

The Operation 172 (sacbe threshold) ceramics were not part of the small sample sorted and catalogued this season, and therefore no final assessments as to chronology can be made. Still, from field observations, it seems clear that the Sacbe I threshold material is contemporaneous with the rest of the Operation 122 (sacbe testing) ceramic material -- that is roughly Late Classic with no evidence of Terminal Classic in fill contexts.

Summary

From our probes into the construction and extensive clearing, it would appear that Sacbe I was built rapidly in the early Late Classic II period on top of a previous platform terrace wall, which was leveled in part at that time. The sacbe and its terrace were completed as a unit, thus completely remodeling the eastern side of the site core. After the initial sacbe floor became worn, a final, very thick (14 cm) floor was placed without changing the dimensions of the sacbe itself. Some time in the Late Classic, a thin layer of trash, possibly containing food remains (the one bone fragment) was scattered along the adjoining terrace surface. This activity seems to have occurred only during the Late Classic, and perhaps as a one-time event.

We found no evidence that this entry point, or the immediate ascent to it, were marked architecturally with stairs, outsets, walls, and so on. The dramatic steepness of the climb and the placement of an uncarved stone monument (Stela 5) appear to have been the two features that differentiated this threshold point from the rest of the sacbe.

Northeastern Access Excavations

Operation 157 (chaaca patio)

Operation 157 (chaaca patio) was first opened in 1994 with one test unit in the patio area to the east of Structure 2 (see Keller 1994). The 1994 unit (157A) was intended as a quick test for chronology, and recovered all Late Classic period ceramics. In 1995 we reopened the operation to more completely clear and probe the chaaca patio architecture. Before excavation, this group of three structures surrounding a patio area open to the east was identified as unusual, and possibly non-domestic (see Figures 4, 5, and 6). The group's long, low architecture and its, then hypothetical, connection with the northeastern access, made the patio group a good candidate for a public area related to access and festival activities.

Human Construction

We focused our excavations on the western structure, Structure 2, which proved to be the principal structure in the group. The southern (Structure 3) and northern (Structure 1) structures were also tested, but cleared less extensively (see Figure 5). The architecture of Structure 2 is unique at Xunantunich, comprised of a four-step stair spanning the whole east side of the substructure, and four low (probably 50 cm high in antiquity) pier-like constructions which define three walkways. Further, Structure 2 has no defined back (western) side as the plastered floor continues to the west without evidence of a wall, step or other limiting feature. Thus, Structure 2 appears to be a "walk-through" structure, a sort of formal stepped gateway.

Along the northern and southern edges of the chaaca patio, Structures 1 and 3 (respectively) delimit the U-shaped space. Neither Structure 1 or 3 proved to have any permanent superstructural elements (no walls, benches, or other internal divisions), and are reconstructed as low (roughly 30 cm high), long platforms roughly 3.5 meters in width. These structures seem to function primarily to define the patio space and funnel movement and attention toward Structure 2. In the trash test units (Operation 192, see below) we found no evidence of midden material off the "backs" of these structures again suggesting that they were part of a public space, rather than domestic substructures.

Significantly, we also found evidence that large, cut facing stones were removed from the chaaca patio structures. In several instances, we located "wall scars," or plaster floors that stopped at the line of a presumed wall, the stones of which had been removed. This removal of cut blocks, likely for use in constructions elsewhere on the hilltop, is also found in Operation 179 (north stair), indicating that the whole of the northeastern access was abandoned and partially dismantled (scavenged) sometime during the end of the Late Classic period or into the Terminal Classic period (this based on the Late Classic II period fill materials recovered, and the absence of Terminal Classic ceramics).

Artifacts

As stated above in the summary statement, we found little refuse associated with the chaaca patio area, but three ceramic sherd scatters (Special Deposits #D7, #D8, and #D9) were located in the northwest corner junction between Structures 1 and 2 and the low platforms which extend to the west defining the "chaaca west" area (Figure 5). These sherd scatters are located in tight passageways which may not have been open to general traffic. From field notations, most of the sherds in these deposits were fragments of large storage vessels (jars), but did not appear to be the remains of whole *in situ* vessels. Preliminarily, the three scatters might be interpreted as the remains of a periodic cleaning of the Structure 2 walkway areas rather than long term refuse deposits. Importantly, as in the rest of the Operation 157 (chaaca patio) excavations and the limited trash test pits conducted as Operation 192 (chaaca trash testing), we found no groundstone fragments or implements whatsoever. This lack of groundstone, so common in domestic contexts, indicates that this refuse is possibly non-domestic in origin -- the remains of public gatherings in this otherwise "clean" public space.

The other two interesting sets of artifacts uncovered in Operation 157 (chaaca patio) excavations are tentatively identified as the remains of construction caches and a possible stela placed in Structure 2. The first of the two sets is comprised of an enigmatic trench dug by the Maya into the center of Structure 2 (Special Deposit/Feature #D1), a concentration of sherds found in that pit (Special Deposit #D3), and an obsidian eccentric (Special Find #P5 -Figure 8b) and a fragment of a slate carving (Special Find #P12 -Figure 8a) located on the plaster floor to the north of the Maya trench (Figure 3). While the association of the two objects (the eccentric and slate carving) with the trench cannot be conclusively established, by their proximity, it would appear that they are a set related by an ancient Maya activity.

During the course of this season's excavations at XAP, we began to euphemistically call these pits into architecture which yielded no cache or burial remains, "cache-nots". That is, prior to excavation the ancient cuts into plaster floors seemed to be the result of some caching activity by the Maya, but upon examination, the pits were found to be "empty," and thus appeared to be cache locations refilled after the removal of the cache materials in antiquity. These "cache-nots" seem to date to the Terminal Classic period here and at the Chaa Creek and San Lorenzo sites (Connell and Yaeger, personal communication 1995; see Connell, this volume). In this instance, the probable location of the removed cache is the concentration of sherds found within the Maya dug and refilled pit. These sherds lay in a less compact matrix distinct from the rest of the Structure 2 substructure fill. Hypothetically, the lone obsidian eccentric may have been one of a group of eccentrics placed below a slate stela, of which we

recovered only a fragment (probably showing the arm and armband of an almost life-sized figure). Again hypothetically, when the Maya removed the cache, probably at the end of the Late Classic or into the Terminal Classic period, they left one eccentric and one fragment of the stela to the side of their recovery trench (as an offering?), which was then refilled but not replastered. As these items were not later removed from the plaster floor of Structure 2, we are left with the impression that the Maya abandoned this area after the removal of the cache, effectively de-activating the space. That this de-activation occurred before the final abandonment of the site core is suggested by the removal of cut facing stones from portions of the patio architecture, assumedly for use elsewhere at the site.

The second set of artifacts consisted of 57 smooth *jute* or river snail shells (*P.indiorum*) and one striped tree snail shell containing a small obsidian blade fragment (Special Find #P14). This deposit of shells lay within the fill of the particularly ill-preserved northern portion of Structure 2. Considering the compactness of the deposit -- shells were found strewn amidst fill within a roughly 30 cm by 30 cm area -- it appears to have been an intentional, albeit rather unimpressive, construction cache.

Soils and Stratigraphy

The topsoil or A-Horizon here was exceptionally thin (in suboperation 157JJ we found the Structure 1 plaster floor less than 1 cm below the present ground surface) providing little protection for the ancient architecture. Unlike excavations further to the south (Operation 122 (sacbe testing)), Operation 157 (chaaca patio) excavations revealed no clay deposits above or below Maya occupation levels. The chaaca patio and adjacent area to the west, appear to be constructed directly upon a high ridge of bedrock immediately surrounded on the south, east, and north by deep pockets of dense black clay. Again, some portion of this large clay deposition area may be the remains of a now-filled *aguada* (see Operation 122 (sacbe testing) summary above).

Chronology

Only a limited set of ceramics from the Operation 157 (chaaca patio) excavations were sorted this season, but from that analysis and field observations, we can preliminarily place the construction of the patio structures in the Late Classic II phase. No Terminal Classic diagnostics have yet been encountered, and therefore the abandonment and dismantling of the patio is tentatively dated to the very end of the Late Classic II period or the beginning of the Terminal Classic period.

Further, unlike Sacbe I fill remains (as collected in Operations 122 and 172), we have yet to find any ceramics dated earlier than our Late Classic I phase. That is, not only was this area apparently built entirely in the Late Classic period, but also, no earlier midden or structural materials were used in its manufacture. This would suggest a construction date later into the Late Classic II phase when substantial Late Classic materials would have been available for fill.

Summary

Roughly contemporaneous with the construction of Sacbe I, the chaaca patio and adjoining spaces to the west were built as a part of the northeast accessway (culminating in the north stair excavated as Operation 179 (north stair), see summary below). Judging from the architecture, it's connection with the north stair (see

Operations 215/207 (chaaca west) summary below), and the lack of groundstone or large amounts of refuse, this patio seems to be a public space related to site core access, possibly housing public activities like periodic market-fairs. This function is suggested by the large open "squares" (formed by the chaaca patio and chaaca west areas) reminiscent of modern and ethnographic market spaces, but as of yet no firm artifactual indicator of "marketness" has been established.

Some time at the end of the Late Classic period or into the Terminal Classic period, the chaaca patio and related spaces were abandoned and scavenged for building materials. During this abandonment phase, the Maya dug a trench into the center of Structure 2, probably to remove a cache. Based on the recovery of an obsidian eccentric and a fragment of a slate carving, we propose that the removed cache contained eccentrics (possibly among other items), and was placed below a carved slate stela depicting a human figure. This cache and stela set would have marked the central passage of Structure 2 as the most significant of the three, as well as affirming the centrality of Structure 2 in the patio group.

Operations 207 and 215 (chaaca west)

When we began excavation in Operation 157 (chaaca patio), no connection between that space and the north stair (as revealed in Operation 179 (north stair)) could be firmly identified from surface survey. Nevertheless, I felt that certain alignments of stone and faint parallel contours might be a direct constructed passageway traveling over natural stepped terraces to connect with the site core (see Figures 4 and 6). In the Operation 207 and 215 excavations this impression was confirmed, and the "connection" revealed to be a series of spaces defined by east-west running, low (one course high) walls aligned with and culminating at the monumental north stair which enters onto Plaza AII. While hardly as impressive as the Sacbe I parapet walls, the low walls exposed in these excavations clearly define a passageway stepping up the hillside to the site core as originally imagined.

Human Construction

Seven locales along the extent of the chaaca west passage were tested revealing consistently low (one course high) walls forming a sort of raised avenue connecting chaaca patio with the north stair. The final western portion of this avenue was not tested as it has been cut by the modern access road to the site, but the alignment and proximity of the final portions excavated make the proposed connection with north stair all but a certainty.

Where located, the raised walking surface was plastered over a rough sub-floor ballast. This construction shows none of the fineness of the Sacbe I construction (thinner plaster, few cut stones, minimal ballast material), and was possibly a more hastily built project. Nevertheless, as plastered in antiquity, the terraced walkway would have been an impressive expanse, defining the flow of traffic in and out of the site core. The discovery of this construction, more so than any of the other excavations conducted this year, confirms the importance of imagining the ancient Maya as moving people and the necessity of following that movement even through apparently "vacant" terrain.

Artifacts

As we had expected, no *in situ* artifacts were recovered on or about the platform walls. Those materials that were collected seem to be debris from the disintegration of the construction. While this supports the hypothesis that this chaaca west area was public space, larger clearing excavations are necessary for confirmation.

Soils and Stratigraphy

The soils in these excavations were similar to those found in Operation 157 (chaaca patio). The topsoil or A-Horizon was thin, and the B-Horizon ill-formed if present at all. One important note, though, while most of the low walls were constructed directly upon the natural bedrock, in suboperations 215C and E the walls were constructed on top of a deep deposit of dark (10yr3/2) soil with a small number of artifacts. This area was filled either naturally or by human design, to create a more roughly level space. The ancient Maya of the Late Classic period apparently used this fill as the base upon which to construct the avenue walls.

Chronology

From field observations, this area seems contemporaneous with chaaca patio to the east. Pending further analysis, this area seems to have been built and used exclusively in the Late Classic period, again with no evidence of earlier or later period diagnostic ceramics.

Summary

Quite happily, these excavations revealed a direct connection between chaaca patio and the north stair, which intuitively seemed likely on the basis of orientation, architecture, and hypothesized ancient movement patterns. This avenue, delimited by low walls and probably completely plastered in antiquity, would have directed foot traffic into the site core north of the platform group we are calling zapote platform (Figure 6). Zapote platform (discussed below in the Operation 209 (zapote trash testing) summary) was effectively bypassed by the chaaca west avenue making its function in relation to this accessway questionable. This is significant in that zapote platform may be a domestic group rather than a public space. By constructing the chaaca west avenue, the ancient Maya of Xunantunich could have been making a spatial distinction between public and private areas.

Operation 179 (north stair)

In 1993 Connell and Keller identified the sloping area between Structures A2 and A14 as a probable access feature. Later discussions with Xunantunich site caretakers revealed that this area had been bulldozed and graded in the 1960's to construct a road into the site core which was eventually replaced by the present road directly to the north (bulldozing was also involved in the creation of the present road, further disturbing this area). Thus, it was with diminished hope of recovering any trace of Maya construction that we began the Operation 179 (north stair) excavations.

Before excavation, we imagined that this accessway, if preserved, might be something like the Sacbe I threshold ramp to the south: a smooth sloping plaster surface with parapeted sides. Happily, we found the ancient construction preserved below providential amounts of collapse debris from Structure A2. Unexpectedly, rather than a ramp, the Maya had constructed a monumental stair opening onto Plaza AII (see Figures 4 and 6). While we had surmised that the northeast access was different from

Sacbe I because of its less formal association with chaaca patio, the dramatically different form of this access (a stairway) sharpened the distinction.

Human Construction

In 9 meters of clearing excavations, we discovered six well-preserved steps and a possible, poorly-preserved seventh (Figure 11b). The steps likely continue downhill, to the east, and at least one more step would be expected to the west in order to reach the level of Plaza AII (this projected top step appears to have been destroyed in the modern grading of this area). The tread depth of the top steps is narrower than that of the lower ones, and the lowest step (step one) may have been widened in antiquity even further (see remnant floor in Figure 11b). The riser height of each step is roughly the same, between 35 cm and 40 cm high, as defined by the preserved plaster tread surfaces (no plaster preserved on steps six and seven). The steps appear to be constructed in a consistent fashion with large, finely cut limestone blocks facing compact rubble fill, and the whole capped by a thick plaster coating.

To test the northern extent of this stair, we placed suboperation 179L to the north of the main clearing excavation. In this test unit, we encountered fill and interior fill walls but no discernible facing or final surfaces. The Maya construction, probably the continuation of the north stair, was leveled. After a period of years during which a topsoil or A-Horizon developed, a mass of mixed backdirt (from Structure A14) and modern trash was piled on top and graded once more. Because of this destruction, the northern extent of the stair cannot be determined, and may have even extended over the present-day road.

Artifacts

Not surprisingly, no *in situ* artifacts were found on the north stair. Like other public spaces, this stair was kept free of debris in antiquity. The only significant artifacts to note, were the modern materials, like broken glass, tin cans, and bottle caps, that were mixed with ancient materials in the top "overburden" level of these excavations (see Figure 11a). The presence of modern material in this confused level made its identification as modern backdirt, probably from the excavation of Structure A14, clearer.

Soils and Stratigraphy

As already noted above, the stratigraphy of these excavations was disturbed by modern bulldozing and subsequent refilling and grading. The result of all this modern remodeling is a relatively smooth, sloped ascent into the site core, masking the ancient stepped entryway. Where modern digging/bulldozing has occurred, a thin, new A-Horizon directly overlays the ancient constructions (no B-Horizon present), and is ultimately capped by a thick layer of mixed backdirt (Figures 11a).

Chronology

No probes into the north stair architecture were conducted this year, but from collapse debris material we can tentatively date the final form of the stair to the Late Classic period, contemporaneous with the rest of the northeastern access. As in the chaaca area excavations, no Terminal Classic period ceramics were noted in the field. Also similar to the chaaca area, the north stair may have had some of its facing stones robbed out in the Terminal or Late Classic period. In unit 179A we found a "wall scar"

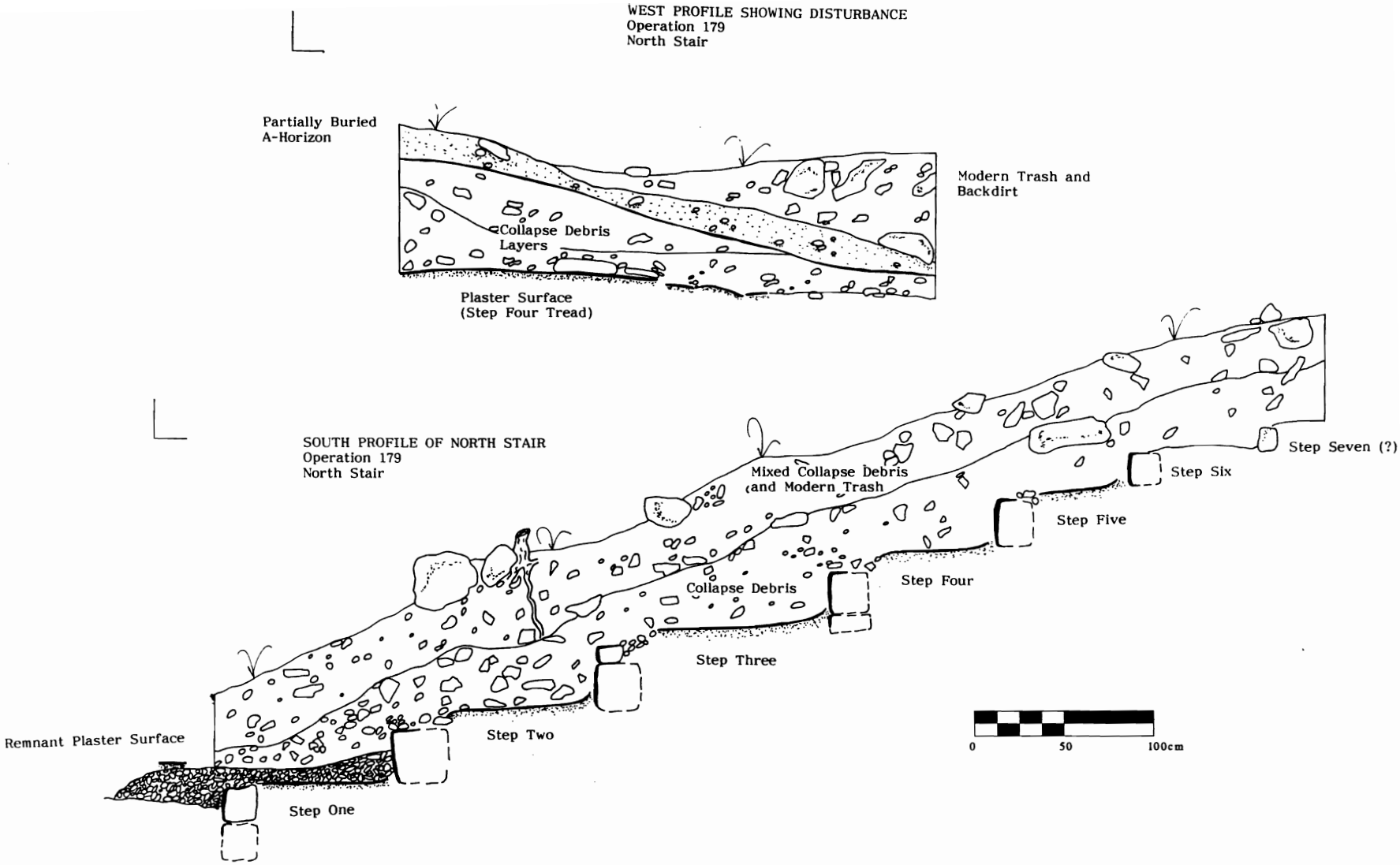

WEST PROFILE SHOWING DISTURBANCE
Operation 179
North Stair
Partially Buried
A-Horizon
Modern Trash and
Backdirt
Collapse Debris
Layers
Plaster Surface
(Step Four Tread)
SOUTH PROFILE OF NORTH STAIR
Operation 179
North Stair
Mixed Collapse Debris
(and Modern Trash
Step Seven (?)
Step Six
Step Five
Step Four
Collapse Debris
Step Three
Step Two
Remnant Plaster Surface
Step One
0
50
100cm

FIGURE 11

(plaster floor lipping up to nothing) similar to those found in the Operation 157 (chaaca patio) excavations. These removed stones would have formed the facing for the poorly-preserved augmentation of step one discussed above.

Summary

Surpassing our expectations, the Operation 179 (north stair) excavations revealed a partially preserved monumental stairway differing in form and probably in function from the Sacbe I ramp to the south. The north stair seems directly related to the chaaca area to the east, and probably functioned as the primary access for Belize Valley visitors to the ancient center of Xunantunich.

As an intriguing side note, in 1994 at the eastern base of the Xunantunich hill the XAP survey team mapped a possible megalithic stairway which stands in general alignment with the northeastern access. Possibly the beginning and the end of the journey up to the Xunantunich core were marked with similar impressive stairways.

Zapote Area

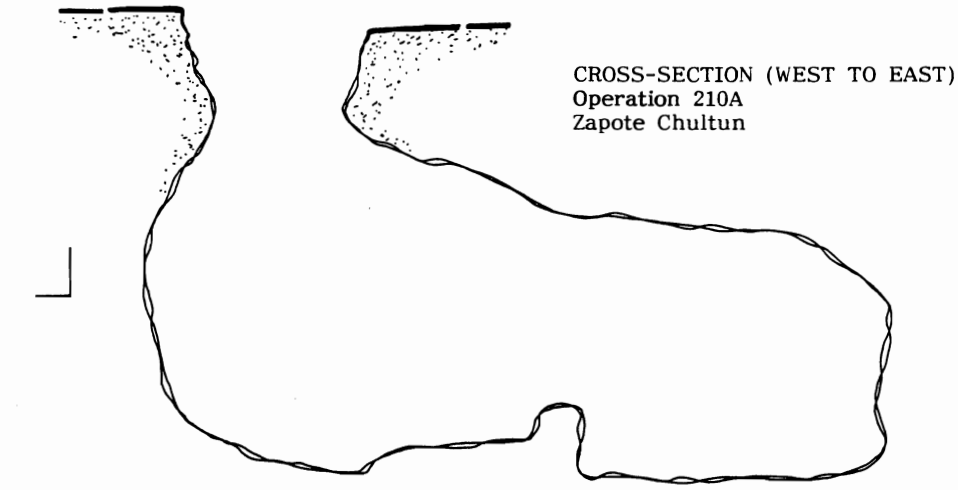
Operations 209 (zapote trash testing) and 210 (chultun)

Initially, Operation 209 (zapote trash testing) was begun to test for refuse material associated with zapote platform. We placed one 1x2m unit (209A) in an area of high artifact concentration as identified through shovel test pits. Much to our surprise, upon reaching the natural bedrock (roughly 30 cm below ground surface) we encountered the mouth of a chultun completely buried and obscured by the later Maya trash. The unexpected chultun was then excavated in 10 cm levels as Operation 210 (suboperation A). Because of time constraints, no further Operation 209 test units in zapote area could be completed in the 1995 season.

We decided to excavate the hidden chultun at the appearance of clearly early (Late Preclassic to Protoclassic period) ceramic material in the topmost levels of the chultun opening. While the chultun likely played no part in the public access spaces of Late Classic Xunantunich, it seemed important to our overall understanding of the long-term use of the site. To date, other than the zapote chultun, we have found no refuse deposits or constructions dating any earlier than our Late Classic I phase --earlier ceramics are found exclusively in mixed fill contexts.

Human Construction

The zapote chultun was carved out of the natural limestone bedrock and left unplastered. The one opening onto the four chambered subterranean pit was a shaft roughly 70 cm in diameter and 40 cm in depth (see Figures 12a,b). Directly below the opening was the central chamber, a flat space probably used mostly as an access spot. To the north, east, and south, are three approximately 1x1 meter side chambers possibly used to store corn or other foodstuffs. The south chamber is 50 cm deeper than the other three, and seems best suited to grain storage. Both the north and east chambers are separated from the central chamber by a low sill, and both contained roughly circular arrangements of cobbles (Figure 13). While the purpose of these cobbles remains undecided, our best hypothesis is that they were used to balance large round-bottomed storage jars placed in these side chambers. If storage jars were used in the chultun, they were removed before the infilling of the feature, as no *in situ* pot


CROSS-SECTION (WEST TO EAST)
Operation 210A
Zapote Chultun

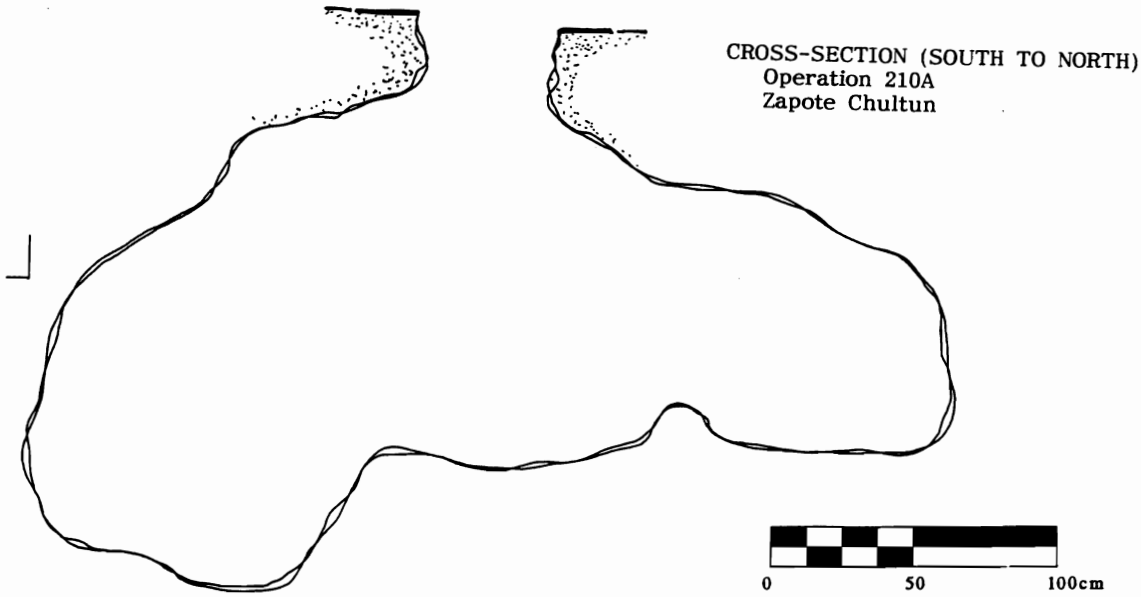

CROSS-SECTION (SOUTH TO NORTH)
Operation 210A
Zapote Chultun
0
50
100cm

FIGURE 12

smashes were located on the natural chultun floor.

Artifacts

Unlike the other chultuns excavated by XAP members (see Braswell 1993 and Connell this volume), the zapote chultun was not Late Classic in date and did not contain the typical burials or floor caches often found in chultuns from that time. The one Special Deposit (#D2) we did recover seems to have been related to the collapse or intentional destruction of the chultun capstone (Figure 14), resting approximately 35 cm above the unplastered base of the chultun (85 cm above the lower south chamber base). It would appear that some infilling and neglect of the chultun had already occurred prior to the collapse of the capstone. At that time, either because of the natural collapse or coterminous with the intentional breaking of the capstone, the Maya scattered several (5 to 6) broken vessels around pieces of the broken capstone, along with one complete unbroken "cacao pot" vessel (Special Find #P2), a long obsidian blade fragment, and an unworked portion of conch shell. This motley assortment of artifacts was recovered from the same 10 cm level, but pieces of the broken vessels were found in the 20 cm below as well. Together, these materials constituted what must have been a ceremonial deposit, possibly marking the termination of the "regular" use of the chultun as a storage space occasioned by the collapse of the capstone (see Figure 15 for ceramics of Special Deposit #2).

As will be clear in the "shell analysis" discussion below, Operation 210 (chultun) recovered inordinately large quantities of shell material as compared to other surface excavations. The shells, mostly *juts* or river snails, seem to be distributed through all of the chultun levels below the neck/shaft. Many of the small, smooth *juts* (*P.indiorum*) have unbroken spires. Generally, this would indicate that the shells were not used as food (spires are broken to remove the animal within), and thus the snails may have been living in the chultun, possibly in naturally pooled water. These snails, along with the small number of blue crab elements found, could either have washed in during annual inundations (unlikely considering the distance of any reasonable habitat from the chultun), or have been placed in the chultun by the ancient Maya inhabitants. This is an interesting hypothesis considering Healy, et.al.'s observations of modern Maya use of the *jute* snail as a food source.

Healy and his colleagues found that the modern Maya of San Antonio, Belize "feed" collected live *juts* in a pail of water with corn meal for a period of days before cooking them to clean river impurities from the snails' intestines (Healy, et.al. 1990:178). Possibly, after the original use of the chultun ended with the collapse of the cover, the Maya owners continued to use the chultun as a small jute and crab breeding and feeding pool. Those smaller individuals that the Maya did not collect would constitute the remains found in our excavations.

Another possible explanation for the abundance of unbroken *jute* snail shells in the chultun, is that these animals were used as food, but cooked in a soup or stew without breaking the shells. When asked, several modern Succotzenos agreed that small *juts* are sometimes prepared in this manner, leaving the shells intact.

Soils and Stratigraphy

During excavation we found little evidence for distinct natural strata in the

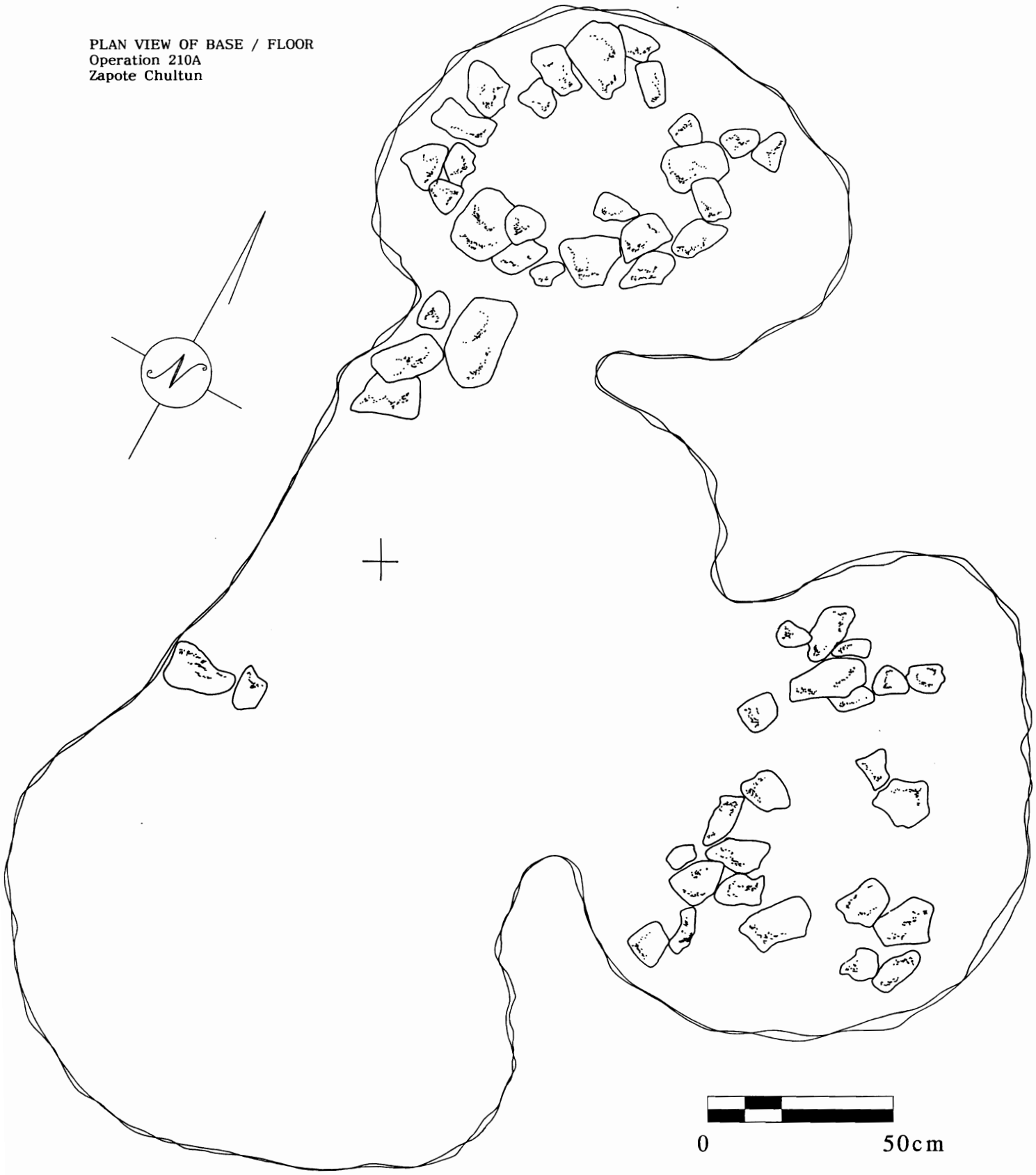
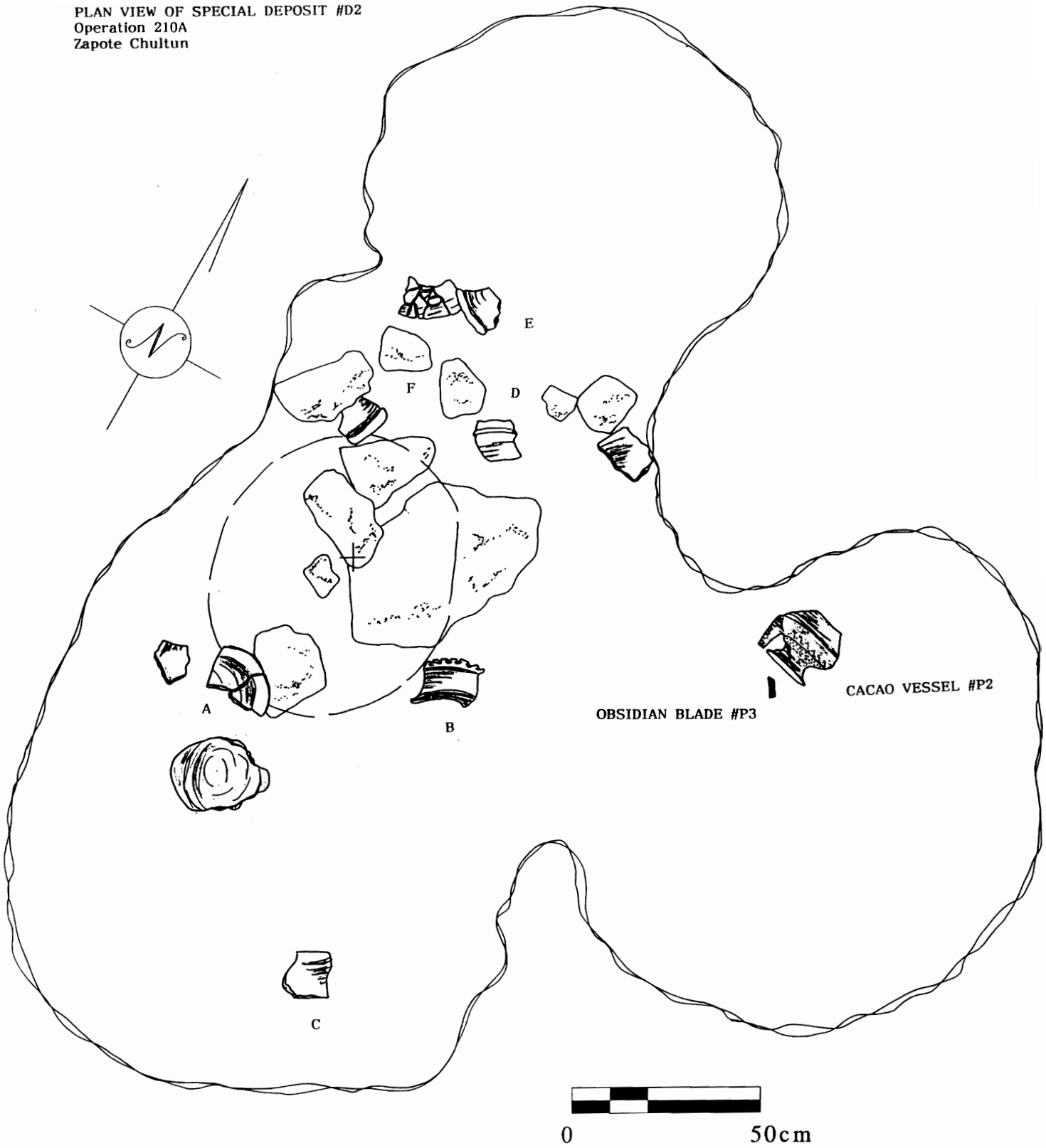
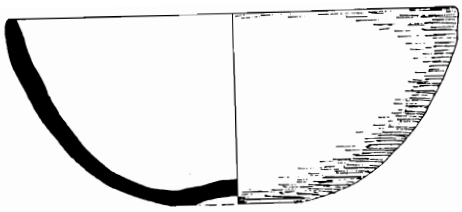

PLAN VIEW OF BASE / FLOOR
Operation 210A
Zapote Chultun
0
50cm

FIGURE 13



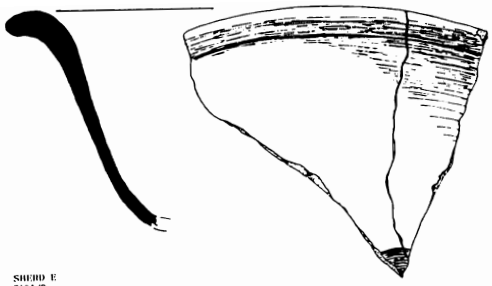
[Individual vessel drawings keyed to letters designated in plan]

FIGURE 14



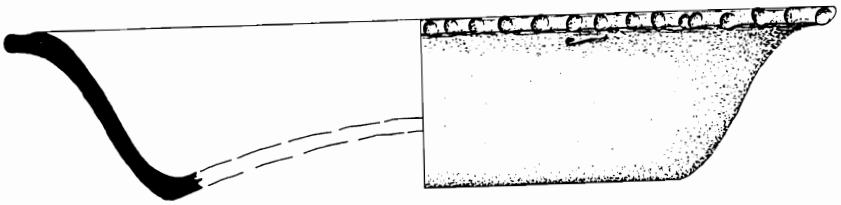
VESSEL A
210A/9

Part of Special Deposit #D2
Zapote Chultun



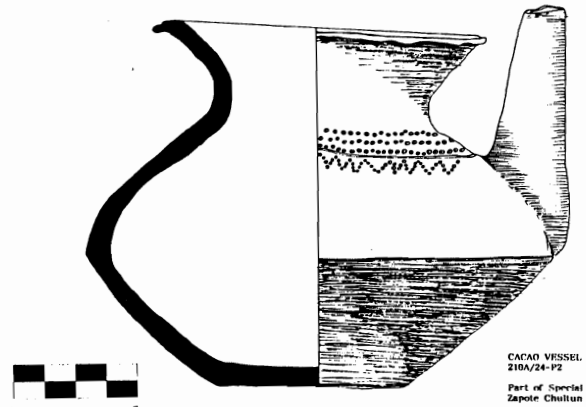
SHERD E
210A/9

Part of Special Deposit #D2
Zapote Chultun



VESSEL B
210A/9

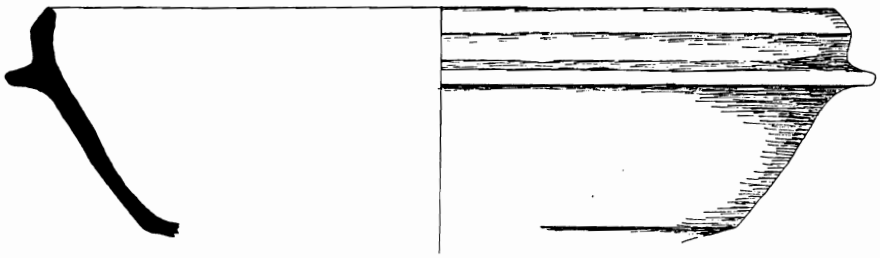
Part of Special Deposit #D2
Zapote Chultun



0 5cm

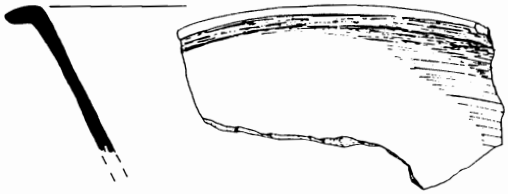
CACAO VESSEL
210A/24-P2

Part of Special Deposit #1
Zapote Chultun



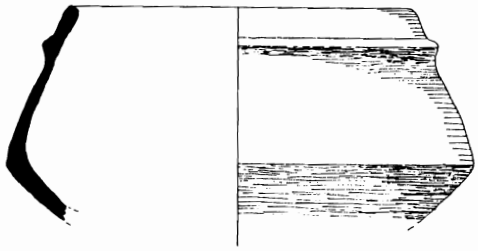
VESSEL C
210A/9

Part of Special Deposit #D2
Zapote Chultun



SHERD F
210A/9

Part of Special Deposit #D2
Zapote Chultun



VESSEL D
210A/9

Part of Special Deposit #D2
Zapote Chultun

FIGURE 15

chultun fill. The mixed color (10yr3/2 to 5/2), and gravelly texture of the fill soil was consistent through all levels. Possibly as the result of continual inundation, the gravel-sized limestone inclusions were well-sorted throughout. In order to study these soils for anything not evident during excavation, we took several soil samples in most of the 10 cm lots (soil, floatation, pollen, and phytolith samples were retrieved). Analysis of these samples is still pending.

Chronology

The fundamental reason that we investigated the zapote chultun was to recover the early ceramic materials so rarely found at Xunantunich (Figure 15). From a limited analysis of the Operation 210 (chultun) ceramics and careful field observations, we can preliminarily assert that the chultun was used and filled during the end of the Late Preclassic period (Barton Creek) into the ill-defined Protoclassic Period (Mount Hope/Floral Park). We have yet to find any evidence of later, Early Classic period (Hermitage), ceramic types in the chultun fill. Directly overlaying this early material was the Late Classic period refuse deposit excavated as Operation 209 (zapote trash testing).

This sample of ceramics displays traits diagnostic of both the Late Preclassic period and the later part of the Protoclassic period. Because so little work has been done on this transitional Protoclassic period, the zapote chultun ceramics, apparently a basically contemporaneous set, may prove useful in defining this time period more clearly for the Belize Valley area.

Additionally, we were lucky enough to recover significant amounts of carbon which will be submitted for C14 dating to tie this ceramic phase to a specific time.

Summary

As the only *in situ* remains of a time period earlier than the Late Classic, the Operation 210 (chultun) material became a focus of my research this year. This is despite the fact that, buried under Late Classic period trash, the chultun likely played no part in Late Classic activities or site planning at Xunantunich. Awaiting further analysis of the many samples taken during excavation, the use of this chultun as a storage or other feature remains as enigmatic as that of most chultuns. From the fill, we may have a picture of what kinds of domestic materials were used during the problematic Protoclassic period, and surely direct evidence that the Maya did occupy the hilltop at that time. Preliminary testing of the associated zapote platform has not found any evidence of contemporaneous architecture. Further research in coming seasons may do more to shed some light on the earlier occupations of the Xunantunich hilltop.

Artifact Analyses

This year a select set of artifact analyses were completed after the regular excavation season. Specifically, the author sorted and catalogued all the shell, obsidian, and small special finds from the AHK (Keller) excavations in 1994 and 1995. Additionally, the author also sorted a small sub-set of ceramics from Operations 210 (chultun) and 157 (chaaca area) using the LeCount 1995 revised catalogue (see LeCount, 1993 - for the similar, unmodified catalogue). The results of the very limited ceramic analyses are presented above as part of the "chronology" sections of relevant Operation discussions.

For these analyses all codes, weights, measurements, and comments were entered directly into Paradox databases structured by the author. The coding sheet, and database structure for artifacts are provided at the end of this report, and may be of interest to others embarking on such analysis. The advantage of entering data directly into the computer, as opposed to using paper coding sheets, was enormous in terms of time saved and ease of immediate use in statistical analysis. Paper printouts were made as necessary to review the data for general patterns. The strength of this system, though, is the overall flexibility and expandability of its structure as other artifact classes are analyzed and new categories are encountered.

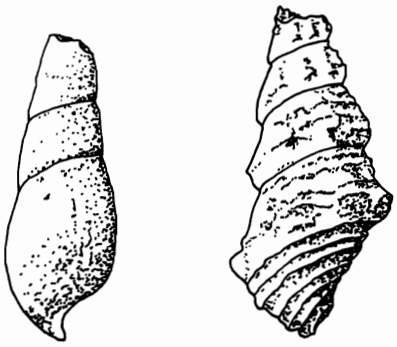
Ideally, all databases (ceramic, artifact, lot, photo, drawing, etc.) should be related to one another on the basis of set key fields. In the particular case of XAP excavations, the logical "things" that link the databases to one another are the operation, suboperation, lot, and special find or deposit numbers (i.e *122RR/4-P2*, where *122* is the operation, *RR* is the suboperation, *4* is the lot, and *P2* is a special find number). These data are recorded on every artifact bag, every photo, every drawing, and so on, such that any piece of information should be "linkable" to others from the same provenience regardless of the specific databases in which these records are located.

Shell Analysis

All of the shell material from lots excavated in 1994 and 1995 by Keller were culled from the general Xunantunich shell material and then examined as a set. A large percentage of the shell pieces (79%, 700 pieces - see Table 1) came from Operation 210 (chultun) where almost all lots had some shell finds and many had large amounts of shell. The preliminary explanation of this preponderance of shell in the chultun is given above in the Operation 210 (chultun) discussion. Here, a more general discussion of the kinds of shell material recovered overall is attempted.

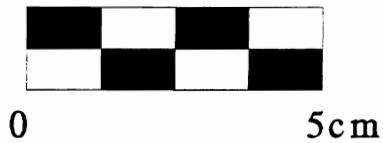
As I am not a faunal analyst, I conducted a sort based on general knowledge of shell material as can be obtained from broad research and excavation experience. Of particular help in understanding the varieties of river snails found in the Maya lowlands was Healy, Emery, and Wright's 1990 article documenting the variety and possible ancient use of these. Additionally, some of Stanchly and Dale's work for the Cahal Pech project as related in their seasonal interim reports was invaluable (Stanchly and Dale 1992). To date at Xunantunich, no other shell analysis has been conducted, but an extensive deposit of *Pachychilus glaphyrus* (ridged jute) shells found northwest of Structure A-1 was described by Thomas Jamison (1992) and Scott Zeleznnik (1993) in their annual reports for the Xunantunich Archaeological Project.

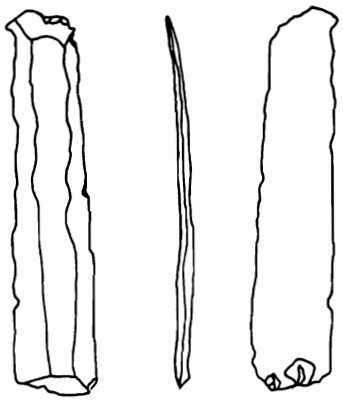
Not surprisingly, river snails constituted the majority (90%) of shell material found in all contexts. Of these, no *Pomacea sp.* or "apple snails" were encountered, and all river snails appear to be of the *Pachychilus* genus, commonly called "jute" or "tutu" snails today. While the *Pomacea* variety is rarely found in large frequencies in Maya contexts (0.7% in Stanchly and Dale's sample from Str. B-4 at Cahal Pech), it's complete absence here is unusual. This result may be explained by the generally non-ritual contexts excavated by Keller in 1994 and 1995 (see Moholy-Nagy 1978), but more analysis of the whole Xunantunich collection should be completed before we reach any final conclusions.



Pachychilus indiorum *Pachychilus glaphyrus*

JUTE (RIVER SNAIL) SHELLS
[Adapted from a photograph in Healy, et.al. 1990:174, fig.2]





OBSIDIAN BLADE
210A/23-P3

Part of Special Deposit #D2
Zapote Chultun

FIGURE 16

Within the *Pachychilus* genus a rather large variety of species span the Maya lowlands as identified in archaeological samples (Healy, et.al. 1990:173). In the Belize Valley area, two species are generally recognized by archaeologists (Healy, et.al. 1990:171-3; Stanchly and Dale 1991:146) and those will be the terms used here: *Pachychilus glaphyrus*, the sculptured or ridged form, and *Pachychilus indiorum*, the smooth form (Figure 16a) [1]. Overall, the majority (82%) of the river snail elements were of the smooth variety, *P. indiorum*, with the remainder (18%) being of the sculptured variety, *P.glaphyrus*.

Reviewing break-down of shell types for all AHK 1994 and 1995 excavations given in Table 2, a few explanatory comments are in order. First, the percentage of land snail elements (3%), is misleading as land snail shells were not routinely collected in surface and shallow excavations. Further, while tree snail shells (1%) were always collected, their value as ancient remains is questionable in shallow contexts where they may have fallen recently. Of the other shell types listed, all of the "conch," "other hard, glossy shell," and all but 5 of the "bivalve" elements (5 small broken pieces found in Operation 172 (sacbe threshold) fill context) were recovered from Operation 210 (chultun). Clearly, the Operation 210 (chultun) shell material is the most significant data set in this group. Most Operations recovered only *Pachychilus* snails or terrestrial varieties.

Other than the shell recovered from Operation 210 (chultun) and the probable construction cache from Operation 157 (chaaca area), all other shell materials examined were from fill and fall contexts and showed no signs, at the time of excavation or upon further examination, of being anything more than the normal small amounts of shell often found in Maya constructions. As no habitational contexts, with the possible exception of the Operation 210 (chultun) trash deposits, were excavated, any broad suggestions regarding the use of shell species as a food resource may be inappropriate. Nevertheless, the relative preponderance of shell material in the one possibly domestic-related context, Operation 210 (chultun), as well as the greater range of shell types recovered there as compared to the other public space excavations (see Table 3 for one such comparison) is worth noting. The wealth of shell material from Operation 210 (chultun) as compared to the sparse remains found elsewhere does suggest that the Maya, at least of the Late Preclassic to Proto-Classic period, were using a large number and variety of aquatic shell fish which included bivalve and conch species along with the abundant *Pachychilus* river snail types.

This in mind, an interesting pattern of unbroken and intact P.indiorum shells emerged during analysis. Presently, most researchers in the Maya area agree that broken spires (tips) on *Pachychilus* river snails indicate that the animals were used as food, while intact shells may indicate ritual use of whole specimens. All Operations

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[1] It should be noted that a specialist might be able to break down these categories further upon examining the data. Specifically, the "smooth" *P.indiorum* specimens, which I separated initially into two categories on the basis of shape and size, may fall into the *P.corvinus* or *P. pyramidales* smooth species. Also, those shells I classified as "smooth" jutes with minimal ridging, combined in the *P.glaphyrus* category for this report, may be better termed *P.largillierti* following others in the field (see Healy, et.al. 1990:173). Since all initial sorts and counts, as well as a sample collection are available, these reclassifications should not be difficult.

SHELL MATERIAL
ALL AHK 1994 AND 1995 OPERATIONS

[Table One] **Break-down by Operation**

OPERATION	QUANTITY (n)	PERCENT (of total)
111	5	0.60
122	19	2.00
157	105	12.00
172	37	4.00
179	18	2.00
201	2	0.15
209	1	0.10
210	700	79.00
215	2	0.15
TOTALS:	**889**	**100.00**

[Table Two] **Break-down by Type**

SHELL TYPE	QUANTITY (n)	PERCENT (of total)
Pachychilus indiorum	657	74.00
Pachychilus glaphyrus	142	16.00
bivalve	43	5.00
conch	1	0.05
other hard, glossy shell (aquatic, non-mollusc)	6	0.60
land snail	25	3.00
tree snail	11	1.00
unknown shell	4	0.35
TOTALS:	**889**	**100.00**

Notes:

1.) Of the aquatic types (excluding terrestrial and unknown shell), **94%** are of the *Pachychilus* genus (river snails).

2.) All shell pieces from AHK 1994 and 1995 excavations were recorded and measured in this analysis.

3.) Percentages are approximate (rounded).

SHELL MATERIAL
COMPARISONS BETWEEN OPERATIONS 157 (Chaaca) AND 210 (Chultun)

[Table Three] **Break-down by Type**

SHELL TYPE	OPERATION 157 (n)	OPERATION 157 %	OPERATION 210 (n)	OPERATION 210 %
Pachychilus indiorum	95	90.00	539	77.00
Pachychilus glaphyrus	5	5.00	93	13.00
bivalve	0	0.00	38	5.50
conch	0	0.00	1	0.10
other hard, glossy (aquatic, non-mollusc)	0	0.00	6	0.90
land snail	0	0.00	19	3.00
tree snail	5	5.00	1	0.10
unknown shell	0	0.00	3	0.40
TOTALS:	**105**	**100.00**	**700**	**100.00**

[Table Four] **Broken versus Intact Spires on River Snails**

SHELL TYPE	OPERATION 157 (n)	OPERATION 157 %	OPERATION 210 (n)	OPERATION 210 %
Pachychilus indiorum Broken	74	78.00	138	26.00
Pachychilus indiorum Intact	21	22.00	401	74.00
TOTALS:	**95**	**100.00**	**539**	**100.00**
Pachychilus glaphyrus Broken	3	60.00	67	72.00
Pachychilus glaphyrus Intact	2	40.00	26	28.00
TOTALS:	**5**	**100.00**	**93**	**100.00**

Notes:
1.) Percentages are approximate (rounded).

other than Operation 210 (chultun) evinced the typical pattern of mostly broken spire *Pachychilus* shells (see Table 4 for one comparison with Operation 157 (chaaca area)). Conversely, of the *P.indiorum* elements found in Operation 210 (chultun), 74% were intact and rather small, between 2 cm and 6 cm long. This may indicate that many *P.indiorum* from Operation 210 (chultun) were *not* used as a food source before their deposition. Since these snails are completely aquatic in habitat, they were likely placed by human hands and we are left with something of an enigma as to their function for the ancient Maya inhabitants here. I have suggested above that the snails may have been living in water which could have pooled naturally after the collapse of the stone cover, and may even have been placed there, alive, by the Maya themselves as a ready food source (see Operation 210 (chultun) discussion above).

In sum, the AHK 1994 and 1995 excavations recovered minimal shell elements and, with the exception of Operation 210 (chultun), very little variety. In comparison to domestic and ritual contexts (house mounds and temple structures for example), the material recovered seems rather meager. Considering the intent of these two seasons of excavation, though, no result could be better. All spaces chosen for excavation, again with the felicitous exception of Operation 210 (chultun), were thought to be open, public spaces which should hold little or no domestic, or specific ritual (i.e. caches and burials) remains. The fact that the shell material found was scant and distinct from different functional contexts is yet another substantiation of the nature of these spaces. Of course, negative data -- not a lot of shell -- is never wholly satisfying, and here it only serves to bolster, but not cement the argument that these were large, open public spaces, neither domestic nor completely ritual in function.

Obsidian Analysis

From all of the AHK 1994 and 1995 excavations, 92 pieces of obsidian were recovered and analyzed. Of the total, 82 pieces (89%) were identifiable as blade fragments (none were whole), and of the remaining 10 pieces one was the eccentric discussed in the Operation 157 (chaaca patio) section above and the rest were small flakes and possible blade fragments (see Figure 16b for a typical blade fragment). One piece (Special Find #P4), recovered in Operation 172 (sacbe threshold) from a collapse debris level was unusual, though. This thick (7 mm) flake may be blade core modification debris (personal communication Brandon Lewis and Jon Vandenbosch, 1995), indicating that the Maya of Xunantunich were making obsidian blades and not simply procuring them ready-made from elsewhere. Because of the "fall" or "collapse" context in which this item was found, no further assessments as to where this activity occurred are offered.

Concerning the blades, at present little more than the information in Table 5 can be given. Manufacture seems to have been highly standardized with the average thickness (2.5 mm) and width (11 mm) of blades also marking the mean values, and blade measurements clustering around the average dramatically. As to context, only two of the blade fragments seem to have been part of a special deposit (210A/24-P3 (Figure 16b), found with the chultun deposit D2, and 157DD/2-P14, found in a tree snail with a scattering of *P.indiorum* shells - see discussions above), while the rest were recovered from surface, fill, and fall contexts.

Conclusion

OBSIDIAN BLADES
ALL AHK 1994 AND 1995 OPERATIONS

[Table Five] **Break-down by Operation**

OPERATION	QUANTITY (n)	PERCENT (of total)
122	27	33.00
157	29	35.00
172	2	2.50
192	2	2.50
207	5	6.00
209	3	4.00
210	13	16.00
215	1	1.00
TOTALS:	**82**	**100.00**

Notes:

1.) For this sample of obsidian blades:
Average Thickness = 2.5mm
Average Width = 11mm

2.) Blades account for **89%** of all obsidian pieces found in AHK 1994 and 1995 excavations (total n=92).

3.) All obsidian pieces from AHK 1994 and 1995 excavations were recorded and measured in this analysis.

4.) Percentages are approximate (rounded).

All too often the movements and intentions of ancient peoples are reduced to numbers on charts, static scientific drawings, and terse professional statements about those denatured facts. This is particularly true of data-laden field reports such as this. In our representations, if not in our minds, the lives of ancient peoples are reduced to a catalogue of the things they left behind. Do not take these observations as an attack on modern archaeological practices. Unquestionably, consistent and systematic excavation techniques and methods of recording are the cornerstone upon which all sound archaeological interpretations must be based. What is at issue are the goals and perceptions which guide and illuminate our careful recovery and recording of archaeological materials.

For my work, a crucial turning point was conceptualizing now empty, disjointed spaces as the active grounds for movement, reflection, and interaction that they once were. The simple walls and battered floors of the Xunantunich accessways take shape only when we place them within the context of these ancient activities. More fundamentally, they have been located only by thinking about movement and accessibility as a problem to be explored, as a serious consideration.

In this regard I am significantly influenced by the work of anthropologists and historians studying the nature of the lived "experience" (see Bruner and Turner 1986). These scholars share an interest in revitalizing our methods of describing culture and its workings by focusing on human "experience" and the "expressions" of those experiences. By "expressions" what is meant are representations in the form of performances, texts, images and architecture -- things recognizable to the anthropologist and the archaeologist alike. Further, these expressions "are presented to us by the cultures we study; they are what is given in social life," and therefore they are a uniquely emic starting point for any anthropological analysis (Bruner 1986:5).

Concerning architecture specifically, Lindsay Jones has proposed that the built environment of any society must be understood within its "situational context" of meanings. That is, in order to approach any understanding of architecture, we must "concentrate . . . on the *human experience of buildings*," "in terms of *occasions, ritual circumstances* -- or *ritual-architectural events*, if you will -- in which the buildings were active participants" (Jones 1993:213). Shifting the inquiry to the experience or events that characterized the use of built spaces, reintegrates the ancient participant. While we are still trying to get into Xunantunich, using this approach may help breathe life into the "static, dead, lifeless" archaeological record.

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The 1995 Excavations at San Lorenzo

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Introduction

Since 1992, excavations at San Lorenzo have been one component of the Xunantunich Archaeological Project. San Lorenzo is a small settlement cluster along the Mopan River in Cayo District, Belize (Figure 1), named after the local name for the area around the Santiago Juan ranch. Over the past few years, Jon C. VandenBosch (1992, 1993) and I (Yaeger 1992) have systematically surveyed much of the Juan ranch and the adjacent Biddle/Xix property. From this survey data I have identified four hamlet-sized settlement clusters in the area (Yaeger 1995b). San Lorenzo is the southernmost of these four hamlets, consisting of a spatially discrete cluster of seven patio groups, one informal group of two mounds, and eight isolated mounds. (N.B.: These figures differ slightly from those given in the 1994 report because of reclassification of groups due to excavation and more detailed reconnaissance.) Figure 2 shows most of this cluster, although a few groups have been mapped just to the south of the area shown; the westernmost groups belong to the levee cluster discussed below, and the large two-patio group that straddles the edge of the mapped area is SL-13. A second settlement cluster formally similar to San Lorenzo consists of a string of patio groups and associated isolated mounds located on the levee bank of a relic channel of the Mopan River (several mounds of which can be seen on the westernmost portion of Figure 2). Between the San Lorenzo community and this levee cluster is the floodplain, devoid of settlement with the exception of SL-13, the largest group in the survey area; it does not seem to belong in any one cluster, and it is probably a node in the regional political economy (on the southern edge of Figure 2). A third settlement cluster is located on a promontory of ancient alluvial terraces just to the north of San Lorenzo, and a fourth is situated just below the third on the floodplain farther north (see VandenBosch 1993: Figure 1). Some 750 meters north of San Lorenzo is a set of unusual cobble features on the floodplain that VandenBosch (1993) has tested extensively. The nature of this group remains poorly understood, but it does not seem to have been residential.

These four settlement clusters share some interesting similarities. They appear to be spatially discrete, and their location in distinct topographic zones emphasizes this discreteness. They are also similar in size and composition: with the exception of the enigmatic cobble features, each cluster consists of four to seven patio groups and associated isolated mounds. Furthermore, with the exception of the levee cluster, the patio groups appear to be centrally located in each community, and isolated mounds occur more frequently along the fringes of the clusters. Finally, although there is some variation in the size of mounds and patio groups, there are very few structures that are neither isolated mounds nor simple patio groups. An exception to this is SL-13, mentioned above, which is unique in the surveyed area and consists of two joined patio groups. A striking feature of the area is the lack of any mounds that we would classify as "pyramids" by their square base and relatively substantial height.

Although together they may comprise some larger social unit, the several hamlets in the San Lorenzo area should not be confused with one another: in this report, San Lorenzo refers specifically to a spatially discrete cluster of patio groups and isolated mounds just south of the Nabitunich Stone Cottages Hotel. Located on a series of ancient alluvial terraces along the Mopan River, the community overlooks both the

river and its fertile floodplain. Geomorphological studies indicate that the form of the present floodplain is largely a result of rapid and perhaps violent depositional episodes in the Late Preclassic or Early Classic periods (Woods, Holley, and Dalan 1993). Preliminary chronological assessments of ceramics from test excavations throughout the San Lorenzo community suggest that the founders of San Lorenzo arrived late in the Early Classic, in turn suggesting that the floodplain had stabilized by that period. Small, eroded Preclassic sherds in fill presumably indicate earlier, unrelated use of the area.

Today, the floodplain is a favored area for agriculture, and it was probably prime productive land in antiquity (Mazzarelli 1976; Muhs, Kautz, and MacKinnon 1982; Willey et al. 1965). Downstream from San Lorenzo on the floodplain between Floral Park and Baking Pot there are some artificial canals which are thought to be agricultural drainage features (Kirke 1980). Although San Lorenzo lacks similar features, the inhabitants did modify their landscape, quarrying some alluvial terraces for chert cobbles, flattening and filling in others for the placement of mound groups and probably for the creation of infield garden plots (Chase 1993; Woods, Holley and Dalan 1993).

The Late Classic regional political center of Xunantunich sits on a high limestone ridge on the opposite side of the Mopan River, only 1.5 kilometers southwest of San Lorenzo. The 42-meter high Str A-6 is the major regional landmark. It is visible from much of the surrounding valley and suggests the importance of links between the elite of Xunantunich and hinterland communities. However, the lack of population nucleation around Xunantunich (Keller 1993; Yaeger 1992) and the predominance of small but highly variable settlement nodes dispersed across the landscape (Ashmore et al. 1993, 1994; Yaeger and Connell 1993), may reflect, in part, a lesser degree of centralized authority in the upper Belize Valley, with regional elites less able to impose concepts of site planning and centralization on the non-elite populace (Ashmore 1993).

Excavation began at San Lorenzo in 1992 when Sabrina M. Chase (1992) carried out pilot excavations at a group she called Nabitunich Plaza Group 1. Chase (1993) returned the next year to continue work at that patio group and to test a sample of nine other mound groups which she selected using a preliminary typology. In 1994, I began excavating the site, revising Chase's typology and renumbering the mound groups to make them compatible with the Xunantunich Settlement Survey database (Yaeger 1994). A concordance of the 1992 survey designations, Chase's excavation designations, and the new XSS-compatible designations, including the excavation operations at each one, appears as Appendix A below.

In this report I will present the excavation data from the four-month 1995 excavation season. Because the recovered artifacts have not been systematically analyzed, many of the interpretations here should be seen as tentative pending further analysis. This report focuses on data presentation; although I will conclude with a summary of my current interpretations of the San Lorenzo data, I refer the interested reader to various conference papers for more detailed interpretive discussions (Braswell, Keller, and Yaeger 1994; Yaeger 1995b; Yaeger and LeCount 1995).

Research Design

Understanding the community is a crucial step for reconstructing ancient Maya society, yet the community remains the most poorly understood component of that society. This basic premise motivates the research design at San Lorenzo. Thanks to over a century of investigations at the urban centers of Classic Maya society, we have a rich set of archaeological data, but the overwhelming top-down perspective of traditional research designs and the resulting interpretations largely ignore the majority of the ancient Maya populace. The growing fields of household archaeology and settlement pattern studies have provided a much-needed counterpoint to this elite-centered perspective. Thanks to many active research projects in the last two decades, issues such as household-level economic, social, and ritual organization of the non-elite Maya have moved from the realm of speculation into the realm of scientific discussion. Yet much of this research adopts a bottom-up perspective, focusing on the household as the basic component of Maya society to the detriment of larger units of social organization. Several scholars have questioned the utility of top-down or bottom-up paradigms for achieving comprehensive models of ancient societies (de Montmollin 1988; Hayden and Cannon 1982). Community-level research projects provide a middle-level perspective (Yaeger 1995a, b; also see Iannone 1994 for a distinct but related argument for studying small communities), and the next step in advancing our understanding of ancient Maya society seems clear: to turn our attention from the Maya household to the study of nonelite Maya communities.

As a working model of the social composition of San Lorenzo, I (Yaeger 1995a) have postulated that the community consisted of related extended families forming a localized lineage group similar to the pet kahob hamlets mentioned in colonial period documents (Marcus 1983) and to subdivisions found in many modern Maya communities (Vogt 1976; Wisdom 1940). In modern communities, these local groups develop as married children (often sons) build their residences on or adjacent to the houselot of their parents, gradually results in sections of villages occupied by extended localized lineages (Redfield and Villa Rojas 1934; John Lucy, pers. com. 1994). Archaeologically, William Haviland (1988) and Gair Tourtellot (1988) have argued that the domestic developmental cycle from nuclear family to extended family through the continued residence of married children was important in structuring patio group composition and layout. However, this domestic developmental cycle would have had consequences at a larger scale as the patios became surrounded by residences. If space permitted, its natural outcome would be the establishment of new nuclear families around extended families and their subsequent development into patio groups, thus forming localized lineage groups. The spatial organization of the San Lorenzo cluster - five of the larger patio groups centered on a large, flat area with isolated mounds arrayed mostly around the periphery - is congruent with this developmental model.

To evaluate this model more fully, the research design at San Lorenzo combines areal excavations at a sample of the mound groups in the cluster with a testing program in the remaining mounds groups. I revised Chase's 1993 typology of the mound groups at San Lorenzo based on two variables: 1) the presence or absence of a formal patio and 2) the number of basic units in the group, whether individual mounds or patios. Four types result:

Type IA Isolated Patio Groups (n=8)
Type IB Multiple Patio Groups (SL-13, outside the site boundaries)

Type IIA Isolated Single Mounds (n=7)
Type IIB Multiple Mounds without a Formal Patio Space (n=1)

Appendix B shows the correlation between this typology and the XSS typology [Ashmore et al. 1994; Neff et al. this volume], and the mound groups that belong to each type; Figure 3 shows examples of each type.

The first variable - the presence or absence of a patio - accounts for much of the formal variability. The fundamental nature of the patio as an integrative space for the extended family is testified to by the fact that all but one of the 16 mound groups at San Lorenzo consist either of isolated mounds or are organized around a patio (i.e., they are either Type IIA or Type IA groups). The patio physically and symbolically joined the various families that made up the larger, extended family group. Studies have shown the patios also provided a formal venue for cooperative activities that bound the various families into a larger extended family household (Hendon 1989). Although such activities included rituals, perhaps as significant were everyday activities such as food preparation and consumption, child rearing, tool and artifact manufacture, and conversation. The only multi-mound group lacking a patio is SL-34 which does have an open space between the two groups that probably served a similar purpose (see below). The only Type IB group in the area is SL-13 with its two attached patios; I argue that it is the focal node of a higher-order social group perhaps including the four smaller hamlets described above. I have included it in the excavation sample because of its prominence and its postulated important role.

The formal typology serves to stratify the mound groups at San Lorenzo for sampling. Clearing each group is pragmatically impossible and ethically questionable, and I have decided instead to partially clear a sample of the groups. The Type IIB group (SL-34) and Type IB group (SL-13) will be cleared, providing a 100% sample of those unusual group types. However, the Type IIA and Type IA groups demonstrate sufficient internal diversity to require excavating more than one example of each. Much of this variability lies in the height of the mounds and, in the Type IA groups, the number of mounds per group. To understand this variability, two Type IIA groups and three Type IA groups will be excavated. The Type IIA groups will include one relatively high mound (>1m) and one relatively low mound (<1m); the Type IA groups will include one patio group with relatively high structures (>1.5m), one patio group with relatively low structures (<1.5m), and a patio group with two structures, a sub-type present but uncommon at San Lorenzo.

I implemented this research design in 1994 and will conclude excavation in 1996. In 1994, we excavated groups of Type IIA (SL-31, a low mound) and Type IA (SL-22, with high mounds) and initiated excavations in a Type IA group with only two mounds (SL-24). In 1995, the San Lorenzo field crew and I completed clearing excavations at SL-24 and in the only Type IIB group (SL-34). We also went back to SL-22 to clear the superstructure of Str 3. The 1996 research plan calls for excavating a taller Type IIA group and a lower Type IA group; we will also clear parts of SL-13, a Type IB group. The bulk of the test excavations remain to be completed in 1996 as well. By the close of the 1995 season, a total of seven groups had been tested with test units ranging from 2 to 6 sq. meters. We will place a test unit behind each remaining unexcavated structure to provide a broader database for inter-group comparison.

SL-22 (Ops 110 and 129): Examining Superstructures in a Large Patio Group

SL-22 is a Type IIA patio group, one of the larger patio groups at San Lorenzo. Chase excavated this group in 1992 and 1993, and we cleared parts of Structures 1, 2, 3, 4, and the associated patio in 1994 (Figure 4). We reopened excavations in 1995 because four important issues remained unresolved at the end of the 1994 season. First, a test unit into the midden behind Str 2 had revealed a masonry inset that appeared to be a basal molding, but it was located some 60 cm above the base of the wall. I postulated that this was a basal molding relative to the ancient midden surface at the Late Classic II (LCII) Terminal Classic (TC) transition. This year we excavated into the platform of Str 2 to examine the interior stratigraphy as it related to the postulated construction break. Second, clearing on the top of Str 2 had yielded only ambiguous hints of a superstructure, so this year we cleared a 6m x 1m strip across the summit of the platform. Third despite some probing excavations at the junction of Strs 2 and 3, their stratigraphic relationship remained poorly defined. We excavated a 1m x 2m unit in the southwest corner of Str 2, and the resulting data allows us to assemble a fairly secure stratigraphic sequence for these two structures. Finally, a small probe last year into the platform of Str 3 had revealed a void in the fill that I suspected to be a crypt. Because the void sat directly under the front wall of the superstructure, we first had to clear part of the superstructure before probing through its floor to explore that void. We found the void to be simple dry-laid loose fill, but the information gained about the vaulted masonry superstructure proved interesting and important.

SL-22 Str 2:

In 1994, excavation of a 1m x 1m test unit (Op 129D) along the rear facing (Celery Wall) of Str 2 revealed a 5 cm step in the wall, some 60 cm above the base of the platform. Differences in masonry style and the spatial relationship between the step and the LCII/TC midden surface some 15 cm below it led me to interpret the step as a basal molding on a later construction episode (Celery-B; N.B.: Architectural modifications at San Lorenzo often involve increasing the height of a previously existing facing; these two distinct units are given the same name and distinguished by capital letters beginning with A for the earliest phase), erected on top of a partially buried earlier platform (Celery-A). Op 129 E was the easternmost unit in our 1m-wide strip across the summit of Str 2, beginning just along the interior facing of Celery Wall. We excavated Op 129E to a depth of 125 cm in order to better understand the construction history of Str 2 and look for a construction break corresponding to the hypothesized break between phases of Celery Wall.

This probe revealed two major episodes of platform construction, both dated to the LCII based on in-field analysis of the ceramics from the fill; our ceramic chronology is based on the work of James Gifford (1976) and J. Eric S. Thompson (1940) as refined and expanded upon by XAP ceramicist Lisa J. LeCount (1992, 1993, 1994, 1995). Contrary to expectations, however, neither fill episode seems to relate to a second construction episode associated with the creation of the basal molding. The lowest fill episode is a sascab-rich loam with limestone rocks, capped with a thick but soft floor, Cumin Floor. Cumin Floor lips up to the base of the interior face of Celery Wall and is therefore associated with the construction of the masonry superstructure. The fill under Cumin Floor begins 20 cm above the basal molding and extends down to the base of the molding blocks with no stratigraphic breaks indicating the association between this fill episode and the basal molding. However, there is no stratigraphic

evidence in Op 129E to support a two-phase construction sequence for Celery, since we found no earlier construction or fill episodes. It is possible that we did not dig deep enough; our excavation stopped 50 cm below Cumin Floor because the surrounding architecture restricted the size of our probe to 75 cm x 55 cm. Or, perhaps the putative second phase of construction involved dismantling parts of earlier construction, making it invisible to the archaeologist. Finally, it remains quite possible that the two-phase construction hypothesis is simply wrong, and that Celery Wall is one unitary construction. The next construction episode in Op 129E consisted of a 45 cm thick layer of clay-and-cobble fill topped by a badly disturbed floor associated with Tomato Wall. Preliminary identifications of the fill materials suggest construction in the LCII.

As noted above, Op 129E was the first 1m x 2m unit in a three-unit-long trench across the top of Str 2 to expose the superstructure; two similarly-placed units in 1994 (Ops 129A and 129B) had not revealed much superstructural data, but the 1995 stripping operation remedied this. Most of our information pertains to the final phases of the structure, since we placed no other deep probes into Str 2. The earliest form we can discern for the superstructure of Str 2 is a 2.5m wide room with masonry walls of small rectangular limestone blocks. Celery Wall forms the eastern wall of this room, and Eggplant Wall forms the western wall; they stood at least 1m high, possibly with perishable upper walls, and presumably topped with a perishable roof. The substructure probably extended farther west in a large frontal terrace (see the discussion of Pimienta Floor, below) accessible by a central staircase and from Str 3 to the south. Frontal terraces are a common feature of residential structures at San Lorenzo, found on this structure and SL-24 Strs 1 and 2, SL-22 Str 3, SL-34 Str 1, and probably on SL-25 Str 1.

The first major interior construction modification raised the floor of the superstructure to the level of a rough floor associated with a one-course wall (Tomato Wall) that formed a south-facing step-bench surfaced with Tarragon Floor. The next renovation of the superstructure filled in the lower part of the room by placing Achiote Floor at the level of the top of the bench, simultaneously placing a new a one-course bench (Cabbage Wall) against the western wall of the structure. This unusual bench apparently sat in the southwest corner of the room, since it stepped down to the east and north in our excavation unit. The final construction event was the laying of a floor, preserved only as ballast, even with the top of Cabbage Wall, possibly leveling the entire room interior. By this final phase, the interior floor had been built up to with a few courses of the top of the building's masonry walls; presumably perishable upper walls and the roof had been modified several times since the original building construction. A small McRae Impressed tripod dish sat broken on Pepper Floor, a re-surfacing of Achiote Floor, showing the continued use of Str 2 into the Terminal Classic. Unfortunately, none of the construction phases after Pepper Floor have been dated due to their small volume and lack of artifacts.

The frontal terrace of Str 2 saw later modifications as well. The best candidate for the frontal terrace associated with earliest phase of the superstructure (i.e., Cumin Floor) is Pimienta Floor, excavated in Op 110KK (see below). It sits at an elevation of 90.32m above sea level, only 28 cm (plausibly one step) below Cumin Floor. We lack a direct association between these two architectural units, however, because Op 110KK is located at the far southwest corner of Str 2, some 7m from the center-line strip. Our

stripping excavation did reveal the ballast of the final frontal terrace surface, although its plaster was completely eroded. This final terrace surface is associated with Okra Wall, a stratigraphically later and technologically cruder wall than either Eggplant or Celery Walls. It is unfortunately impossible to relate the interior stratigraphy with the final frontal terrace. The relative elevations, however, suggest that the earliest possible construction of the last terrace would be coeval with Tarragon Floor. The masonry of Okra is cruder than Cabbage Wall, hinting that its construction could be fairly late.

The relationship between Okra and Eggplant is especially intriguing; both are true walls with two facings on either side of a core. Eggplant formed the original front wall of the superstructure. Okra was built at the same time as the final phase of the frontal terrace, leaving only a 50 cm gap between Okra and Eggplant. The western facing of Eggplant Wall the one nearest Okra was then dismantled to the level of the floor at the base of Okra. The core of Eggplant did not collapse, indicating that the space between the walls was filled in fairly rapidly after the removal of the facing. The function of Okra Wall remains enigmatic. After the filling of the gap between the walls, it would have formed a 30 cm- high, 1.5m-wide bench along the front wall of the superstructure, probably covered with a perishable ramada or awning.

One important goal of the 1995 work at SL-22 was to examine the stratigraphic relationships between Strs 2 and 3 to add to our picture of the evolution of the patio group. To accomplish this, we excavated a 1m x 2m unit (Op 110KK) across the northern halves of last year's Ops 110O and 110Q to probe the interior of the Str 2 substructure behind Artichoke and Broccoli Walls. The earliest construction identified was Season-All Floor, a thin plaster surface at a level ca. 7 cm above the final patio surface (Anise Floor), suggesting it formed the top of a terrace that stepped down not to Anise but to an earlier patio surface. The exact form of this terrace is unknowable, however, because a subsequent renovation removed its facing stones and part of SeasonAll Floor as well. Presumably prior to the dismantling of this lower terrace, a second, more massive terrace composed of the 85 cm-high Calabaza Wall and capped by Pimienta Floor was placed on Season-All Floor. Relative elevations suggest that this substructure was associated with Cumin Floor and the first phase of the Str 2 superstructure discussed above, although the distance between the two excavated areas makes this interpretation tentative.

After the partial destruction of Season-All Floor, a 30 cm thick fill episode was laid down and surfaced by Sal Floor. Similar to Season-All Floor, Sal Floor was partially demolished in a later construction episode that removed any trace of the facing stones from the terrace it must have capped. Sal Floor sits at the same level as the second floor of the lowest terrace of Str 3. The much-eroded Blueberry Wall forms the north edge of this terrace, and its earliest surface is Fennel Floor. However, 1994 excavations revealed that the second terrace (Apricot Wall, surfaced by Nutmeg and Mole Floors) rests on a thin lens of fill placed above Fennel Floor. This year we excavated through Nutmeg Floor and found Ajo Floor at the same level as the inferred second surfacing of the lower terrace. It seems, then, that these two floors (Sal and Ajo) were contiguous, connecting the frontal terrace of Str 2 with Str 3, the latter structure probably a simple low platform at that time.

Two facings sit on top of Sal Floor. Excavations demonstrated that Calabaza

Wall, discussed above, extended below Sal Floor which apparently lipped up to it. However, a new facing (Chayote Wall) was placed in front of Calabaza Wall, effectively extending the platform westward some 20 cm; Chayote Wall sits directly on Sal Floor. Stratigraphically later than Chayote Wall, Endive Wall also rests on Sal Floor. However, Endive Wall faces north and is part of the construction of the second terrace of Str 3 that, as noted above, raised the Str 3 substructure up to the level of Mole Floor at the time of construction of the superstructure of Str 3 (discussed below and in Yaeger 1994).

Like Season-All Floor, Sal Floor and the facing of the terrace that it capped were removed in antiquity to make room for the placement of Artichoke and Broccoli Walls, the large-block facings that gave the substructure of Str 2 its final form. Artichoke Wall forms the western side of the platform and is associated with Anise Floor on the patio; Artichoke Wall stratigraphically post-dates both terraces of Str 3. Broccoli Wall forms the southern side of Str 2's platform, sitting on Mole Floor and, farther east, on Pimienta Floor; it effectively eliminated the access between Strs 2 and 3 created by Sal Floor. A posthole from a 20 cm-diameter post intrudes through both Sal and Season-All Floors, providing evidence of a perishable structure, perhaps a ramada or thatched awning, over the final-phase frontal terrace of the structure. Preliminary ceramic identifications indicate that all of the construction discussed above dates to the LCII.

SL-22 Str 3:

In 1994, we concentrated most of our efforts in SL-22 on Str 3. We cleared almost the entire frontal terrace of the structure and placed a strip across the superstructure. Last year's strip excavation revealed that Str 3 possessed a vaulted masonry superstructure, surprising given the mound's low 2m height. At the base of the northern superstructural wall, a probe placed to obtain datable fill materials exposed a small void in the fill bordered by two flat-faced cobbles. I tentatively suggested that this feature might be a crypt (Yaeger 1994), and one impetus for our clearing more of the Str 3 superstructure was to expose this feature which seemed to lie mostly under the front wall (Dewberry and Orange Walls) of the superstructure. Although our 1995 fieldwork demonstrated that the void was only loose-laid fill and not a crypt, the clearing excavations of the superstructure provided some interesting details about changing use of space in the TC. Furthermore, we identified a new structure (Str 5) consisting of two masonry rooms sharing the same sub-structure as Str 3 (see Figure 5).

We were able to define the original form of the Str 3 superstructure and two subsequent construction episodes, each of which altered the building's interior and the associated frontal terrace (Figure 5 shows the form of Strs 3 and 5 prior to the burning episode discussed below). Str 3 is a three-room structure, with a large central room (Room 1) and flanking chambers to either side (Room 2 on east, Room 3 on west). A central doorway pierces the northern wall of the structure, the threshold of which sits ca. 20 cm above the surface of the frontal terrace (Mole Floor; see Figure 6). Small crosswalls (Guava Wall and Pear Wall) appended to the southern wall of the structure separate Room 1 from the smaller side chambers. Integral in the original construction phase of Str 3 was the 50 cm-high bench that ran the entire length of the Room 1, turning north before the doorways of Rooms 2 and 3 such that their floors were at the same level as the bench. Ceramic materials from the core of the bench and the

underlying substructure suggest a LCII date for the structure. The fill matrix is a clay-and-cobble mixture laid somewhat loosely with numerous air pockets; the void we found in 1994 was in fact one of these air pockets with surrounding loose fill. Unlike many structures at Xunantunich (MacKie 1985), the fill of the bench of Str 3 held no burials. Shortly after the construction of the bench, two small bins faced with rough limestone blocks were tacked onto the cross-walls in Room 1, forming slightly battered "arm rests" for the central bench. Then the entire bench surface, including the arm rests, was replastered. The evidence of burning on this second plaster surface suggests that the arm rests fit rather early into the overall construction sequence of Str 3, predating the first major fill addition discussed below.

The superstructure of Str 3 is skewed relative to the edge of its substructure (Blueberry Wall), and the doorway is not centrally-placed relative to the substructure. In the final form of SL-22, the platform of Str 2 hides the door, although it would have been more visible prior to the final construction episode on the frontal terrace of Str 2 (discussed above). However, the layout of Str 3 is quite symmetrical. In 1994, we cleared a pit in Room 3 created by the ancient removal of a cache and subsequently filled to floor level with refuse dating to the TC period. This year, we excavated an apparently analogous feature in Room 2 (Op 110GG-D1). The original deposit consisted of a very large neckless olla of the Mt. Maloney ceramic group placed in a cobble-lined pit. The mouth of the vessel presumably once sat at floor level and the container was used for storage, possibly of water or of foodstuffs likes bean or corn. This olla collapsed, however, and the resulting hole was filled with LCII refuse and floored over. Collapsed vault stones, some fallen in courses (see Figure 6), demonstrate that a vaulted masonry roof covered Str 3. Despite 80cm thick walls and a relatively narrow width (2.2 m), the roof eventually became unstable and collapsed. The original floor of the room, Cilantro Floor, is badly cracked; several cracks up to 5 cm wide run east-west along the front edge of the bench and between the jambs of the doorway, some even running up the jambs into the northern wall of Str 3. The cause of these cracks is unknown. It could be that loose fill of the sub-structure could not bear the weight of the vaulted building and subsided, leading to cracking of the floor. However, it is intriguing that ceramic vessels on Cilantro Floor suggest that the cracking occurred in the LCIIb phase, roughly the same time that Euan MacKie (1961) argues an earthquake struck Xunantunich. Furthermore, the cracked floor of Room 1, the contemporary bench surface, and the bases of most of the room's walls are significantly darkened by burning. This evidence of burning extends into Room 3, out onto the frontal terrace (Nutmeg and Mole Floors), and into Room 1 of Str 5 (Azucar Floor). The burning episode could have been associated with the cracking, especially if it occurred in an abrupt manner when torches or kitchen fires could have ignited flammable materials such as cloth and baskets that were probably scattered around the rooms and the frontal terrace. A second possibility is that the fire was part of a termination ritual of sorts after the structure became unstable, although no corroborating evidence supports this contention. In fact, after the cracking and burning, the cracks were plastered over and a small step was placed in Room 1 between the front wall and bench just east of the doorway.

A thin lens of dark matrix between this construction episode and the subsequent fill episodes on Cilantro Floor (i.e., within Str 3) and the frontal terrace indicates a hiatus in housekeeping in this area. This hiatus suggests to me that the superstructure

of Str 3 remained unstable after the cracking and burning. However, the residents of SL-22 continued to use the area, as testified to by the dense accumulation of ceramics on Cilantro Floor and, to a lesser extent, on Nutmeg and Mole Floors on the frontal terrace. A detailed analysis of this important deposit remains to be conducted, but preliminary examination suggests that it is composed of a limited number of vessels from the LCII/TC transition, including two McRae Impressed serving dishes, a blackware lidded incensario, and several Mt. Maloney storage jars. The lack of lithic and faunal material is striking as well, indicating that this is might not be a simple refuse deposit, but rather a primary use-related deposit. A thick layer of organic material coated one of the jar bases, and we hope to conduct residue analysis on that vessel as well as several others to better understand the nature of the overall deposit.

I suspect that the ceramic vessels just discussed were placed while Str 3 was unstable and unsuited for use. This interpretation is strengthened by the vault collapse that lays directly on top of the deposit. Str 3 suffered a partial collapse around the doorway of the central room, and falling vault stones knocked a few blocks off the outset upper course of the bench onto the floor as well. The fact that the bench surface and its outset upper course are intact for most of its length, coupled with the distribution of fallen masonry, suggests that the collapse did not extended far beyond the doorway. The collapse did not herald the end of the use-life of Str 3, however. Instead, the occupants of SL-22 partially walled up the doorway of Room 1, swept the rubble into the gap between the bench and the wall, added fill, and sealed the entire episode with Adobo Floor (see Figure 6). The result was a three-room structure with only one level of floor. Although the function of this renovated superstructure is not clear, we did find a TC Mt. Maloney jar rim broken off at the shoulder (Op 110BB/5-P1) that seemed to be a potstand sitting on the bench near the east armrest.

The new floor of Room 1 was quite high with respect to the frontal terrace, and as part of this construction episode, a low platform was appended to the northern wall of the superstructure, thus maintaining access into the building. One odd feature of this small platform is that it has two levels, one a low (30 cm high), broad terrace capped by Parsley Floor that forms the bulk of the platform, and the other a narrow (50 cm wide) but high (60 cm) terrace that lies directly against the northern superstructure wall. The higher terrace did not block the doorway, and I suspect that this it served as a buttress to shore up the wall of the superstructure which, judging from fall patterns, eventually collapsed to the north anyway. We found a few beveled vault stones in the fill of this platform, demonstrating again that the vault of Str 3 had partly collapsed already.

The final construction phase at Str 3 began with the blocking of the three doorways of Room 1 with crude walls of large cut blocks probably scavenged from other structures in the area; these walls are similar in construction to Papaya Wall in Str 5 (discussed below). These walls allowed the placement of a final ca. 30 cm thick layer of fill above Adobo Floor, roughly to the level of the top armrests of the now buried bench. An integral part of this fill episode was an east-west crypt formed of small unfaced stones. The crypt sat on the bench surface and was covered with four large slabs 1520 cm thick. A floor or the preparations for a floor, preserved only as traces of ballast and a collapse contact for falling vault stones (see Figure 6), covered this fill at a level just below the exposed tops of the slabs. As with the previous construction episode, the new floor level of Str 3 required that a new platform be built outside the

doorway so that the room could be entered. A platform formed by Watermelon Wall and surfaced to the level of Lavender Floor sat on the earlier frontal terrace (Parsley Floor), but was narrower, thus creating a series of stepped terraces leading to the doorway of Room 1. The threshold up to the new floor level was composed of two steps, one low step up to Garlic Floor and another step up placed near the interior edge of the doorway, presumably because of the low height of the doorway by this point in time.

This final construction phase of Str 3 apparently had the express purpose of creating a tomb, perhaps one open to veneration if the slabs were never to have been covered. By this last construction phase, the roof of the structure would have been quite low relative to the floor, lending a tomb-like appearance to its interior. The exterior would have been reached by a series of terraces, not unlike those of a pyramid. And, with the construction of Fresa Wall between the penultimate terrace and Str 2, access to the structure would have been somewhat limited. However, no body was placed in the crypt, or if it was, it was removed in antiquity. The latter seems unlikely, though, given that the slabs were apparently undisturbed until they were displaced by the weight of the roof collapse. The only contents of the crypt were two sherds, including the rim of a TC Roaring Creek Red bowl. This was the final construction episode at Str 3, and the collapsed vault sits directly upon the slabs and associated floor ballast.

SL-22 Str 5:

As we extended our clearing excavations along Str 3 to the west, we uncovered a second building attached to Str 3 but lacking a communicating doorway. Because of its independent access, we decided to designate this building Str 5 (Figure 5). Two 2m x 2m units cleared much of the southern room of Str 5 (Room 2), and a 1.5m x 1.5m provided some understanding of the northern Room 1, although it did not expose the entire room. Because we did not clear the entire building, the location of the doorway on Figure 5 is at best a guess; given the narrowness of the terrace on the southern and western sides of the building, it seems most likely that access to Str 5 was from the north, from the frontal terrace. The western and northern walls of the building are approximations from surface indications such as cut stones and slope breaks.

The architectural stratigraphy of Strs 3 and 5 demonstrates that the two superstructures were built at the same time. The northern wall of Str 3 (Dewberry and Orange Walls) extends down to a construction floor at the top of the substructure; the eastern wall of Room 1 of Str 5 (Guayaba Wall) rests on a construction floor at about the same level, indicating that the entire perimeter of the two structures was built first. Of the interior walls, the cross-walls of Str 3 (Pear and Guava Walls) sit on a construction floor just under the level of the bench floor; Strawberry Wall, the wall separating Strs 3 and 5, sits on this same construction floor, demonstrating that after completing the perimeter walls, the builders placed the bench facing and filled it in, then erecting the cross-walls and Strawberry Wall on the construction floor at the top of the bench. The central partitioning wall of Str 5 is especially interesting; it is appended to Strawberry/Guayaba Wall, its northern face resting on the same floor as Guayaba Wall and its southern face sitting at the same level as the base of Strawberry; that is, the original floor of Room 2 sat some 30 cm above that of Room 1. This construction technique clearly made efficient use of faced blocks, although perhaps sacrificing wall

stability.

The subsequent history of Str 5 is similar to that of Str 3, showing burning, a hiatus in use, and then later fill episodes. The original structure was a simple two room structure. Access from the northern room to the southern was through a central doorway, with a step up at the northern edge of the doorway. The floor of the northern room, Azucar Floor, is burnt in a manner similar to Cilantro and Nutmeg Floors of Str 3, and we recovered some large sherds sitting on it; these sherds are presumably contemporaneous with the deposit on Cilantro Floor, but they await analysis. The next addition in the northern room is the one-course high Platano Wall running north from the eastern edge of the interior doorway. The area in Room 1 to the west of Platano was filled in and surfaced, thus elevating the western half or two-thirds of the northern room to the same level as Room 2. The lower eastern part of the room was later filled in and floored over at the same level with Sugar Floor. A tentative connection can be drawn between the possible addition to the western part of Apricot Wall (the second terrace of the frontal platform) that we noted in 1994 and the placement of Platano Floor. It seems likely that elevating the interior floor required elevating the frontal terrace to maintain access, as we saw in Str 3. Sherds broken on both Azucar and Sugar Floors date to the TC period, suggesting again a temporal sequence that parallels that of Str 3.

The next construction episode in Room 1 consists of a very unusual wall of crudely shaped blocks and cobbles, running northeast to southwest and facing southeast toward the room's interior, apparently cutting off the northwest corner of the room and the doorway. Linda Neff (this volume) found a similar wall as a late addition to Str A20 at Xunantunich. Time did not permit full exploration of this wall so its function remains unknown. Several large sherds in the southeast corner of the Room 1 on top of Sugar Floor included two large Mt. Maloney jar rims, suggesting that some storage occurred in the room; interestingly, Str 5 is adjacent to Str 4, the probable kitchen for the entire SL-22 household (Yaeger 1994).

The southern Room 2 saw several re-floorings of its original floor. Then, probably at about the time that Sugar Floor was laid, a plug of two courses of large limestone blocks (Papaya Wall) was placed in the interior doorway of Str 5, forming a step up to an unpreserved floor surface. Blocks like these are quite distinct from other architecture in SL-22, except for similar plugs in the final construction phase of Str 3 (e.g., Piña Wall), and I suspect that they were scavenged from another group in the vicinity besides SL-22.

SL-22 Summary:

Two preliminary and broad generalizations follow from the SL-22 data presented above, both relating to changes from the LCII to the TC. First, the LCII architecture (Celery, Eggplant, Artichoke, Orange, Pear) is of much finer workmanship than later walls (Papaya, Piña, Okra, Fresa [Yaeger 1994]), demonstrating a clear decline in labor investment in architecture. This pattern is reflected in the small volumes of late construction episodes, many of which have been dated to the TC. This decline in labor investment may be due in part to population loss in the community in the TC period (Yaeger 1994), but it might also involve a re-focusing of labor into other activities and a de-emphasizing of platform and residential renovation. Second, the use of space in SL-

22 changed through time. The access routes and general organization of the patio group evolved as community structure changed. The TC renovations of Str 3 and its conversion into a tomb chamber reflect these changes.

SL-24 (Op 138): The Development of a Small Patio Group

Chase (1993) excavated two 1m x 2m test units along the north edge of SL-24, the results of which suggested a significant Terminal Classic occupation at the group (Figure 7). We began clearing there in 1994, excavating 14m2 of the patio and the frontal terrace of Str 2. In 1995, we continued our excavation northward onto the platform of Str 1 to expose the frontal terrace and superstructure of Str 1, and the small walls between the superstructures of Strs 1 and 2. We then extended strips westward and northward across Strs 1 and 2. The strip across Str 2 was 2m wide and 8m long, clearing the northern part of the superstructure, the western edge of the platform wall (Paleta Wall), and the refuse deposit west of the platform. The strip over Str 1 was 1m wide and 8m long, running from the frontal terrace, over the superstructure, and back to the refuse deposit off the rear of the substructure. This strip did not expose enough of the superstructure, so we left a 50 cm balk and dug another strip 1.5m wide and 10m long just to the east; we then removed most of the balk. Finally, we cleared more of the superstructure of Str 2.

SL-24 Str 1:

Our excavations cleared much of the west half of the platform and superstructure of Str 1, probing through the bench into the superstructure and into the substructure at the juncture of the platforms of Strs 1 and 2. The superstructure consists of a single room, 2.5m wide and approximately 7m long on its interior, with a single door facing south onto the frontal terrace and the patio (Figure 8). The limestone block walls of the structure are preserved to a height of 80cm, and the amount of fallen stone suggests that the entire wall of the structure was limestone block, topped with a perishable roof. Exterior basal moldings decorate the northern and western walls; the southern wall was too collapsed to determine if it shared this feature, as seems likely.

Inside the building, a bench runs across the entire north wall leaving only a 75 cm aisle between the front wall and bench. The western and eastern ends of the bench are elevated another 40 cm. A probe into the bench demonstrated that one building episode accounts for the entire superstructure, including the bench (see Figure 9). The only subsequent modification was the addition of a sloped facing to the elevated portions of the bench which created a battered surface when replastered (Latte and Capuchino Floors). This battered face is similar to that of the arm rests described above for SL-22 Str 3. The floor in front of the bench (café Floor) darkened around the doorway area, apparently from a burning episode of some type.

Although the superstructure was built in one main construction episode, three significant modifications to the original substructure can be identified. The first version of Str 1 is a small, rectangular platform, ca. 50 cm high, lacking a preserved plaster surface. The west edge of this platform lies under the western wall of the later Str 1 superstructure. The first modification consists of the addition of a plastered terrace to the west; the evidence of this terrace is Mocha Floor, encountered in a probe into Str 2 in Op 146E. The terrace is of unknown size, but presumably was no wider than the original platform; it is 30 cm lower than the main platform. These two phases are completely encased in later architecture. The third modification filled Mocha Floor up

to Refresco Floor as part of a larger construction effort that included the construction of the first phase of Str 2 and the superstructure of Str 1. The result was an L-shaped platform enclosing a plastered patio surface (Water Floor) with a masonry building on the northern arm of the L. The relative position of these early platforms suggest that they relate to Water Floor, dated by ceramic fill materials to the LCII phase.

The final modification of the Str 1 platform extended the platform southward with a new platform facing of large limestone blocks (Ice Cream Wall), creating a 1.8m wide frontal terrace south of the superstructure. The surface of the terrace is 30 cm higher than the final patio floor (Pani Floor), and the terrace surface continues around the front of Str 2 as Coffee Floor. Although we found no postholes in the terraces' poorly preserved plaster surfaces, I suspect that a perishable ramada covered the terrace area, similar to SL-22 Str 2. The rear of Str 1 has no terrace whatsoever; the platform facing (Sundae Wall) extends upward to become the exterior facing of the rear wall of the superstructure. It seems likely that the northern edge of the original Str 1 platform lies inside the core of the final phase, and that the construction of Sundae Wall was coeval with that of the superstructure and with the western edge of Str 2 (Paleta Wall), which it closely resembles in style and mode of construction.

Casual inspection of the artifact and ecofact assemblage from Str 1 suggests several patterns that will be examined more fully in detailed analysis. First, although some cultural deposition occurred behind the building (to the north), the density was less than expected; refuse in this group seems to have been deposited west of Str 2, downslope from the group. In situ materials were rare: we recovered one nearly complete metate from the wall fall in front of the bench within the superstructure which apparently fell off the bench, and we found a higher density of animal bones on the frontal terrace. We also excavated a partial Mt. Maloney bowl smashed on the frontal terrace, just west of the centerline and just behind the facing. Partial Mt. Maloney vessels have been found in similar contexts elsewhere in the upper Belize Valley area (Gyles Iannone, pers. com. 1994) including Xunantunich (Robin 1994:59), and they have been interpreted as the product of rituals involving the termination of use of a structure. Finally, the strata on and above the patio floor contained a relatively large number of large sherds from TC vessels, including tripod plates, restricted-neck bowls, and Mt. Maloney jars. The materials sitting on the patio surface represent the in situ refuse of the final use of the patio, but the overlying materials are presumably wash from the frontal terrace and materials stored in or tied to the ramada of the frontal terrace, which eventually collapsed forward into the patio.

SL-24 Str 2:

As described above, the initial north-south leg of the L-shaped SL-24 was appended onto Str 1 when the superstructure was built. The east facing of this early version of Str 2 was Fudge-A Wall, and the west facing was Paleta Wall. The next construction episode involved placing a plastered (Refresco Floor), 20 cm-high, L-shaped platform atop the original platform, inset 105 cm from its east edge, thus creating a two tier structure with a frontal terrace. This upper terrace turned eastward (Tart-A Wall) to meet the southwest corner of the superstructure of Str 1. The subsequent construction
of Cookie Wall expanded the upper platform eastward 1m, reducing the width of the frontal terrace accordingly. The plaster of Refresco Floor and the masonry of the

corner of Cookie and Tart-A Walls show extensive darkening, suggesting a hearth. This general location continued to show fire-blackening through several later architectural modifications, discussed below. The two-tier effect was eliminated with one final eastward extension of the upper terrace all the way to Fudge-A Wall, which was elevated a few courses (Fudge-B Wall). Coffee Floor sealed this fill episode, marking the final modification of Str 2 prior to the construction of its superstructure.

The next phase of construction was the placement on top of Coffee Floor of low (25 cm) foundation braces for a 5.3m x 3.6m (exterior dimensions) rectangular structure. The braces are crude limestone masonry that look similar to TC construction in SL-22, although they have not yet been dated ceramically. The front of this building was set back 2m from Fudge Wall, and its rear wall was probably even with the western edge of the substructure, although it had all slumped away with the collapse of Paleta Wall. There is no break in the foundation braces to suggest a doorway, but the presence of a wide, low (25 cm high) bench across the entire west side of the interior suggests it faced eastward onto the frontal terrace of Str 2 and the patio. This low bench is similar to the bench in SL-34 Str 1, described below. To the north of the superstructure was a narrow terrace; surface indications suggest that the southern half of the platform did not bear any foundation walls.

Coeval with or shortly following the construction of the building on Str 2, a crude one-course wall of small faced limestone blocks was placed atop Tart-A Wall between the building's wall braces and Str 1's superstructure, forming a low step up from the frontal terrace to a raised, plastered (Decaf Floor) area to the north. The area in front of Tart-B wall continued to be used as a hearth area, demonstrated by burning on Coffee Floor but not on Decaf Floor. This was discontinued, however, when a second east-west facing (Sherbet Wall) was placed between the superstructures of Strs 1 and 2, 1m farther north, again forming a small step up to yet another floor (Espresso Floor). Sherbet Wall sits built atop Tea Floor, which in turn rests on a few cms of fill atop Decaf Floor. Tea Floor and the surrounding architecture (Sherbet Wall and the exterior superstructural facings of Strs 1 and 2) are all heavily burnt, suggesting that the hearth was moved up against Sherbet Wall. Figure 8 presents a reconstruction of the group's architecture at this time. Perhaps because of fire danger, the inhabitants of SL-24 next extended the eastern face of the superstructure brace 40 cm eastward (Pie Wall). The final architectural modification is the placement of Helado Wall on top of Tart-B Wall. The small terrace created by Helado Wall filled in the hearth area probably to the level of Expresso Floor, although this addition was very poorly preserved. The hearth then moved back down to Coffee Floor, where we encountered large quantities of charcoal. Throughout the entire construction sequence, the rear facing of Str 2 remains Paleta Wall, a ca. 1.4m-high facing of large limestone blocks that is badly slumped. The core of the platform consists of a clay-and-cobble matrix bounded by a core facing of small limestone rocks. Paleta Wall rests on a foundation of several courses of cobbles. A buried alluvial deposit of chert cobbles runs just under Sundae and Paleta Walls, and the area directly adjacent to and west of Str 2 is in fact a cobble quarry. The area also served as a refuse dump, with moderate quantities of refuse accumulating on top of the quarry surface.

SL-24 Summary:

Several broad observations about SL-24 can be drawn from the data presented

above. First, construction during the LCII period comprises the bulk of the architecture and majority of the construction episodes. However, as at SL-22, there are several additions and modifications that can be dated tentatively to the TC phase. Second, despite many modifications and a multi-generational history, there is marked stability in the use of space as seen in the location of the hearth. This suggests a continuity of occupation in the LCII and TC periods. Third, architectural modifications do not substantially change the form of any of the structures. Fourth, architecture in SL-24, as elsewhere in San Lorenzo, seems to change from large, cut limestone block masonry in the LCII to smaller, irregular limestone block construction in the TC. Construction fill is overwhelmingly a clay-and-cobble mixture with some cultural materials. The cobbles probably derive from the adjacent quarry.

SL-34 (Ops 212 and 213): Two Associated Single Mounds

SL-34 is the only Type IIB group at San Lorenzo, consisting of two single mounds within 25m of each other that lack a discernible patio connecting them. When first surveyed, these two mounds seemed to sit at oblique angles to each other (see Figure 10), but closer inspection and excavation revealed that their orientation is nearly perpendicular (see excavation grids on Figure 10). Our aim at this group was to investigate what appeared to be an informal grouping of mounds. Excavation suggests, though, that they may have been more formally placed relative to one another, in spite of the lack of a plastered patio surface between them. Although most of the artifacts have yet to be examined in detail, Aime Preziosi conducted chronological analyses of the ceramics from selected lots in the summer of 1995. Significantly, the majority of the ceramics from SL-34 date to the LCI and LCII, with only a trace of TC. Our clearing program focuses on the TC occupation at San Lorenzo, but the fact that SL-34 is the only Type IIB group led me to clear it despite the lack of a strong TC occupation.

SL-34 Str 1:

We originally mapped Str 1 as a small mound, 25 cm high and 5m x 3m in area. Closer inspection of surface remains suggested a slightly larger buried platform, 8m x 4m in size, and our excavation grid was placed accordingly. Excavations, however, proved that the structure had a 5m wide frontal terrace virtually invisible from the surface. We cleared two quadrats of the structure and conducted limited probes into the core of the platform (Op 212E) and along the centerline of the frontal terrace (Ops 212A and 212C) to obtain some idea of its construction history. These excavations revealed a fairly complicated superstructure, but relatively few construction episodes.

The original platform of Str 1 was a one-course high platform built of flat-sided cobbles sitting on a cobble footing. The northern edge of the platform was formed by the basal courses of Highball Wall-A; the southern facing was not excavated, but can be roughly inferred from fill differences in the areas we excavated. No floor was found capping this platform, but its surface seems to be indicated by a consistent fill break in the substructure at 101.10m asl from a rock-filled dark clay loam (7.5yr3/2) to a stiffer, more orange loamy clay (7.5yr5/6) with fewer inclusions. This break corresponds with a change in construction technique from cobbles to small faced limestone blocks on Highball Wall-B, and with the base of Sherry Wall to the south, which presumably sits on this earliest platform. It remains possible that the stratigraphic break is in fact a difference in fill episodes within one main construction, but the corresponding architectural breaks suggest that the surface of the original platform was packed earth

instead of plaster. Analysis of the abundant ceramics from the fill may shed some light on the issue.

The next construction episode involved raising the height of the platform and laying down a series of two-sided cobble wall braces which were then hidden behind a facing of small limestone blocks. On the northern side of the structure, these small limestone blocks were placed directly on the older platform facing, inset some 5 cm above the earlier cobble facing (Highball-A), forming a basal molding. On the southern side of the platform, the blocks (Sherry Wall) were set on top of the older platform, forming a frontal terrace at least 5m wide. The two-sided cobble walls were probably supports for the posts of a bajareque structure, attested to by the quantities of daub found on the surface of the platform.

Two internal features were built in Str 1, probably at this time, although the stratigraphy does not allow us to determine their exact relationship. The first was a low, three-sided bench or platform built against the northern edge of the superstructure, formed by a one-course facing of small limestone blocks (Bacardi Wall) set 80cm in from the edge of the superstructure. A second bench of small limestone blocks (15 cm high) sat on top of that feature, again resting against the northern wall of the superstructure. It was 4m long and 2m wide. A lack of interior fill breaks in the probe in 212E suggests that these benches were built together as part of the second construction phase, described in the previous paragraph.

The final construction at Str 1 involved extending the frontal terrace several meters to a distance of 5.5m south of the front wall of the bajareque dwelling on the platform. The facing of the final-phase platform (Quetzalteneca Wall) is made of large flattened chert and silicaceous limestone cobbles, and its construction involved raising the platform 10 or 20 cm, covering at least the basal course of Sherry Wall. As with earlier platforms, no clear floor or even ballast was found associated with this structure, suggesting again that the it may have possessed a packed earth floor. Unfortunately, the lack of a plastered floor made the contact between the artifact-rich fill and any terminal refuse impossible to detect. Attempts to skim off thin lots on top of the platform (Ops 212A/1, 212D/1) resulted in very mixed lots with sherds dating from the Early Classic (EC) to the end of the Late Classic (LCIIb). Lots taken around the sides of the platform (e.g., Ops 212J, 212L) seemed to result in cleaner lots of refuse from the LCI and LCII periods sealed by platform collapse. Some EC sherds in the fill contexts suggest an early occupation of this group, although these sherds could be from the middens of nearby groups that were redeposited here during preliminary construction. The bulk of the materials is LCI and LCII, with a smattering of TC in the uppermost lots. The cultural materials found associated with Str 1, as well as its layout, suggest it served as a residence, with mano and metate fragments, formal and expedient lithic tools, and a fairly full range of ceramic forms.

SL-34 Str 2:

SL-34 Str 2 is a smaller platform than Str 1. Although initially mapped as a 25 cm high 5m x 4m mound, the platform is actually 5m x 6m, with a small landing or step attached to the south side of the structure. Chase (1992) tested this structure with a unit along the eastern face of platform in 1992 (Op 95I); she found a thin accumulation of refuse along a limestone block wall. Clearing of the northwest and southeast quarters

of the structure and limited probing into the heart of the platform (in Op 213I) revealed a shorter history and simpler construction sequence than in Str 1.

One construction episode created the bulk of Str 2, forming a 50 cm high platform measuring 5m east-west by 6m north-south. The platform facings are quite heterogeneous. The western face facing Str 1 was built using large flat-faced chert and silicaceous limestone cobbles mixed with a few limestone blocks. The eastern and southern faces, in contrast, are composed of smaller cobbles and more limestone blocks. All of the walls have cobble footings. The reasons, if any, for these differences are not readily apparent. However, it is interesting to note that in some groups (e.g., SL-22 Strs 1 and 2), larger, more impressive blocks are placed on the sides of the platform facing the patio space. The platform was reached by a broad step feature, 1m wide x 2m long, placed along the center of the southern side of the platform. This small landing was attached to the platform wall, and its lack of footings and distinct fill suggest that it was a later addition to the platform. The badly slumped western face of the platform might be a badly disturbed landing area, as well, since there is more rock than would be expected from just the platform collapse. A western landing facing Str 1 would accord well with the expectation that these two groups shared the flat, open space between them as an informal patio surface, although no evidence of paving was found here.

Preziosi's ceramic identifications suggest a slightly later occupation for Str 2. Most diagnostic sherds date to the LCII, with fewer LCI and EC sherds and more TC sherds than in Str 1. The stratigraphically late southern landing suggests the possibility that the orientation of this structure changed after the abandonment of Str 1 in the LCII period, although dates from the landing fill would make this argument more convincing. Unfortunately, the only information from Preziosi's analysis available to me presently is the chronological assessments of the lots. A detailed examination of the functional categories of ceramics and other artifacts found in primary contexts associated with Str 2 is badly needed to assess the function of the structure. The model of the domestic developmental cycle discussed above leads me to expect it to have been a domestic residence of a family related to the inhabitants of Str 1 by tight kinship ties. Although the nearly square shape of the platform is unusual and somewhat suggestive of a shrine, as is its eastern location (Becker 1971), the density of lithic, ceramic, and ground stone artifacts recovered from the refuse around the structure indicates a residential function. The more detailed artifact analyses planned for the 1996 season should help clarify this important issue.

SL-34 Summary:

A provisional occupational history for SL-34 can be reconstructed, granting that the only artifact analyses have been preliminary and limited in scope. Str 1 was built first as a small flat platform, presumably topped by a pole-and-thatch house. Later, the northern part of the platform was raised, and an interior step and bench was constructed within the perishable superstructure. This second construction episode resulted in a distinct frontal terrace area several meters wide, probably covered by an awning or perishable ramada roof. Finally, the frontal terrace was extended out several meters. The presence of LCI and LCII ceramics suggests an occupation several generations long.

Sometime after the construction of the original platform, probably late in the LCI

or early in the LCII period, Str 2 was built. This small square platform originally faced west onto the flat open area between the two structures. However, it was later re-oriented to face south, perhaps after the abandonment of Str 1. By the onset of the TC, again possibly several generations after its initial construction, Str 2 was also abandoned.

Conclusion

In conclusion, I would like to summarize some of the interpretations that my colleagues and I have drawn from the San Lorenzo data to date and present the research strategy for 1996, the final season planned at San Lorenzo. As I have pointed out earlier in this report, many of these interpretations must be seen as provisional and subject to change after the more intensive and systematic artifact analysis planned for 1996.

The Late Classic II community at San Lorenzo was apparently a fairly complex social entity, with internal status differences probably based on lineage ties and genealogy. LeCount and I (1995) argued that the LCII peak in population increased the competition for resources, leading to an emphasis of status differences to ensure access to those resources. We found that the San Lorenzo residents marked their status using internal references domestic architecture and rituals involving ancestors and external references architectural ties to the elite of Xunantunich and ceramic ties to the Peten.

The Terminal Classic brought some major changes to San Lorenzo, however. The community population dropped by perhaps half. Furthermore, the use of architecture, ceramics, and ritual to mark status decreased significantly in what LeCount and I (1995) see as a shift away from "rival" public status displays toward household-level ritual and economic activities. Although status marking might have declined in part because it became economically less feasible, I (Yaeger 1995b) have argued that the range of statuses present in the San Lorenzo community actually narrowed as the population declined. The current data indicate that most of the developmentally mature, higher status families - those living in larger patio groups - remained at San Lorenzo, whereas more smaller patio groups and most single mounds were abandoned. The families that stayed probably did so because of their long-term investment in and privileged access to their land and homes along the fertile Mopan river.

The San Lorenzo hamlet formed part of the larger Xunantunich polity. The political integration of the Classic-period Xunantunich polity depended in part upon rituals conducted at the Xunantunich center. These state ceremonies may have been one of the few times that the entire population of the polity would have been present together, and they served to legitimize elite power and bind hinterland residents to the regional capital. The leaders of hinterland communities like San Lorenzo also depended in part upon formal ritual activities in the Xunantunich center to reaffirm their own elite status. Conversely, the leaders of the Xunantunich polity required the cooperation of these local leaders to organize labor for construction, and they gave exotic gifts like jade to cement these alliances. Such exchanges were crucial for forging and maintaining social and political links that held the dispersed social groups throughout the upper Belize valley together in one regional polity.

The population decline at the end of the Late Classic period would have reduced the amount of labor and tribute available to the elite at the Xunantunich center. During the Terminal Classic period, Xunantunich witnessed a significant decline in building programs as well as changes in the organization of space probably related to socio-political transformations of the times (Leventhal et al. 1995). Changes in the regional ceramic assemblages in the TC suggest important changes occurred in the political economy at the end of the Late Classic period. Polychrome ceramics are ubiquitous in the LCI and LCII household assemblages, and LeCount (1995; Yaeger and LeCount 1995) interprets them as markers of participation in the regional political economy; however, polychrome vessels are virtually unknown in the TC ceramic inventory. Furthermore, LeCount (1995) argues that the striking absence of large serving vessels and elaborately decorated wares from the Terminal Classic assemblage signals a cessation of large-scale feasting and status displays associated with the Late Classic political economy. Here again, the architectural evidence and lack of variability in Terminal Classic construction provides an interesting independent data set that supports some of the observations made from the ceramic data (Yaeger 1995b; Yaeger and LeCount 1995).

The preliminary interpretations presented above demonstrate the potential value of the community-level research project at San Lorenzo. However, much work remains to be done to fully realize the potential of this research. The 1996 investigations will follow the research design outlined above. Our clearing excavations will sample SL-13, the only Type IB group in the region, and an additional example of the Type IA and IIA groups to examine intra-type variability. We will also complete our testing program that will facilitate broader, community-wide comparisons and generalizations. Finally, the bulk of 1996 will be spent conducting detailed artifactual and faunal analysis on the San Lorenzo collections. The artifact analysis will concentrate on identifying synchronic differences in the household assemblages relating to activity localization and status and wealth differences, and the changes in these assemblages from the Late Classic II to the Terminal Classic period. The research at San Lorenzo promises to provide a rich, diachronic understanding of ancient Maya rural society and the ways in which households interacted as elements of larger communities.

Acknowledgments: Many people have contributed to the research at San Lorenzo. The Belize Department of Archaeology and its Director, the late Harriot Topsey, were helpful and encouraging, as always. Special thanks go to Rudy Juan and his family who continue to be our gracious hosts in Belize. A skilled and enthusiastic field crew from Succotz and Benque Viejo guaranteed both good data and a good time in the field. Many thanks to Jose Alfaro, Johnny Camal, Enrique Chi, Luis Chi, Carlos Cocom, Abel Godoy, Luis Godoy, Gabriel Meneses, and Jaime Puc, and to XAP foreman Florentin Penados. Thanks, also, to Lucy Rosado and Marta Mai who kept the lab ship-shape.

XAP directors Wendy Ashmore and Richard Leventhal deserve thanks for their support both during the field season and afterward. My fellow XAP members Samuel Connell, Lady Harrington, Angela Keller, Lisa LeCount, Brandon Lewis, Linda Neff, Ted Neff, Aime Preziosi, and Cynthia Robin contributed their time, skills and ideas, thereby improving the quality of the data and interpretations. Sabrina Chase's thorough notes and drawings from the 1992 and 1993 seasons continue to be invaluable.

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Appendix A: Concordance of Group Designations Used in San Lorenzo Survey Area

Current	Type	1992 Survey	Chase 1993	Excavation Units
SL-13*	IB	Groups 42, 43, N5	Plaza Group N5	Op 95H
SL-14#	IIA	Group 56		
SL-15	IA	Group 65		
SL-16*	IIA	Group 62		
SL-17	IA	Group 68		
SL-18	IIA	Groups 72, 78		
SL-19	IIA	Group 69		
SL-20	IIA	Group 70		Op 136
SL-21	IIA	Group 71	Str 71	Op 95K
SL-22	IA	Group N1	Plaza Group 1	Ops 70, 71, 72, 85, 86, 90, 110, 113, 129
SL-23	IA	Group 73	Plaza Group 73	Ops 95A, B
SL-24	IA	Group N2	Group N2 - South	Ops 95C, D; Op 146
SL-25	IIA	Group N2		Op 139
SL-26*	non-cultural	Group N4		
SL-27	IA	Groups N3, 74		
SL-28	IA	Group N4	Gp. 4 & Str N4-South	Ops 95F, J, L
SL-29*	IA	Group N6	Group 6	Op 95E
SL-30*	non-cultural	Group 75		
SL-31	IIA	Group N2	Str N2 - North	Op 95G; Op 138
SL-32	IIA	Group 64		
SL-33	IIA	Group 63		
SL-34	IIB	Groups 66-67	Str 67	Op 95I; Ops 212, 213

* group is not in the San Lorenzo settlement cluster defined here
# group lies just south of the mapped area on Figure 2

Appendix B: Concordance of Mound Group Typologies

Note: Because different criteria are used in each typology, there is no complete correspondence between the various types. Placing any given group in one of the typologies requires examining the variables used in that typology.

Yaeger 1994	**Chase 1993**	**XSS (Ashmore et al. 1994)**
Type IA	Types II & III (distinguished by # of mounds)	Type III, most Types IV to VI, & some Type VII
Type IB	Type I	Some Types IV to VI; most Type VII
Type IIA	Types IV & V (distinguished by topography)	Type I
Type IIB	none	Type II

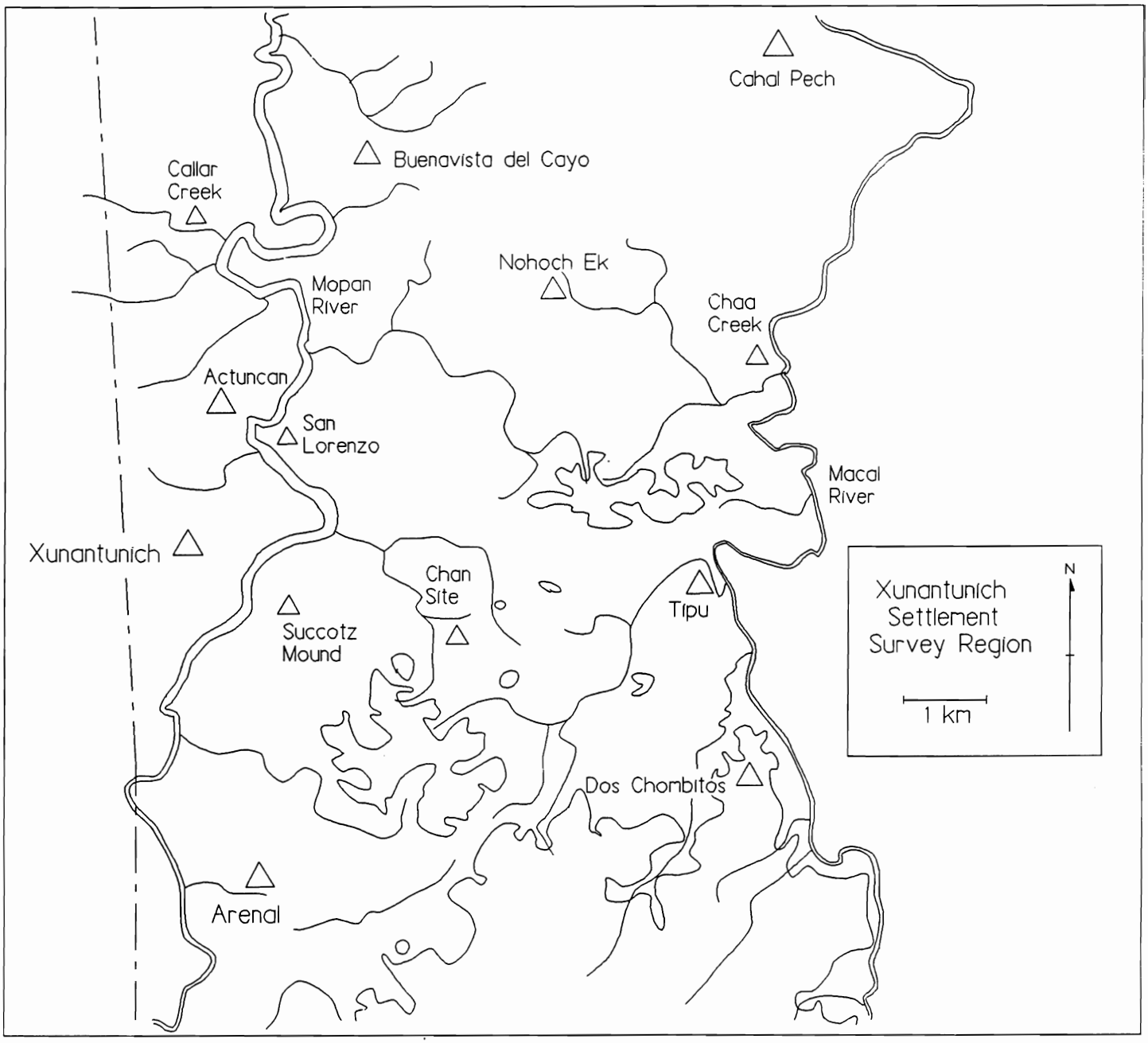


Figure 1: Xunantunich Settlement Area, Showing Showing San Lorenzo

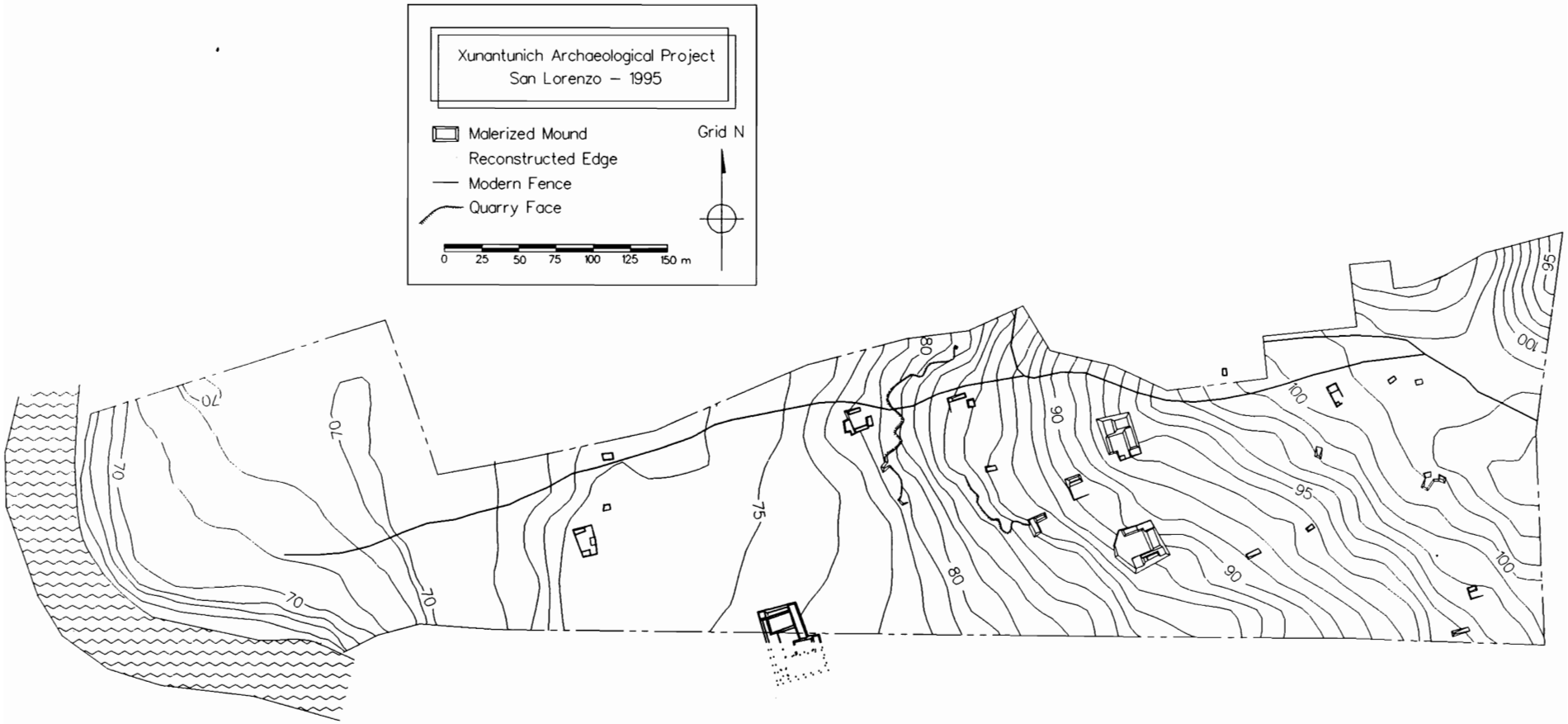


Figure 2: San Lorenzo Settlement Cluster
(N.B.: Areas to north and south surveyed but not included on this map)

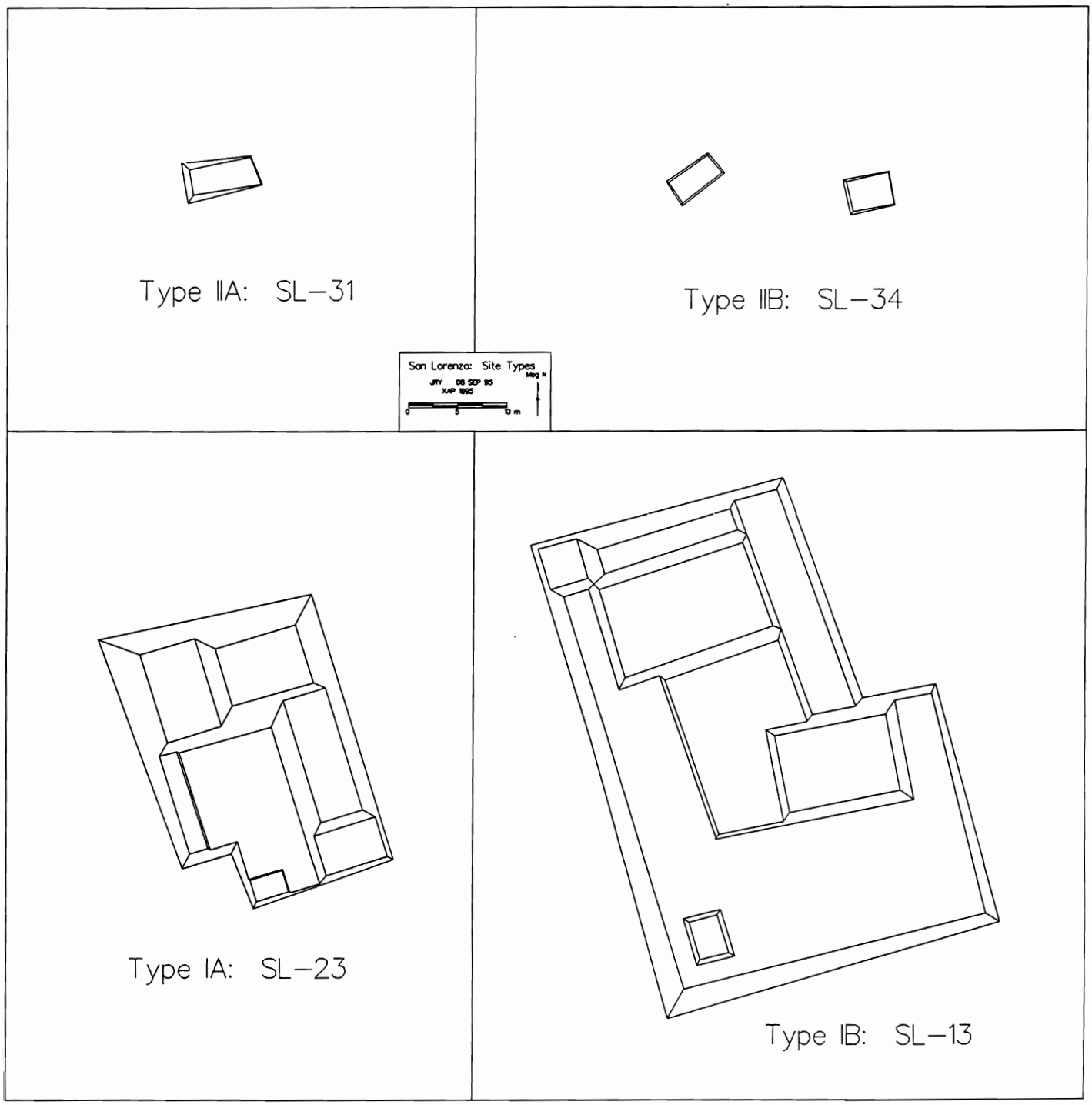


Figure 3: Site Typology

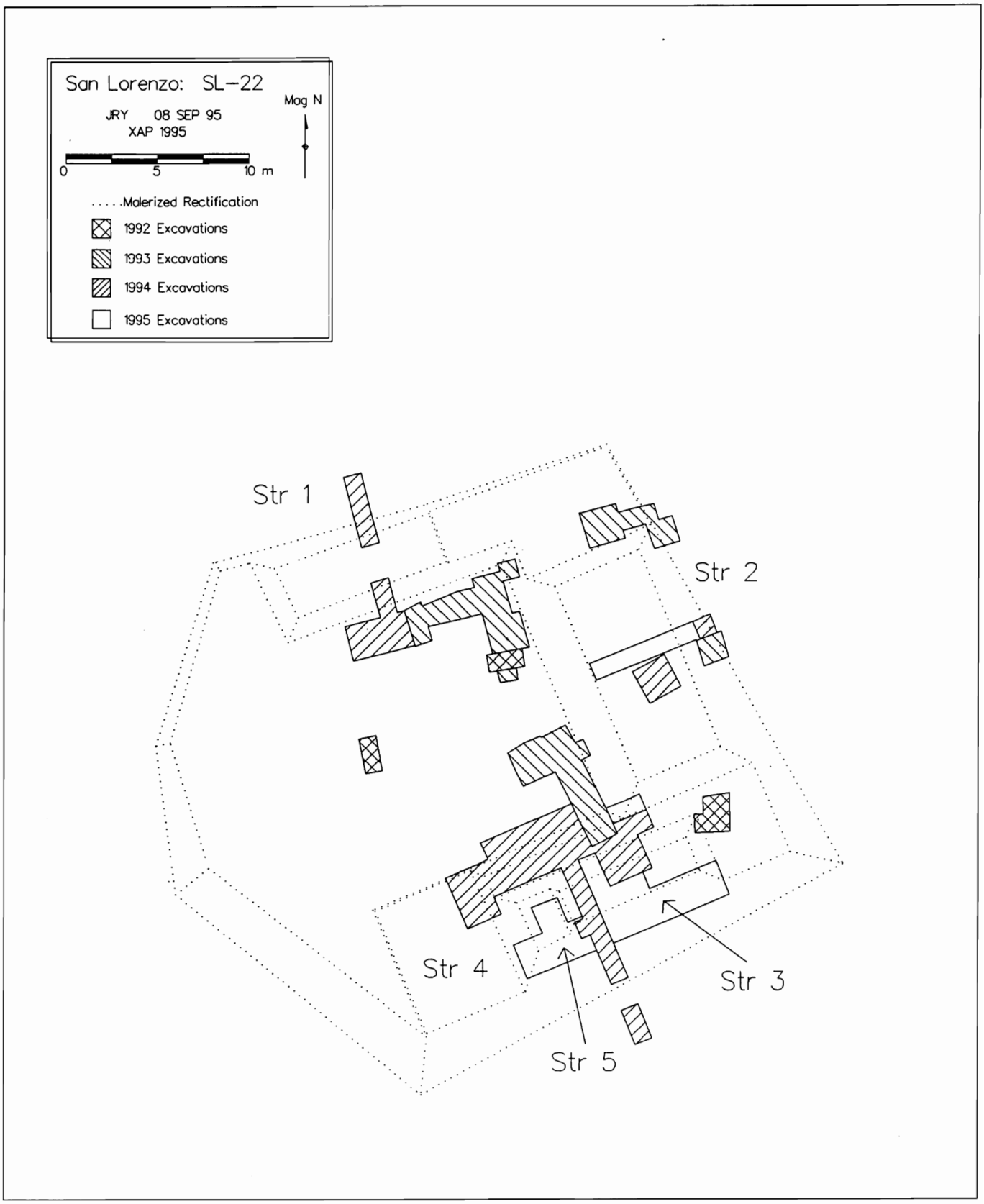


Figure 4: Rectified Plan of SL-22 Showing Excavation Limits

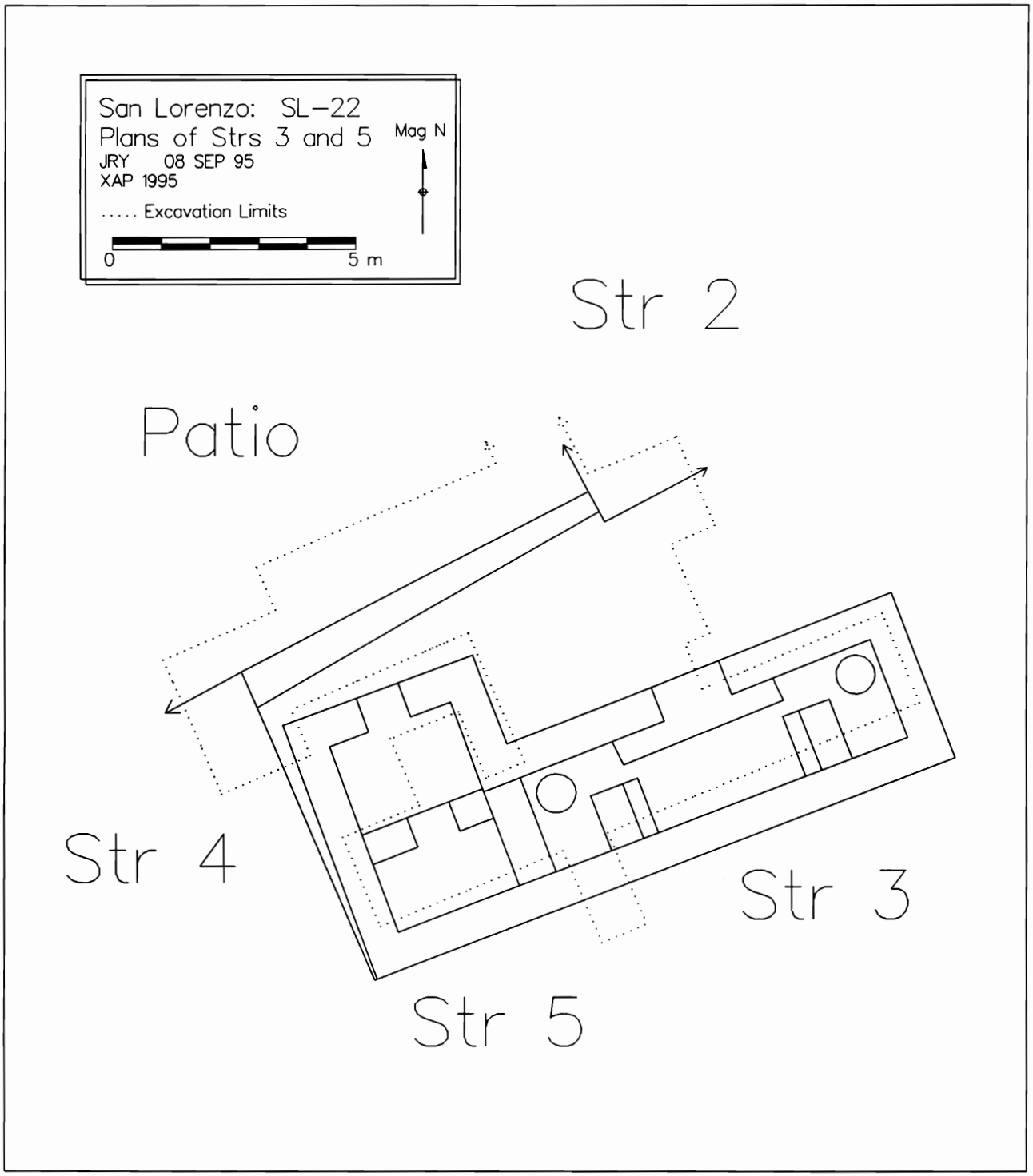


Figure 5: SL-22 Strs 3 and 5, Reconstruction of First Phase of Superstructures

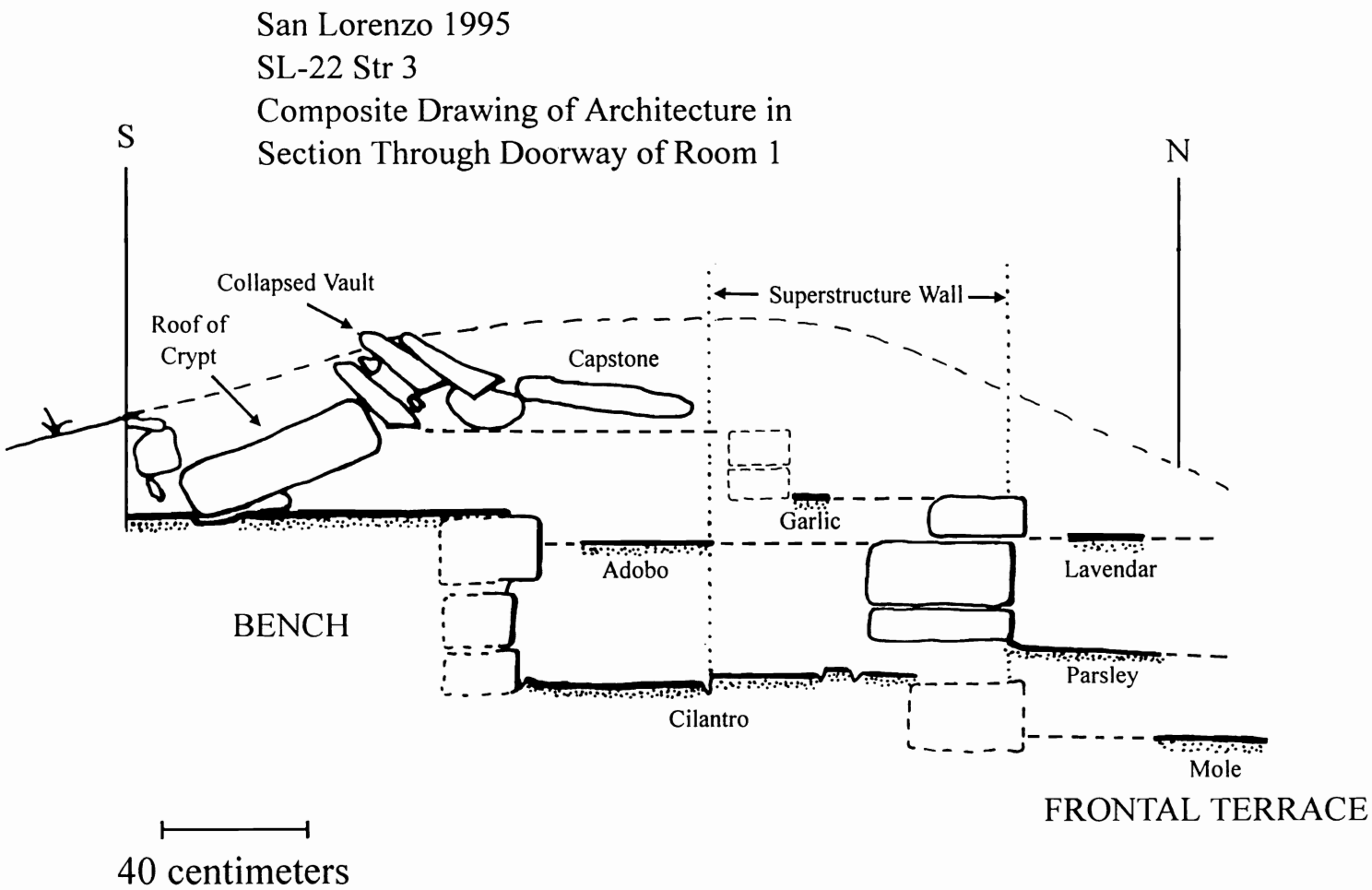


Figure 6: SL-22 Str 3, Section Through Doorway Facing West

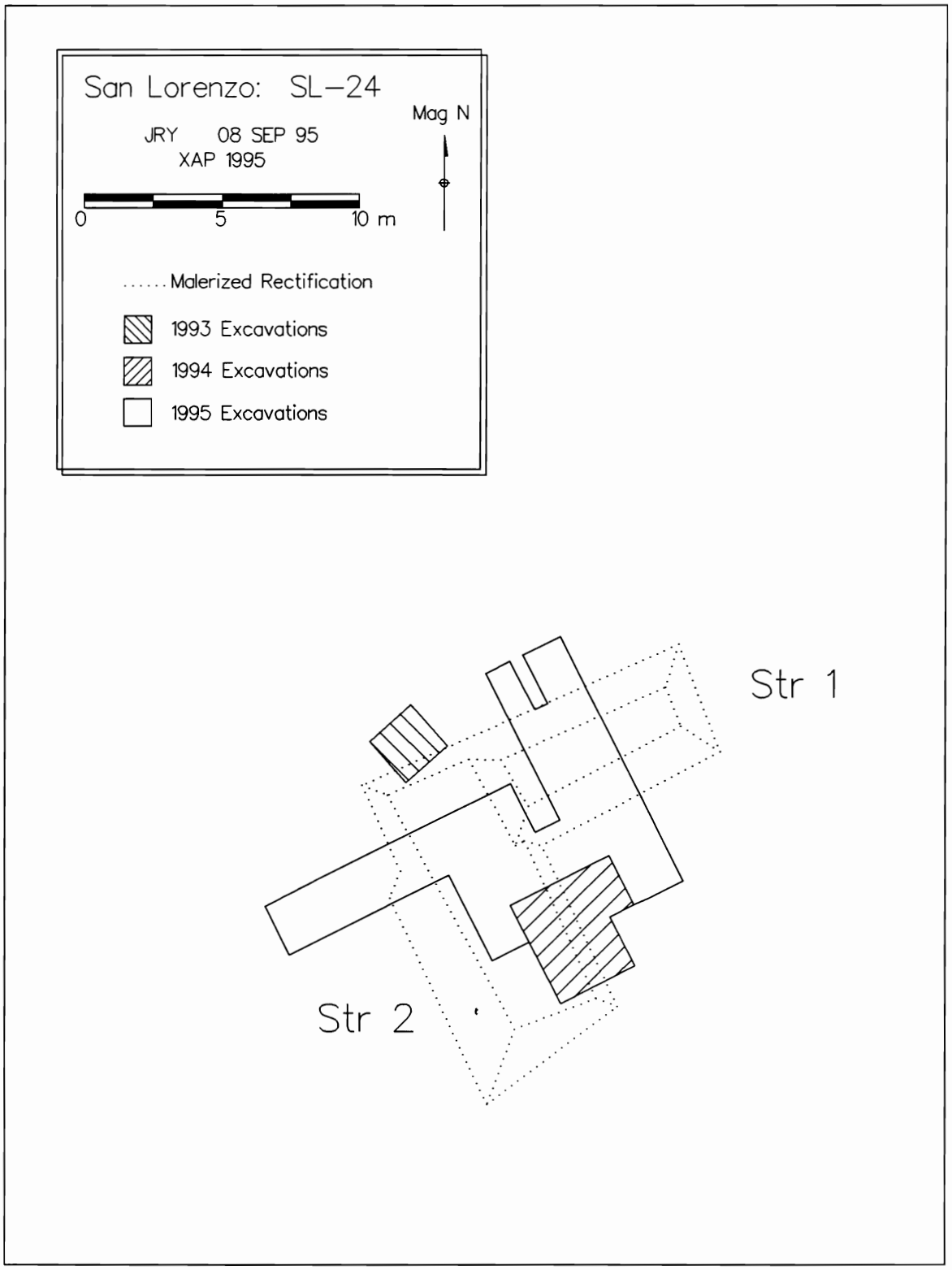


Figure 7: Rectified Plan of SL-24 Showing Excavation Limits

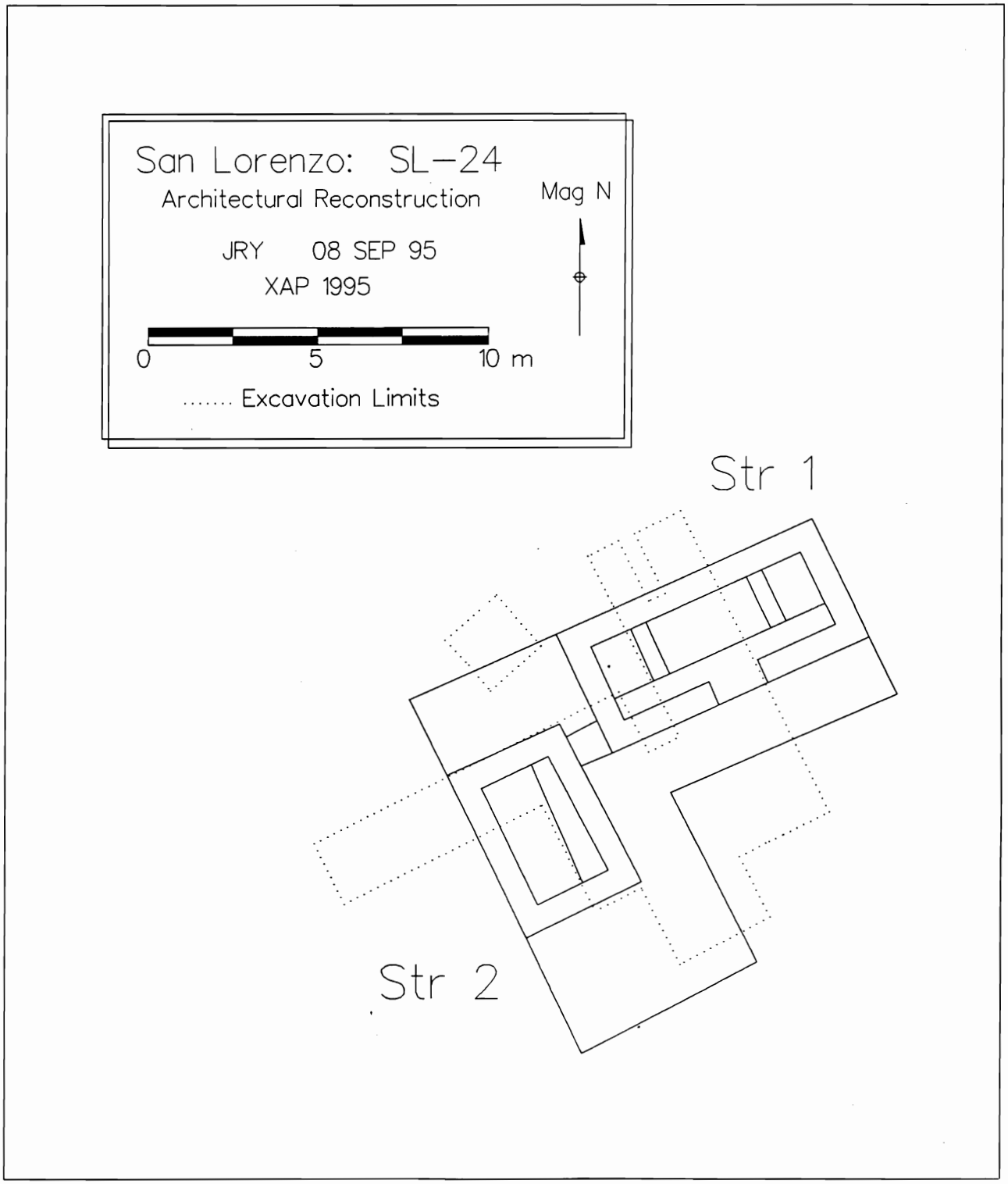
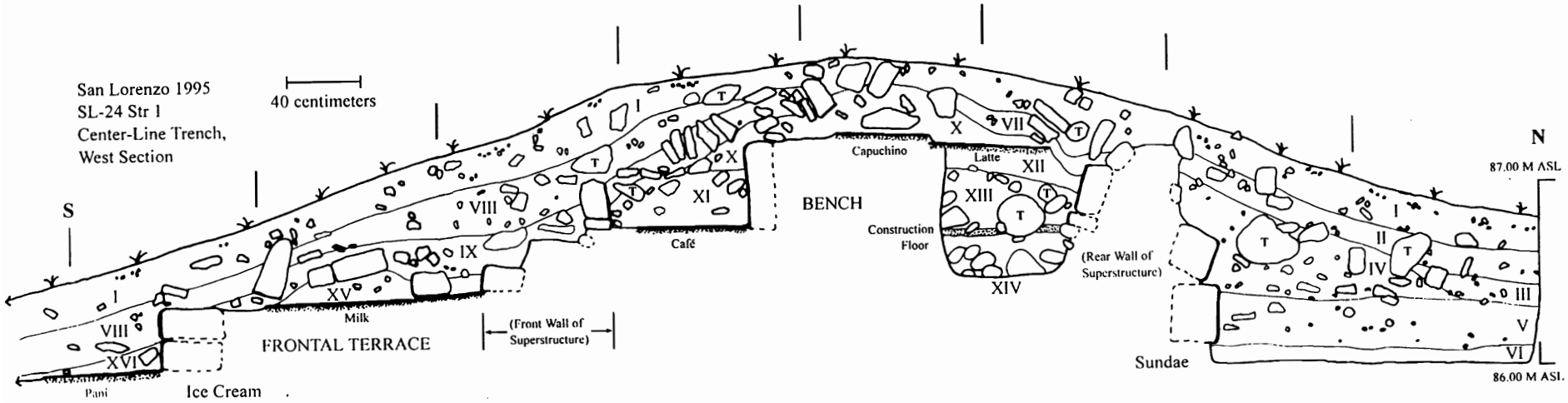


Figure 8: SL-24, Reconstruction of Architecture Just Prior to Pie Wall (see text)



KEY

T	*Tusa* burrow
I	7.5yr3/2 loam with a few small limestone rocks and flecks; A HORIZON AND COLLAPSE DEBRIS
II	7.5yr3/3 loam, somewhat mottled, with lots of limestone pebbles and small rocks; COLLAPSE DEBRIS
III	7.5yr4/6 mottled loam with small limestone rocks and flecks; COLLAPSE DEBRIS
IV	10yr6/4 (dry) soft loam with many small to large limestone rocks and faced blocks; COLLAPSE DEBRIS
V	10yr4/6 clay loam with limestone flecks; REFUSE ACCUMULATION
VI	10yr5/8 sandy clay; SUBSOIL
VII	7.5yr6/3 loam with a few small limestone rocks; COLLAPSE DEBRIS
VIII	10yr4/1 loam with some small limestone rocks; COLLAPSE DEBRIS
IX	7.5yr6/2 soft loam with a few small limestone rocks and medium faced limestone blocks; COLLAPSE DEBRIS
X	10yr7/3 soft loam with many small pieces of limestone; COLLAPSE DEBRIS
XI	10yr6/3 soft loam with limestone rocks and flecks; COLLAPSE DEBRIS
XII	10yr6/6 mottled soft loam packed with small river cobbles; BENCH FILL
XIII	2.5y7/6 clay loam with many small river cobbles; BENCH FILL
XIV	5yr5/4 clay loam packed with small and medium cobbles; dry-laid with many air pockets; SUBSTRUCTURE FILL
XV	10yr7/3 soft loam with calcite flecks; COLLAPSE DEBRIS AND TERMINAL USE DEBRIS
XVI	10yr5/3 loam with a few small limestone rocks; COLLAPSE AND TERMINAL USE DEBRIS

Figure 9: SL-24 Str 1, Section of Center-Line Trench Facing West

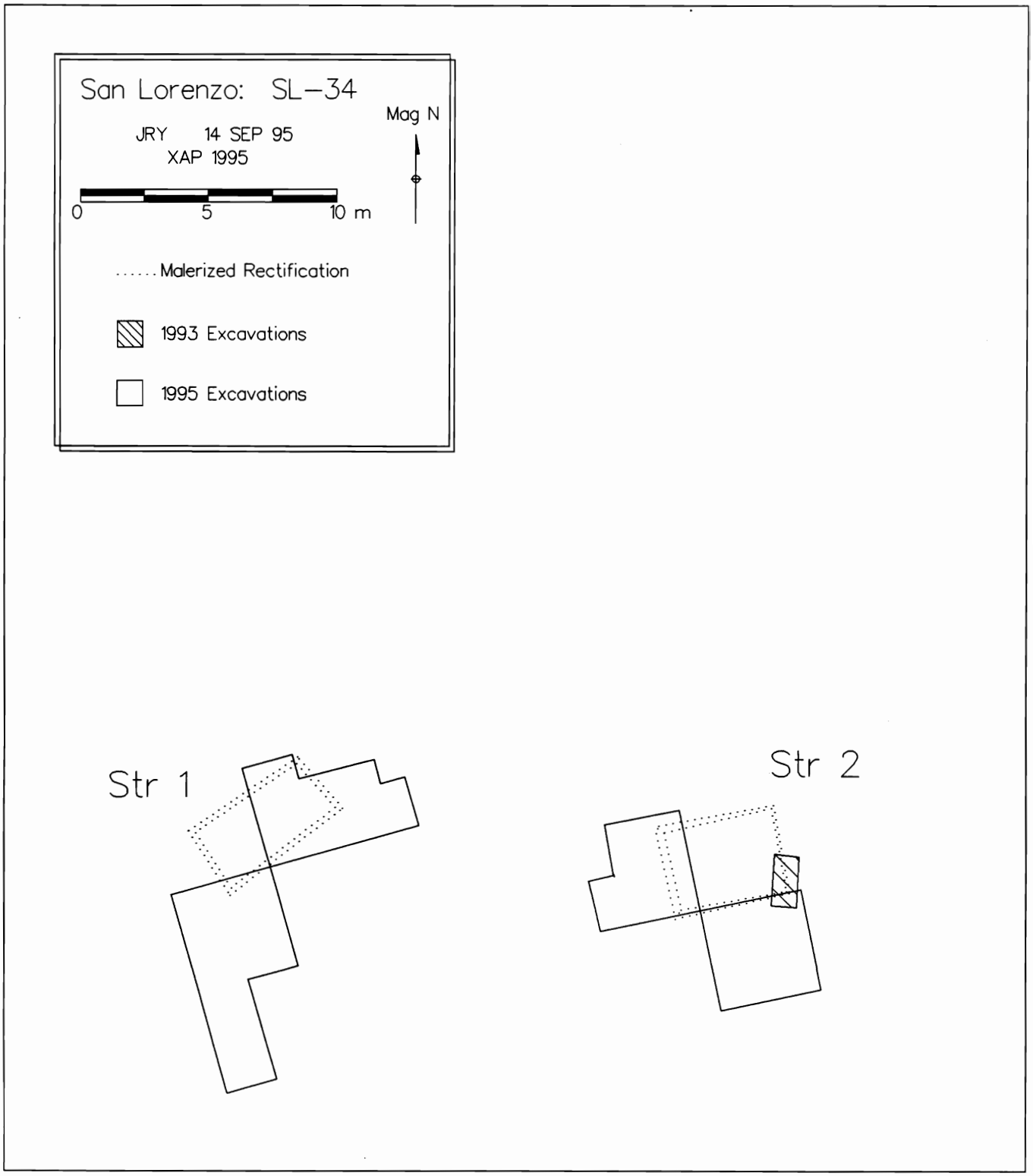


Figure 10: Rectified Plan of SL-34 Showing Excavation Limits

The Xunantunich Settlement Survey

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Introduction

The Xunantunich Settlement Survey (XSS) examines the nature of prehispanic occupation in the vicinity of the ancient Maya civic center of Xunantunich. Through documenting and studying settlement traces, XSS tests social, political, economic, and ideological models of the integration and organization of prehispanic Maya society. Xunantunich endured and even prospered during the ninth century AD, the turbulent time of the Classic Maya collapse (Culbert 1973; Leventhal 1995; Leventhal and Ashmore 1994). This survivorship and vigor during a period of widespread instability makes the Xunantunich region an apt setting to test the kinds of models cited. Knowledge of how a populace in one area remains integrated during stressful times can help us understand not only the workings of that localized society, but also perhaps, the reasons for breakdown of the same larger society in nearby areas.

Our working model posits that the social, political and economic integration of the immediate settlement context of Xunantunich is relatively weak (Ashmore 1993). This model is based on current interpretations of Maya society hypothesizing loose integration on all levels of society save within (and perhaps among) the largest cities, like Caracol, Tikal, or Copan (e.g., Marcus 1993; McAnany 1993; compare Martin and Grube 1995). An aspect of loosely organized systems is that perturbations in one part of the system have minimal impact on other parts. The civic center of Xunantunich was smaller than many other Maya cities, and it was certainly linked in some manner with larger cities such as Tikal, Naranjo, and Caracol (e.g., Ashmore and Leventhal 1993; Ball and Taschek 1991). Nonetheless, although developments in these latter cities likely affected the fortunes of Xunantunich and its leaders, it probably had minimal impact on the immediately surrounding populace. More specifically, settlement growth and elaboration should be relatively little affected by the rise and fall of Xunantunich itself, or of antecedent centers in the area (e.g., Buenavista). Previous work in the region appears consistent with this view (reviewed in Ashmore 1993; Ashmore et al. 1994). And survey work around Xunantunich in 1992-93 (Yaeger 1992; Yaeger and Connell 1993) and during the first season of NSF-sponsored work in 1994 (Ashmore et al. 1994) seems thus far to support the working model and predictions.

This chapter is both a progress report on the second and final year of our NSF-sponsored research and a venue for presentation of interim analyses and preliminary interpretations of the settlement data as they bear on our working model. Below, we report work accomplished during the 1995 field season, as well as the few changes or additions to methods developed and implemented in earlier years. Where possible, our forays into analysis and interpretation take advantage of information from both the 1994 and 1995 seasons. Working typologies for sites and terrace sets suggest particularly intriguing inferences about local settlement. As we continue to examine the data from these two seasons of survey, the richness and variability of local settlement evidence is further reinforced.

Research Design and Methods

In 1995, we completed T/A1 and T/A2, and surveyed the entirety of T/A3 (Figure 1; see also Ashmore and Ehret, this volume, Figure 1 in each). Terminology remained constant (see Table 1), and operating procedures were modified only as

needed to accommodate specific field conditions (for established procedures, see Ashmore 1993, Ashmore et al. 1994; Yaeger and Connell 1993). Below, we describe those few changes from 1994 precedents, followed by discussion of results from both seasons. In addition, with Dr. David Lentz's generous loan of a Global Positioning System unit, Neff was able to establish UTM locations for a number of known points within the XSS survey area. This allows linking the XAP coordinate system to the global coordinate system (see also Ashmore et al. 1994: 263, and Ashmore 1994: Figure 5). For ease of reference, the organization of text here follows broadly the outline of the previous year's report (Ashmore et al. 1994).

Sampling Units, Field Reconnaissance, and Mapping

In this section, we combine discussion of the sampling units with that of field procedures used in their recording, inasmuch as the few changes in procedure from earlier years ensued directly from characteristics of the sampled terrain. As an orienting reminder, all three transects are 400m wide, and reconnaissance and recording are ordered in the field by the transect *brecha* (the centerline of the transect, defining its alignment) and *picados* (lines perpendicular to and extending 200 m from the brecha, at 20 m intervals).

Transect 1 (T/A1) *(L. T. Neff)*

Begun with pilot survey in 1993 (Yaeger and Connell 1993), the majority of work on T/A1 was completed in 1994 (Ashmore et al. 1994). This transect origin is at the southeast edge of the Xunantunich preserve, from which it heads southeast at an azimuth of N113°46'20"E. This transect traverses the Mopán river and samples the increasingly rugged terrain towards the Macal River. By the close of work in 1994, survey was complete to the site of Dos Chombitos. In 1995, we finished the small remaining portion of the transect stretching from the site of Dos Chombitos to the Macal river escarpment. In 1993 and 1994, 2.92 km^2 were surveyed on T/A1 and efforts in 1995 added another 0.21 km^2, for a total of 3.13 km^2. Altogether, 176 sites were recorded on transect, and 18 off-transect; 17 of the on-transect sites were added in 1995.

Transect 2 (T/A2) *(C. Robin)*

Survey on T/A2 was initiated in 1994, beginning at the north edge of the Xunantunich archaeological preserve, and proceeding at an azimuth of N3°59'E (Ashmore et. al. 1994: 251). With its northern terminus at the site of Callar Creek, the transect parallels the Mopán river, and crosses the San Juan and Callar creeks near its northern end. This transect samples settlement in the gently rolling terrain along the western edge of the Mopán river valley. In 1994, 0.31 km^2 of T/A2 was surveyed. In 1995, we concluded survey on T/A2, covering the remaining 1.22 km^2 to the site of Callar Creek (Figure 1). In total, 91 sites have been recorded on T/A2, along with 41 off-transect sites; 79 of the former were newly documented in 1995, and 2 of the latter.

Transect 3 (T/A3) *(K. Schwarz)*

T/A3 was started and completed in 1995. Originally, this transect was to have begun at the site of Dos Chombitos, proceeding due north to the site cluster of Chaa Creek (Ashmore 1993; Ashmore et al. 1994; for Chaa Creek, see Connell 1993, 1994). During the 1995 season, the decision was made to alter the azimuth of this transect to a more northwesterly direction. Three factors influenced this decision.

First, the planned trajectory of the transect would require numerous crossings of the Macal river, during cutting of the main brecha and picados, reconnaissance, mapping and recording, and Total Station work. Because the river was unusually low in 1995, the chief concern here was not so much safety as cost in time relative to information yield.

Second, we suspected the alluvial activity of the Macal river had obscured or deeply buried both prehispanic and Colonial settlement traces in the river's floodplain (e.g., Muhs et al. 1985; see also XSS site O/A3-002, found opportunistically near PIC 73). Although recognizing the potential importance of these lands for ancient occupation, their adequate investigation requires time-consuming subsurface probes or remote sensing (e.g., Ibid.; Holley et al. n.d.), and was deemed best left to the XSS geomorphology program slated to focus on precisely these alluvial pockets (Ashmore 1993). Shifting the transect's trajectory to the west would enable us to expand the sample of higher, and presumably less altered, land around and to the north of Tipú.

Third, a working goal of XSS is to take advantage of the rich cumulative archaeological database that has been and is being developed by numerous projects in the upper Belize river area. A westerly shift in the transect's azimuth would allow it to pass closer to Tipú, an extensive site whose late prehispanic and Colonial occupation was investigated in the early 1980s (e.g. Graham 1991; Graham et al. 1989), and to examine more directly the relationship between the sampled areas of the two projects. In practice, the new T/A3 transect alignment was successful with respect to partially avoiding the alluvial masking along the Macal and linking up with the Tipú project. However, the Macal river has meandered westward in recent years and the new trajectory took us across the river despite our efforts at avoiding this. Fortunately, the logistical difficulties associated with river crossing were minimal due, as mentioned, to extremely low water levels at the end of the dry season.

We surveyed a total of 1.24 km^2 on T/A3 and the transect was 3.29 km long. The transect had an azimuth of N352°E degrees. In all, 13 sites were recorded along the transect and another 4 off-transect. The starting position was the northern extremity of the Dos Chombitos site (T/A1-161). The first numbered picado of T/A3 is 35 m south of the intersection of the T/A3 main brecha and the northern edge of T/A1. This positioning eliminated a gap between the two transects, which lie at oblique angles to one another. The western extremities of PICs 1-9 extended into areas already surveyed on T/A1 in 1994. On the western edge of T/A3, between PICs 2 and 3, T/A1-160 was re-encountered. The T/A3 brecha proceeded through uplands and eventually onto the Macal floodplain. It crossed the Macal River twice and continued up a long steep ridge north of the Macal. Survey was terminated at the top of this ridge.

The picado and brecha survey methodology (see Ashmore et al. 1994; Yaeger and Connell 1993) was modified in some places along T/A3, due to terrain ruggedness or vegetation constraints. The initial 0.96 linear km of the survey crossed a rugged south-to-north ridge line. Owing to very steep slopes overlooking the Macal river gorge, 11 eastern picados were neither cut nor walked, and another 5 were shorter than 200m. We did not walk the westernmost 75 and 50 m of, respectively, PICs 34 and 35, again due to steep western and northern downslopes.

The Macal floodplain was crossed and the river itself was crossed twice. Floodplain survey comprised 2.1 km along the brecha. In this stretch, some expanses of the eastern picados (PICs 46-70) were not surveyed since they were in heavy littoral vegetation and even in the river itself . The floodplain surface is currently about 8-10 m above the active river channel (May 1995), and as mentioned, the deep and extensive alluvium may well have buried sites in this part of the survey area. Tests excavated by Tipú Project members, for example, encountered Colonial and Postclassic sites at a depth of 1.5 m below the present floodplain surface (Muhs et al. 1985; compare Holley et al. n.d. for the Mopán), and XSS site O/A3-002 was found fortuitously in 1995, in a road cut west of the transect.

Laying the brecha across the floodplain was complicated by croplands, orchards, and the two river crossings. Survey methodology was modified in light of these situations as we moved north across the Macal floodplain zone.

A large vegetable field between PICs 46-47 was left unsurveyed due to concern about fragile plants. North of this area, a large *sacate* field was surveyed normally except for eastern picados truncated by the river littoral (PICs 47-52E).

Farther north is extensive property owned by Espat Ltd., including the entirety of the floodplain north of PIC 52 on both sides of the river. The area is covered by a mixture of citrus groves and cattle pasture. This is a modern agricultural operation in which the orchard planting was accompanied by extensive earth moving and floodplain drainage.

The majority of the Espat floodplain property is planted in citrus, with trees arranged in uniform rows, and access lanes separating the rows. The brecha was not extended directly through the orchards due to visibility problems and because we could not cut trees to increase visibility. Instead, we mapped the perimeter of each field system with the Total Station. Field systems were bounded by roads, the river, or hills. These systems were further subdivided into manageable numbered fields, with internal landmarks such as small drainages and gaps in orchard plantings. To track reconnaissance progress, we assigned each row within the field a separate number (Figure 2).

All rows were walked by the survey team. Notes for each row were taken on visibility (tree size and row ground cover), modern disturbances (such as drainage cuts and spoil mounds), distance covered, and cultural materials encountered. Generally, reconnaissance was easy due to low grassy conditions in the wide rows between citrus tree plantings. Except as otherwise noted, no cultural remains were found in the floodplain.

The southernmost Espat orchard on the western floodplain is a very large citrus field system (0.35 km^2). Portions of this area were reportedly inundated periodically in the 1960s. A bulldozed canal has since been placed along the north edge of this field system and the area is currently well-drained. The 400 m corridor of the transect was moved west about 200 m. The corridor surveyed in this area averaged 520 m in width. This move allowed us to survey this entire portion of the western floodplain and avoid running picados repeatedly into the river to the east. The realignment also allowed

reconnaissance of the base of the eastern slope of a ridge bounding the floodplain on the west. The slope yielded scattered ceramics (not formally assessed, but noted as Prehispanic), which had evidently eroded down slope from site(s) on the ridge above the survey area.

North of the southern orange field system, the picados were walked in the usual fashion except the eastern picados (PICs 54-64) were cut short by the river (see Guacamayo, below). At PIC 64, the brecha crossed into the active channel of the Macal. After crossing the river at an oblique angle, the brecha continued on the eastern floodplain of the Macal, to a second crossing at PIC 84. The river in this area turns from north-flowing to east-flowing. To facilitate survey of the western side of the Macal, a secondary brecha was established 120 m west of the main brecha. The survey proceeded from this brecha 80 m farther west, to the specified limits of coverage, and eastward until the active river channel was reached.

A second citrus field system on the western side of the Macal was encountered north of PIC 69. The methodology for coverage of this western field system was essentially the same as the southern orange field system, except that the western boundary of the survey corridor was marked with flagging tape to facilitate surveying only areas within the corridor.

The brecha on the east side of the Macal River was 360 meters in length. The area within the 200 m transect coverage on this side consisted of floodplain covered by *sacate* grass and citrus fields, and an area, above the floodplain, of moderately sloping terrain covered by citrus fields. The floodplain covered by *sacate* grass is north of the citrus trees, between PICs 74E and 84E. The ankle-high *sacate* allowed the survey team to cover this area in pedestrian sweeps with 10 m spacing between surveyors. Ground surface here was level and showed signs of recent plowing. The floodplain and sloping terrain containing citrus trees were surveyed with the same methods as the other citrus field systems (see Figure 2, EASTERN CITRUS FIELD SYSTEM). Although this area is within sight of Guacamayo (see below), no ancient cultural features were noted within the limits of survey. The eastern floodplain area is heavily modified by modern agricultural terraces and other signs of earth moving.

The brecha then re-crossed the Macal and proceeded up a steep slope to the ridgetop. This final stretch of T/A3 was surveyed normally, with two exceptions. The gap between PICs 84 and 85 is 60 m, and that between PICs 93 and 94 is 80 m. This unusually wide spacing of the 11 picados cut in this area is due to extremely steep conditions.

In general, settlement along T/A3 was clustered in the south, near Dos Chombitos, and in the north around Guacamayo and Tipú. The middle part of the transect was completely devoid of settlement traces, but we remain cognizant of the probable masking of settlement on the alluvium. Parts of T/A3 are necessarily a patchwork of areas surveyed by different means. Because we judiciously kept track of our methods, however, and accurately mapped bounded areas treated by different means, we were able to reestablish our transect azimuth repeatedly.

Off-Transect Reconnaissance And Survey

As was the case in 1994, we recorded some sites located beyond the edges of our transects. Although specific justification for recording was somewhat different in each case, our overall concern was to balance commitment to efficient completion of systematic coverage with inclusion of additional outlying sites deemed potentially important to understanding the prehispanic landscape. We did not want to ignore an interpretively interesting site just because it was not in our sample area (see Plog 1976; Flannery 1976).

The Tipú Connection

As mentioned in describing T/A3, we found no settlement traces on the Macal floodplain. However, we did locate, map and record settlement features of Postclassic and Colonial Tipú (e.g., Graham 1991; Graham et al. 1989) on or near our transect. Concerning these features, we deliberately mapped some of the Colonial and Postclassic buildings investigated by the Tipú project (see Figure 3, showing our mapping efforts in comparison with Tipú work presented in Graham 1991: 322, figure 15-1). The 5 mounds we mapped on a large irregularly shaped platform (T/A3-006) is surely the same architectural complex labeled by the Tipú project as Structures H12-1 through 4; it is possible our Mound 5 is Tipú backdirt, but our field evaluations were based necessarily on surface data only. Our site T/A3-005 appears to be the surface remains of their Structure H12-6. Additionally, we mapped (as O/A3-001) the remains of the Colonial church they designated Structure H12-13. We did not relocate the other structures shown on Graham's map (Structures H12-7, 8, 12, 14 and 18). Recent agricultural activity has probably obscured these structures. We are pleased to have been able to link the sample areas of our respective projects, and look forward to future collaboration with members of the Tipú project, following up on enthusiasm Graham and Ashmore exchanged over just such prospects in 1993.

Guacamayo

Directly across the river from Tipú, perched at the top of a steep escarpment, lies Guacamayo, a large Maya site not reported previously in the archaeological literature (see Figures 1, 2). We first became aware of the site in 1994, when some project staff came across the site during a canoe trip along the Macal. At that time we recognized the site's importance, excellent state of preservation, and lack of extensive looting, and hoped to be able to survey it during the 1995 season in the course of work on T/A3. Depending on the azimuth of T/A3, the site was to be on, or very near, our survey transect; the actual alignment places the western edge of Guacamayo on transect, but this is one of the areas described earlier, where eastern picados were truncated by terrain conditions and initially here, by lack of entry permission.

Towards the end of the 1995 season, the survey crew secured permission from the landowner, Mr. David Simpson, to visit the site in his company. This visit confirmed and reinforced our appreciation of Guacamayo as a complex, imposing, and presumably regionally important site. The site includes at least 4 major architectural groups The largest contained 4 structures estimated as between 15 and 20 m in height, and arranged around a central patio. Although Mr. Simpson was agreeable to a survey, we quickly realized we had neither time nor resources to attempt meaningful survey of such a large site in the remainder of the 1995 season. We decided to postpone formal work at Guacamayo until we have time and personnel to do a thorough survey. Due to Mr. Simpson's continued stewardship, Guacamayo has escaped the major looting

that is evident at so many Belizean archaeological sites. We look forward eagerly to working with Mr. Simpson in the future.

Off-Transect Sites near T/A2 (M. Morrison and C. Robin)

Another relatively large site encountered off transect during the 1995 season is El Bambú (O/A2-041). The site is located near the north terminus of T/A2, within 600 m east of the Callar Creek site, T/A2-087 (Figure 1). El Bambú is named for the stands of bamboo which line the banks of the Mopán river in this area. The site is visible from a small road we used to reach the Callar Creek site area after crossing the swing bridge at Callar Creek village. We decided to map and record the site because of its relatively large size and unusual architectural layout. The site consists of two architectural groups; a western group composed of 3 structures arranged around a slightly elevated central patio, and an eastern one consisting of 4 mounds on a platform (Figure 4). Ceramics from the larger and heavily looted eastern structure of the western group suggest a Late Preclassic or Protoclassic date for this part of the site. A Late Classic date is suggested by ceramic material from shovel test pits at the eastern mound group. El Bambú thus appears to be a multi-component site, with origins possibly as early as the Late Preclassic. Ashmore has recently speculated that the layout and potential age of El Bambú may mark it as important, along with the Callar Creek site and Xunantunich Group E, for interpreting Late Preclassic and Early Classic occupation the area (Ashmore 1995).

Farther south along T/A2, we recorded a platform group just off transect to the east. This site (O/A2-040) consists of four low mounds on a subrectangular platform accessible from the NW and SW by, respectively. an outset stair and inset ramp (see Figure 5). The stair faces roughly toward Callar Creek, or perhaps orients more generally to Buenavista. The site and surrounding terrain were mapped using standard XSS procedures. Opportunistic surface collections suggest a Late Preclassic age for the site. The reasons to include this site as an off-transect site were twofold. First, its size and complexity suggested that full understanding of the area would be impeded significantly by excluding study of this site, especially if solely because it lay outside transect bounds. Second, the site is part of the "Actuncan north" area previously mapped by James McGovern (1993). Duplicate mapping will allow us to link XSS and Actuncan data with greater precision.

Off-Transect Sites near T/A3

West of the northern terminus of T/A3, we recorded a platform group (O/A3-004) situated on a high narrow north-south ridge whose slopes descend steeply to the south and east (Figure 6). The site looks down on the Macal river, as well as the site of Guacamayo, situated across the Macal. O/A3-004 consists of three parallel mounds on top of two platforms. A ramp (or short *sacbe*) extends northeast from the site, down a more gentle incline and toward a *sacbe* associated with T/A3-004. The site and surrounding terrain were mapped using standard XSS procedures. Opportunistic surface collections suggest a Late Classic date for the site. O/A3-004 was located during reconnaissance in the hilltops west of the transect. The decision to include it as an off-transect site was made on the basis of the site's unusual layout, which suggests it had a special function as an entry way or boundary marker.

Surface Collections and Shovel Test Pits (M. Morrison)

In 1995, methods regarding opportunistic surface collections and shovel test pits were consistent with those developed and used in 1994 (see Ashmore et al. 1994: 255-257). The total yields from 1995 artifact documentation efforts are presented in Table 2. Please note that such collections were augmented in 1995 by a parallel test-pitting program within XSS, described elsewhere in this volume by Jennifer Ehret.

Standardized Forms and Computerized Database (C. Robin)

Methods related to standardized forms and the computerized database remained unchanged from the 1994 season with one minor addition, involving tracking the data for topographic maps made with SURFER software (see Ashmore et al. 1994). One new standardized form, the Total Station Log, was added to the 1994 roster of survey forms. This log allows the recording of Total Station activities by day, including filename for collected data, names of collectors, point spread, and description of points. The original filename for the data collected on a given day is designated with a S (example: S24FEB95.CR5). (The date in the designation is clear; "CR5" refers to a coordinate file generated with the Total Station.) Any problematic data are removed from this file and the edited file is renamed with an N (example: N24FEB95.CR5). The Total Station Log was instituted in order to facilitate post-excavation map making, such as the construction of complete transect maps. It provides an index to an otherwise endless string of numbers downloaded daily from the Total Station.

GPS Georeferencing (L. T. Neff)

During the 1995 season the XSS crew used a GPS unit to georeference the Xunantunich grid system to the Universal Trans Mercator (UTM) grid system. This was done for several reasons. First, although we knew with a fair degree of accuracy where our survey areas and transects were on published maps of Belize (e.g., Belize Government Topographic Map, Sheet 23, 1:50,000 Scale, Crown Copyright, 1990) we did not know locations as precisely as we would like. Second, most coverages available for geographical information systems (GIS) are georeferenced via the UTM system. We plan on carrying-out spatial analysis with the aid of GIS, and to do this we need our survey data referenced to UTMs. Furthermore, other published information, whether referenced by latitude/longitude or UTM, is of potential interest to us and necessitates the georeferencing of our data. XSS georeferencing efforts involved field and laboratory components.

Through the courtesy (gratefully acknowledged!) of David Lentz, XAP paleoethnobotanist, we secured the use of Garmin GPS 75 unit for roughly a week during the 1995 season. The Garmin unit was able to access up to 9 satellites and had an accuracy of around 20 m under ideal conditions. There are two ways to achieve very accurate position readings (e.g., 5 m or better) with GPS technology. One is to have both a roving and a base GPS unit. The base unit sits on a known location and communicates with the roving unit via radio signals. Working in tandem, two or more units provide very accurate real-time position readings. The other method is to collect data with a roving unit and process the positional information at a later time with data obtained from a nearby base station GPS. Another issue concerning position accuracy concerns the Department of Defense (the folks responsible for the satellites) who, at certain times and in certain places, intentionally degrade satellite signals for security reasons. Since we did not have a base station unit nor did we know if we could obtain base station data at later date, we decided to collect position data with an eye towards

the possibility of obtaining base station data after the fact, and giving ourselves a number of position calculating options if we could not. We also wanted to be systematic in our efforts so we could correct for Defense Department degrading at a later date, if necessary.

Our field GPS strategy involved taking multiple readings at different locations throughout the XSS survey area. We also attempted to revisit locations on different days and at different times to obtain further data for comparative purposes. Upon arriving at a known location on the Xunantunich grid, we placed the GPS on a stable level surface (usually the Total Station tripod). We then allowed the machine to acquire as many satellites as possible. Subsequent to this we recorded 10 UTM position readings, one every 60 seconds. We recorded the date and elapsed time of the position readings to facilitate post-processing if possible with base station data. We also recorded the degree of precision (DOP) and estimated position error (EPE) for each reading. The Garmin unit provides these measures to allow the user to gauge the accuracy of position readings. These indices are calculated from the number of satellites acquired and the strength of their signals. Generally, we were able to acquire 7-9 satellites with strong signals. According to the Garmin unit, we were usually at or close to the 20 m maximal accuracy threshold. We took readings at 9 widely dispersed locations throughout the XSS project area and were able to revisit 4 of these locations on different days.

At the time of this writing we have not obtained any base station data, nor do we know to what, if any, degree satellite signals were degraded during the time of our positional observations. However, we have preliminarily georeferenced our survey areas and transects using the GPS information that we have. Figure 1 shows the results of this work, illustrating the relationship between XSS work and the UTM grid system. A number of issues were important in the production of this preliminary figure and will continue to be relevant as we forge ahead with analysis and publication of our survey work.

The first issue involves defining the relationship between the XAP grid system and the UTM grid system. Inherent in this issue is the accuracy of the coordinate data from the two systems. In theory, defining this relationship is quite easy. The GPS gives a UTM reading for a XAP grid location. The relationship between these two coordinates provides a correction factor that can be used to convert as many XAP points as needed to UTM points. However, as mentioned we took close to 150 separate GPS readings. The question quickly becomes, which reading or readings do we use? At present, we have handled this issue by calculating the mean of the 10 GPS readings taken at each location and using these for further calculations. The mean GPS UTM position readings from the same XAP location on different days were consistently within 20-30 m of each other. Presently, we interpret this similarity in means to indicate that the Garmin unit was giving us readings within a 20-30 m accuracy threshold. Concerning the XAP grid, we assume that it is quite accurate, as it was established using a survey Total Station. However, mistakes are bound to occur and we continue to check XAP coordinate data for errors.

Pending more sophisticated mathematical analyses, we defined the relationship between GPS UTM coordinates and XAP coordinates in the following manner. We

calculated the distance between each of the XAP coordinates used as a georeferencing location and compared them to measurements obtained for the same distances using the mean UTM coordinates. We determined our correction constant by using the XAP and UTM positions that yielded the most similar distance readings between one another. Figure 1 represents the results of this work. We remind the reader that this figure represents our preliminary attempt at georeferencing. Comparison of this figure and the respective coordinate systems that produced it to published maps of the area (Belize Government 1:50,000 scale topography) indicate a high degree of accuracy. However, our analytical efforts continue and we will provide a more definitive map in the future.

Research Results

Qualitative observations on additive and subtractive features, site types, chronology, and terraces sets are presented below. The focus is on information newly acquired in 1995. When appropriate, however, data from earlier seasons are combined with information from 1995, to present a more complete picture of our emerging descriptions and interpretations from the XSS settlement data.

Additive and Subtractive Features (K. Schwarz and C. Robin)

With completion of our three transects, we can offer preliminary estimates of structure density. The goal is to provide a rough estimate of such density, in a manner comparable to those summarized by Ford (1990) for her work in the Central Peten and in the Belize River Archaeological Settlement Survey (BRASS). Table 3 presents the total number of mounds encountered by XSS in the 1994 and 1995 seasons, tabulated by transect, together with total and transect-specific density figures per square kilometer. For this preliminary reference, we equate our term "mound" with "structure." Other recorded features (e.g., some platforms lacking surmounting mounds) might represent equivalent structures. As these identifications require further investigation, however, only those additive features we called mounds are included here, to avoid artificial inflation of "structure" densities. No attempt is made here to sort the aggregate chronologically, although XSS data suggests the bulk will prove, as usual, to be Late Classic. Neither have we incorporated here any attempt to differentiate mounds by function.

The total density indicated (100 str/km^2) is slightly lower than that Ford (1990: 180) cites for the Yaxha center (105 str/km^2), for the fertile, well-drained valley-bottom alluvium of BRASS (129 str/km^2), and for the composite figure she gives (116 str/km^2) for BRASS and data from Willey et al. (1965). It is much lower than that for her most productive BRASS land category--fertile well-drained uplands of slight to moderate relief (323 str/km^2). Even the highest apparent density in the XSS survey area (130 str/km^2 on T/A1) is closer to her alluvium figures. The T/A1 figure is somewhat lower than initial 1993 estimates of 152 str/km^2 (Ashmore 1993; Yaeger and Connell 1993), and doubtless reflects the perceptible thinning of settlement as one approaches the Macal (Ehret, this volume; Ehret et al. 1995; VandenBosch, in Ashmore et al. 1994). Particularly in combination with figures from the other two transects, the new figure points again to the rural nature of settlement here. The likely links hinted at here, between mound density, terrace development, and nature of terrain, promise fertile ground for further investigation (see also discussion on Terrace Sets, below).

A subtractive feature is defined as any feature from which materials were predominantly removed (Table 1). The subtractive features found in 1995 were of three primary types, aguadas, quarries, and chultunes (Table 4). The most interesting finding immediately apparent in the 1995 data is the five chultunes from T/A3, all of which were found in close proximity to the cluster of settlement located in the upland area above the Macal floodplain. We suspect the chultunes in this area may have been for water storage. There was at least one spring near the transect, but terrain is quite rugged throughout, and storage close to home would seem desirable.

Site Types and Chronology (C. Robin)

Features recorded on survey are grouped into two larger data sets, sites and terrace sets. Constituent features of sites include platforms, mounds, retaining walls, *sacbeob*, reservoirs or aguadas, quarries, chultunes and additive and subtractive "others." (The latter are residual categories, where the feature form is ambiguous.) Most sites consist minimally of a single relatively small mound, features which are traditionally, though not exclusively, considered remains of domestic architecture. Sites do not necessarily contain mounds, however, and may comprise any human constructed or modified feature. Sites are often associated with terraces, though these features are not part of the defining characteristics of a site.

Sites with mounds are classified into seven types, based solely on architectural characteristics. Those sites without mounds are classified as "no type." The typology also encompasses only the range of sites encountered by survey, the obvious omission being Xunantunich itself. The types are as follows:

I Single isolated mound or platform, less than 2 m in height
II 2-4 informally arranged mounds or platforms, all less than 2 m high
III 2-4 orthogonally arranged mounds or platforms, all less than 2 m high
IV 5 or more informally arranged mounds or platforms, all less than 2 m high
V 5 or more mounds or platforms, with at least 2 arranged orthogonally, all less than 2 m high
VI 1 or more mounds or platforms, with at least one 2-5 m high
VII 2 or more mounds or platforms, with at least one higher than 5 m
(from Ehret, this volume; revised from Ehret, in Ashmore et al. 1994: 265-267)

A total of 280 sites were recorded in the three transects during 1994 and 1995, 176 on T/A1, 91 on T/A2, and 13 on T/A3. These counts exclude off-transect sites which are not part of the transect-by-transect systematic sample.

Table 5 illustrates the distribution of site types by transect. While the overall distribution of sites along each transect differs, the percentages of each site type across transects is fairly standard. This is particularly evident between T/A1 and T/A2, where the sample sizes are large enough to reduce the impact of individual units. On average, site Types I and II, representing single isolated mounds and informal groups, are the most common and together comprise 70% of the sites encountered.

In addition to classifying sites, in-field analysis of sites included chronological assessment. Surface collections and shovel test pits (STPs) were undertaken at each site, to attempt complete chronological coverage of the survey area. As indicated in Table 2 (above), 6,357 ceramic sherds were recorded in this effort. While the methods adopted

are the only logistically feasible means to cover the survey area in the time available, the limitations of chronologies based on surface (or near-surface) material are well known (Ehret, in Ashmore et al. 1994, and this volume; Ehret et. al. 1995; Yaeger and Connell 1993). Of paramount concern are the site-formation processes underlying deposition of chronologically sensitive material in different locations, and those relating accessible materials to the ones that remain buried. As one illustration, although collections were recorded at each site, only 56% (158 sites) yielded chronologically diagnostic ceramics. In anticipation of these limitations (Ashmore 1993), XSS supported a parallel test-pitting program in 1995, described elsewhere in this volume by Jennifer Ehret. Both chronologies should be considered preliminary, but together they provide initial insights *and* comparison of the relative efficacy of the two approaches. Except as otherwise noted, the rest of this section draws chronological inferences from the surface and STP collections *only*.

Table 6 illustrates the chronological distribution of occupation by transect. Again, the chronological distribution across transects is fairly uniform. The exception is the large percent (though represented only by 2 sites!) on T/A3 which evince Postclassic occupation. These are precisely the loci we re-recorded within Postclassic/Colonial Tipú, to link directly the XSS and Tipú data sets (see above).

A site-occupation maximum is reached in the Late Classic; 91% of sites show evidence of occupation in that span. The next highest level of site habitation pertains to the Preclassic (24%), followed by Terminal Classic (17%), Early Classic (11%), and Postclassic (2%). Unfortunately, available diagnostics did not allow differentiation of spans within any but the Late Classic period; especially disappointing is the consequent inability to distinguish Middle and Late Preclassic survey assemblages, inasmuch as these are the periods during which original settlement is thought to have taken place in the Belize valley and adjacent areas (e.g., Awe 1992; Ford and Fedick 1992; see also Ehret, this volume). Also, we acknowledge the ongoing controversies over reduced representation of the Early Classic, as to whether the apparent reduction is an artifact of ceramic analysis or a real diminution of occupation.

Nevertheless, the available results suggest broad patterns of general settlement foundation in the Preclassic and Early Classic, followed by settlement expansion in the Late Classic and a more restricted pattern of settlement in the Terminal Classic and Postclassic. This view is consistent with past survey results (Ehret et. al. 1995; Ehret, in Ashmore 1994; Yaeger and Connell 1993), and for the Late and Terminal Classic, with excavations from the site core and San Lorenzo (LeCount 1993; Yaeger 1994).

These results parallel the observations by Ehret et. al. (1995), based on the spatial clustering of sites by time period within the settlement aggregates of T/A1 (as defined by VandenBosch, in Ashmore et al. 1994: 264-265). Nearest-neighbor and stem-and-leaf analyses of T/A1 indicated settlement clusters along the transect (Figure 7, by VandenBosch 1994). Three clusters have as their foci a site of Type VII or larger (i.e., Chan, Dos Chombitos, or Xunantunich itself), and the area between Chan and Dos Chombitos has no complex architectural foci. A separate paper (Robin 1995) makes preliminary inquiry into growth patterns and possible community formation along T/A1. and suggests that sites with extended chronologies are concentrated in the clusters. STP data suggest that sites in the area between Chan and Dos Chombitos are

occupied in the Late and Terminal Classic. Clusters have not yet been statistically defined on other transects, but are visually apparent (see Ehret, this volume: Figure 1).

While Late Classic expansion in Maya settlement is not too surprising, particularly when based on surface dating, the low frequencies of patio and platform groups are (see Tourtellot 1988: 106 and Table 5-1). I suggest that patterning of site types and chronology described above are best explained by a developmental hypothesis of domestic group construction, maintenance and use (Haviland 1982, 1988; Tourtellot 1988; see also Yaeger 1995; Yaeger and LeCount 1995), coupled with the supposition that most mounds in the Xunantunich survey region are domestic (Ashmore 1994)--retaining the well-known caveat that mounds, particularly isolated mounds, represent a multifunctional formal category (Ashmore et. al. 1994, Ashmore and Wilk 1988). I interpret the etically derived site typology as an approximation of emic units along the development cycle of domestic groups. This correlation is presented as a heuristic device and a hypothesis for testing. It should not be taken to neglect that variation both within and between site types represents a range of socio-political and economic factors, including wealth, status, number of inhabitants, function, etc. Understanding the specifics of any site or type requires more detailed analyses and excavation, but a broad understanding of temporal-spatial landscapes can be reached through this more general framework.

Sites of Type I are envisioned as representing newly independent nuclear family residences, and Type V and VI sites, as likely those of full extended families. Site Types II through IV fill the continuum between new and developed domestic units, but should not be considered *a priori* to represent successive developmental stages. Likewise, sites classed in Type VII may owe their size and complexity in part to the long temporal span of repeated domestic cycles, but these are clearly architecturally complex units, which would have served a larger populace than simply those inhabitants of that space. Some, too (such as the pyramid site of Dos Chombitos), may have had little to do with residence directly.

Tourtellot (1988) constructs 9 test implications from the hypothesis of family growth as an explanation for the forms of Seibal domestic units. These he tests against excavation data. Tourtellot's second hypothesis is that "units occupied for a longer time should have more dwellings than units occupied for a shorter time" (1988: 104). Inasmuch as one of the characteristics the XSS site typology notes is number of mounds, comparisons of occupation chronology and site type provide a preliminary measure to examine the developmental growth hypothesis throughout the Xunantunich settlement region. Tables 7 and 8 examine this hypothesis.

Table 7 shows the chronological distribution of occupation of site types. Across the board the greatest frequency of occupation of each site type is the Late Classic (78% to 100% of sites of each type were occupied in this period). Conversely site Types I-III yield relatively sparse evidence of occupation in the Preclassic (18% to 24% of sites of these types occupied then), while site Types V-VII have a greater degree of Preclassic occupation (40% to 67%). The available data suggest, then, that the most extensive and imposing site types (V-VII) have a longer history, with the converse holding true for site Types I-III.

This point is further clarified in Table 8, which examines site types for either multi-phase or single-phase occupations. No longer do we see that all site types are most heavily occupied in the Late Classic. For site Types I and II, 64% and 58%, respectively, are single-phase Late Classic sites, while 17% and 0% of site Types VI and VII are single-phase Late Classic, with site Types III-V falling between these ranges. The converse relationship is true when examining multi-phase site types. Site Types VI and VII are occupied in multiple phases in 83% and 100% of cases, while only 29% and 38% of site Types I and II are multi phase. Again, site Types III-V fall neatly in the center of this spectrum. To simplify baldly, it appears that the further up the scale of complexity in the typology a site is (i.e., the higher the type number), the longer the chronology, and the fewer are such sites established in later periods.

These analyses support previous documentation on Xunantunich settlement, with foundation and constriction in the Preclassic and Early Classic, followed by expansion in the Late Classic (Ashmore 1994; Ehret, in Ashmore et al. 1994; Ehret et. al. 1995; Yaeger and Connell 1993). Here we have added the dimension of site type to this scenario, suggesting that this Late Classic expansion involves primarily site types lower in the typology. Positing that the etically derived site types are rough approximations of emic stages in a developmental cycle, regional settlement growth is interpreted as the proliferation of new independent domestic units in the Late Classic, both within established clusters and in previously marginal areas. Tourtellot's third test implication for the developmental-cycle hypothesis is that "those new units with few dwellings should therefore be in the minority and units with many dwellings in the majority" (1988: 106). This finding is confirmed at Seibal for the Late Classic, which spans 280 years, a significant span for family growth (Ibid.). Although absolute dates have yet to be assigned to the Xunantunich chronology, the Late Classic almost certainly lasted more than two centuries. Late Classic proliferation of site Types I and II suggest, then, one or both of two scenarios, a truncation of the family growth process, or a shift from extended to nuclear family habitation preference (e.g., Haviland 1988; McAnany 1995; Rice 1988; Tourtellot 1988). Future research should illuminate the mechanisms of these settlement shifts by bringing together a top-down focus on Xunantunich's abrupt rise to regional power in the Late Classic and a bottom-up focus on regional settlement in this same period (see also Yaeger 1995).

Survey data further suggest that, in the Terminal Classic, the Xunantunich area sees a reduction in site occupation to below Preclassic levels (17%). Of all Terminal Classic occupations, 41% occur at sites first occupied in the Late Classic, while 52% are at sites with a deeper chronology, and only 7% (one site!) represent single-phase constructions. Terminal Classic occupation is roughly dispersed over both traditional settlement areas, and those initially settled in the Late Classic, but the total area occupied within any given cluster is reduced.

Terrace Sets (L. T. Neff)

As in 1994, terraces formed a significant component of the Xunantunich settlement feature corpus (see also Gifford, in Ashmore et al. 1994). In 1995, we documented 192 individual terraces contained in 60 terrace sets; this contrasts with 212 mounds recorded this year in 114 sites. Our project area lies on the northern edge of the Vaca plateau, an area long recognized as containing a significant amount of prehispanic terracing (e.g. Ower 1927). We see our efforts concerning ancient terracing

as augmenting the database for the wider region, particularly with respect to its northern margins of the Vaca plateau and the immediately adjacent Mopán and Macal river valleys. With respect to river valleys, we found terraces along T/A2 on the western side of the Mopán valley. This was unexpected, considering the gently rolling terrain in the valley. Documentation of terraces in this kind of terrain has been helpful in allowing us to better understand the relationship between terracing and local environmental variability.

Recently, terracing has received increased attention in the Maya area (e.g. Dunning and Beach 1994; Fedick 1994; Healy et al. 1983; Turner 1983; Whitmore and Turner 1994). This work has underwritten a model positing that hillslope terracing is one of the outgrowths of agricultural intensification coupled with population pressure during the Late Classic period (Dunning and Beach 1994, Fedick 1989, 1994; Turner 1983). Testing and refining this model requires extensive settlement data sets like the one being developed by XSS. Because the survey project is in the interim stage between the end of formal data collection in the field and full-scale data analysis, and a dedicated investigation of local terracing is currently under development for 1997, we offer now a preliminary analysis of terrace data to aid in description and allow a general evaluation of the current model from settlement work in the Xunantunich area. For data collected in 1995, as well as for the entire terrace data set (1994 and 1995) we discuss here (1) the extent of terracing in the survey sample, (2) the relation of terrace distribution to natural features in the landscape, (3) terrace surface morphology, and (4). spatial relationships between terracing and prehispanic Maya residences.

Extent Of Terracing

In 1995, 70 % of the terrace sets recorded were in vegetation with a VIS rating of 2.5 or greater. (The VIS scale is an ordinal scale, developed within XSS, for assessment of how much survey visibility is impeded by extant vegetation; higher numbers indicate higher, denser vegetation and poorer visibility. See Yaeger and Connell 1993.) Combining data from both seasons, we note that fully 68.5% of the terrace sets were found in areas with a VIS rating of 2.5 or greater, and only 24% of terrace sets existed in areas with VIS ratings lower than 2.5 (7.5% of the terrace sets not assessed with respect to VIS). The fact that our settlement work has recorded the majority of terrace sets in areas of relatively heavy vegetation suggests we have documented a high percentage of the terraces actually present in our sample areas. We have not assessed the entire survey sample area with respect to VIS. When this is accomplished, we may have to revise our coverage assessment. At present, however, we are confident that we have recorded most of the terraces present in our survey sample.

As mentioned, terracing was present on T/A2 in the Mopán river valley. We found 35 terrace sets, representing 90 individual terraces. T/A2 traverses an area composed primarily of gently rolling hills underlain by marls of Tertiary age (Birchall and Jenkin 1979). Research in other parts of the Maya world suggests terracing occurs primarily in areas exhibiting gentle to moderate slopes and horizontally layered surficial bedrock geology (e.g. Dunning and Beach 1994; Turner 1978). While T/A2 sampled gentle slopes, the surficial geology displays decidedly non-horizontally layered characteristics. We found terraces on T/A2 in areas with surficial deposits of cobbles along the margins of streams. In a number of instances, T/A2 crossed small streams flowing east out of moderate-sized foothills in present-day Guatemala (Figure 1). The alluviation processes active along these streams formed the surficial cobble deposits,

and the prehispanic Maya found these areas attractive settings for terrace construction. We surmise the cobbles provided building material in an area otherwise devoid of such elements. This discovery is exciting to us because it demonstrates how Xunantunich area data can lend interesting twists to generalized assumptions about human-land relationships in the Maya area.

One of the ways we characterize terrace sets is to calculate a conservative estimate of the area of land, in meters squared, potentially under cultivation in each set. Using GENERICCADD software, we draw a polygon around the terrace set, facilitating areal calculation. The polygon is placed so it tightly embraces the outer edges of the terraces in the set, including a conservative plot width for the uppermost terrace in the set. In 1995, we mapped 60 terrace sets totaling 61,715.27 m^2 (0.062 km^2). In the same season, we surveyed a total area of 2.67 km^2 on T/A1, T/A2, and T/A3 combined. Terracing thus covers 2.3% of the 1995 survey sample. Combining 1994 and 1995, we have surveyed a total of 5.9 km^2. Through the course of covering this area we documented 191 terrace sets representing a combined area of 415,134 m^2 (0.42 km^2). Of our entire survey area, 7.1% is made up of land in terracing. These numbers indicate that terracing was a significant component of the prehispanic Maya settlement system.

Terraces And The Natural Landscape

Although sheer abundance of terracing provides an initial hint of its ancient importance, the distribution of terraces with respect to variation in the natural setting is at least as interesting and informative. Below, we summarize the relationship between terracing and slope degree and slope aspect (see Tables 9-11). We recognize that the distribution of terracing relative to topography and soils is important as well. In light of this we are working on finalizing topographic maps and plotting settlement elements relative to published soil information (e.g. Baillie et al. 1993; Birchall and Jenkin 1979). Additionally, we eagerly await the results of chemical analyses from the numerous soil test pits we have dug.

Slope degree is highly significant for terrace distribution. Although 12% of terraces documented in 1995 were not assigned to slope categories, 67.7% of terraces were on slopes ranging from very gentle to moderate, with 49.5% found on gentle slopes alone (Table 10 see also Table 9 - XSS slope categories). We found 20.3% of terraces on slopes exhibiting steep and very steep degrees. Combining data from 1994 and 1995, we note that 85.6% of terraces rest on grades ranging from very gentle to moderate, with only 14.4% on slope degrees of more than moderate steepness (0.3% were on flat slopes and 4.9% were not assessed with respect to slope degree) [Table 11]. Our data concerning slope degree is similar to that collected elsewhere in the Maya area (Dunning and Beach 1994; Fedick 1994; Turner 1978). Furthermore, we conclude, as does Scott Fedick (1994), that the low frequency of terracing on slopes steeper than 27° suggests that pressure on land never reached levels which required cultivation of truly marginal lands.

Tables 12 and 13 present terrace data relative to slope aspect. At the conclusion of the 1994 season, our initial assessment of the relationship between terracing and slope aspect was that this component of the landscape was not significant to terrace distribution (see also Fedick 1994; Turner 1974). In the 1994 data, we found terraces distributed fairly evenly through the 8 aspect directions, although the percentage in the

north aspect was relatively higher (Ashmore et al. 1994: Table 9). Data from 1995 indicate greater percentages of terraces were found on north and east slopes. The combined data set displays a similar pattern: 50.3% of terracing is found on slopes with N, NE or E aspects, while the other 40.9% are distributed relatively evenly throughout the other three quadrants. The remaining 8.8% of terraces either were not assessed with respect to aspect (3.9%) or display multiple aspects (4.9%).

As is common in archaeology, data concerning terracing and slope aspect are not normally distributed, making it difficult verify patterns statistically. Also, as mentioned above, we are still in the process of developing topographic maps. Completion of these maps will allow us to characterize the entire sample area with respect to slope aspect, the results of which would have bearing on this issue (see Fedick 1994, for a GIS application that takes these kinds of factors into account). Among other things, it will allow clearer calculation of the proportions of particular combinations of slope degree and aspect (and other variable factors) available across the region. However, it does seem interesting and quite possibly significant to have a large percentage of terracing occurring in the NE quadrant. At the conclusion of fieldwork in 1994, we surmised the lack of slope aspect patterning was due to location of our project area in the tropics. In this geographic area, aspect is not important with regard to sheer amount of sunlight per day, so there is no advantage of utilizing land with a particular aspect. Thus, all things being equal, terracing would be expected to occur on all aspects equally. In light of further work, we suggest the converse may be true. Too much sunlight and accompanying heat may well be a significant factor. Placing terraces on NE-facing slopes would expose plants to more direct sunlight in the cooler hours from sunrise to noon. In the hotter hours of the afternoon, plants are exposed to somewhat less direct sunlight. For moisture retention and to avoid overheating, the NE aspect may have been advantageous enough that the Maya sought to utilize it when they could. We look forward to future analyses to further document this and other patterns present in the terrace data set.

Terrace Surface Morphology

Surface morphology encompasses several variables, including facing materials, length, and overall form. Comments below highlight new information from the 1995 season.

As during the 1994 field season, characterizing terrace facings continued to be an elusive goal. In 1995, 58.3% of the terrace sets could not be assessed. The combined results from both seasons indicates that fully 62.3% were unassessable. Poor preservation and the predominantly subtle nature of terraces, relative to other settlement features, are the chief sources of the problem. However, other aspects of the surface-visible morphology of terraces are apparent and their description aids discussion of the possible socio-cultural dynamics involved in terrace construction and use.

Length was recorded for the longest and shortest terrace in each terrace set. We also recorded an impressionistic or estimated modal length for each terrace set. Although inexact, this rough index is useful in discussing the relative size of terrace sets and making inferences about organizational and labor requirements of their construction and use. Less effort and organization are required for smaller terrace sets

and vice versa for larger ones. Erickson's experimental work in South America, however, suggests labor investments in intensive agricultural features may not always be as great as we have thought (e.g., Erickson 1993).

The 161 terrace sets recorded by XSS in 1994 and 1995 have estimated modal lengths ranging from 5 to 80 m. Of these, 72.8% fall in the lower range (5 to 39m) while only 16.8% occupy the upper range (40 to 80m). The remaining 10.4% of terrace sets lack an impressionistic length mode. These figures indicate that the majority of terrace sets are not large. In sheer numbers, large terrace sets make up an insignificant part of the whole, even though they account for a quite substantial aggregate area. Regarding the effort and organization needed, we surmise the majority of terrace sets were constructed by single households. However, the presence of large terrace sets suggests that more centralized organization of suprahousehold communal labor played a role in some cases.

Three primary forms encompass the range of variability recorded for Xunantunich terraces in 1994 and 1995. Simple linear terraces account for 77% of the terraces. This form is similar to what Dunning and Beach (1994) termed dry slope or broad-based terraces and Scott Fedick (1994) termed contour terraces. Terraces constructed across drainages or "weir" terraces comprised 9.4% of Xunantunich examples. Another 11.5% are complex in nature, and wrap around slopes with different aspects. The remaining 2.1% of the terraces were not categorized by form. Interestingly, two forms noted elsewhere in the Maya area were not encountered by Xunantunich researchers. In the Petexbatun area, Dunning and Beach (1994) defined what they called footslope terraces, or large terraces situated at the base of steep slopes. Scott Fedick (1994), working down river from us in the Belize valley, recognized a category of box terraces. These occur in areas of gentle or non-existent (i.e., flat) slope and take the form of rectilinear plots demarcated by small low stone partitions. Fedick surmised these are probably the remains of residential garden plots.

Terracing And Prehispanic Maya Residence

At present our understanding of the spatial relationships between terracing and prehispanic Maya residences, as well as the associated issue of terrace function, come primarily from a preliminary typology of terraces sets. This four-type classification is based on morphological criteria of terraces and spatial observations about their proximity to different kinds of sites (see also Gifford, in Ashmore et al. 1994: 271-273). We also make some preliminary functional and social inferences about the types. We must await excavation to clarify these latter issues. In the interim, though, discussion of the terrace data from the perspective of the working typology gives us some valuable initial insights and allows us to propose preliminary hypotheses about Xunantunich terracing. Table 14 summarizes the typology and presents the raw number and percentage of terrace sets in each type for the combined 1994-95 data set. We should note that 13.1% of terrace sets were of mixed type or could not be classified with respect to type.

Type I terrace sets make up 12.6% of the overall sample. One of two "infield" types, Type I terrace sets are small, with no more than two individual terraces per set, and are associated with sites we believe to be residential. We are uncertain at present whether their function is agricultural (e.g., house garden) or more broadly domestic

(e.g., providing level areas for residential activities or for perishable structures). We look forward to excavating some examples of this terrace type to understand better their function and relationship to surrounding residential features.

Like Type I terrace sets, those of Type II are built among presumed residential sites, although they are greater in length and overall area. They contain, on average, 4 individual terraces and account for 19.9% of all terrace sets. Presently, we infer terraces in this type to be agricultural, because of their larger size. Like Type I sets, though, the close proximity of Type II sets to residences raises questions about their function. We suspect that activities other than agricultural production took place on at least some of these sets, possibly including occupation by perishable, non-mound structures.

Type III terrace sets are one of two "outfield" types we have defined. The singular defining feature of the Type III set is the presence of what we have termed a "field house." A field house is a single small mound found isolated within a terrace set (see also Ehret, this volume). The terminology expresses our attribution of agricultural function to the terrace set type and its accompanying structure. Type III sets make up 14.1% of the Xunantunich corpus. It is interesting to note that all were found in 1994 on T/A1. In 1995, survey on T/A1 east of Dos Chombitos, on T/A2, and on T/A3 recorded no Type III terrace sets. Type III sets are located solely on the western two-thirds of T/A1. This distribution is interesting and will likely prove meaningful to the relation of terrace sets, environmental variables, and household and community loci. In this interim report we simply note the pattern and look forward to future analyses, hopefully augmented by excavation data.

Type IV terrace sets form 40.3% of the database, the most numerous type. Like Type III sets, those of Type IV are large and are located well away from presumed residential loci. The chief difference between the two outfield types is the presence of absence of an isolated mound, our "field house" form. Type IV sets do not have them. Their sheer size and lack of association with surface-visible mounds (i.e., presumed residences) suggests an agricultural function.

Our preliminary discussion of the extent of terracing, its relation to natural features in the landscape, its variable surface morphology, and patterned spatial and functional relationships between terracing and prehispanic Maya residences collectively begins application of the Xunantunich terrace database to extant models concerning terracing in the Maya area. To date, analysis suggests Xunantunich terracing accords well with the hypothesis that spatial distribution is conditioned by both environmental and population variability (Dunning and Beach 1994). Importantly though, we are recognizing specific and unique aspects of local environmental variability that condition terrace distribution in the Xunantunich area. Unlike research at Caracol (Chase and Chase 1995), for example, ours yields little evidence for centralized terrace construction and use in terms of labor and organization. Conversely, neither do we envision terrace systems having been organized exclusively from the single-household level. Preliminary passes through our data considering impressionistic length mode and terrace set type suggest we are recording the remains of a variable and mixed system of terracing with organization and labor inputs emanating from both the household and community levels.

Discussion

The Maya center of Xunantunich survived and thrived during the ninth century turmoil that characterized much of the Maya lowlands. Why did this come to pass? What were the factors involved? XSS set out to answer this set of questions about the Xunantunich area specifically and about ancient Maya society in general. We felt Xunantunich was a particularly promising setting to address these questions because of its persistence. If we could understand how a system (the Xunantunich area) remained intact during a time of stress, then we would be better able to understand the effects of these factors on other, ultimately less stable systems (other parts of the Maya lowlands). To aid in this endeavor, a working model was developed positing the social, political and economic integration of the immediate settlement context of Xunantunich as relatively loose (Ashmore 1993). If this was the case, then it might go a long way toward explaining why Xunantunich escaped, for a while anyway, the effects of the turbulent ninth-century. Loosely integrated systems are less likely to be impacted by perturbations from external or internal stimuli. As was the case in 1994, the data collected during our second and final season of NSF-funded settlement research are broadly consistent with the general expectations of the working model. We have not, however, found persistence in settlement beyond the Terminal Classic, except at the already known site of Negroman-Tipú. As analysis continues we are gaining valuable insights into the variability and multi-layered nature of our settlement database.

Our first year's work along the transects and picados of the survey area saw the development of a seven-tiered site typology (Ashmore et al. 1994). Additionally, surveyors began to define settlement zones or communities (Ehret et al. 1995, see also VandenBosch, in Ashmore et al. 1994; Yaeger 1995; Yaeger and LeCount 1995). The results of preliminary chronological analyses suggested the apparent shrinkage of settled areas in the Terminal Classic, mirroring developments within the Xunantunich core (Ashmore et al. 1994, see also Leventhal et al. 1993). In this report, analysis of data collected in 1995, combined with work from 1993 and 1994, reminds us that we are just beginning to understand the nature of the space-time palimpsest embodied in XSS data. The roots of Xunantunich settlement lie, according to survey evidence, in the Preclassic and Early Classic. Certainly by the Late Classic, clusters hinting at communities are manifest in the settlement patterns (e.g., Ehret et al. 1995; VandenBosch in Ashmore et al. 1994). The settlement characteristics of the preceding Late Classic period continue into the Terminal Classic, albeit in reduced overall levels due presumably to population decline. This conclusion is exciting to us as it reminds us of the multi-layered nature of the data base and insights different analytical perspectives can provide.

We continued to find terracing during the 1995 season. An important surprise was the presence of terracing in the gently rolling limestone-free terrain of T/A2. Here, we found terracing associated with chert cobbles deposited by alluvial activity. These cobbles provided a suitable environment to the Maya for terracing. This discovery supports generalized models of Maya terrace location (e.g., Dunning and Beach 1994; Fedick 1994) but adds a unique upper Belize river valley twist regarding specific environmental variables. Analyses in 1995 revealed that a large number of the terraces have aspects in the NE quadrant. Pending further topographic analysis, we suggest the intensity of the sun and the high heat and moisture reduction that accompany it may have influenced Maya farmers to utilize slopes in the marginally cooler NE quadrant, when possible.

To date, XSS has surveyed nearly 6 km^2 of the Xunantunich area. The resulting database begins to fill the remaining gaps in lowland Maya survey coverage. More importantly though, XSS work provides the data necessary to start outlining an evolving social, political, economic and ideological landscape in the Xunantunich area. We are just beginning to delve into the exciting variability and multi-layered nature of the lives of the Maya who lived in the Xunantunich area. This progress report, its preliminary descriptions and interpretations are just the outset for us. We look forward to further consideration and dissemination of our research results in the years to come.

ACKNOWLEDGMENTS: Without the help of the following, none of the work reported in this chapter would have been possible. First and foremost, we thank our Belizean survey colleagues, Don Lucresio Chan (capitan), Sres. Nicasio Chan, Ciro Hernandez, Mariano Guerra, Jose Lopez, Grabiel Sanchez, Luis Torres, Victor Vasquez, Romaldo Gomez. Although they are not listed as authors on this report, none of the work reported herein would have been possible without their help. Jennifer Ehret and Jon VandenBosch were active members of the 1995 survey team until they began their complementary testpitting programs in March (Ehret 1995 and this volume; VandenBosch 1995); we gratefully acknowledge their contributions, especially their willingness to share their expertise and help train the new crew members. Wendy Ashmore, Co - XAP director and director of XSS, is not listed as an author on this report either. However, we could never have begun, much less completed, the work reported above without her. Thank you, Wendy, for your energy, enthusiasm, confidence, counsel, patience, and tenacity and the opportunity to participate in this work.

The Xunantunich Settlement Survey is an integral part of the Xunantunich Archaeological Project, co-directed by Richard M. Leventhal and Wendy Ashmore, and working under permit from the Department of Archaeology, Ministry of Tourism and the Environment, Belize. We are grateful to Dr. Victor Gonzalez, Permanent Secretary of the Ministry, for his support, and we are much indebted for the generous encouragement of the late Mr. Harriot Topsey, Commissioner of Archaeology, as well as previous and subsequent Acting Commissioners Mssrs. John Morris, Allan Moore, and Brian Woodye. We thank Richard Leventhal for facilitating whatever successes we have had. Funding for XSS specifically has been provided by the National Science Foundation (SBR93-21503) and the University of Pennsylvania. We are grateful to Rudy and Margaret Juan, and the many warm and hospitable families of San Jose Succotz, Benque Viejo and San Ignacio, for their hospitality and friendship. Mr. Albert B. Moore and Mr. Pete Lizarraga of Espat Ltd., and Mr. David Simpson, were particularly helpful. We also happily acknowledge the contributions of Mike Artemieff, Theresa Batty, Sam Connell, Angela Keller, Lisa LeCount, David Lentz, Brandon Lewis, Julia Miller, Linda Neff, Tatiana Torres, and Jason Yaeger.

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TABLE 1. XSS Terms and Definitions

Item	XSS Definition
Site	A *site* is one or more archaeological features (1) in which individual features are ≤25 m of one another, and (2) all other features are >25 m distant.
Additive Feature	A feature formed by *adding* material either by construction activities or cumulative deposition.
Subtractive Feature	A feature formed by *subtracting* material through construction activities or cumulative removal.
Terrace Set	One or more slope modification features (terraces) collectively distinguished from other, broadly similar entities by variant physical form, differing topographic position, or spatial separation.

TABLE 2. Artifacts recorded by XSS in 1994 and 1995

				1994	1995	Total
Ceramic sherds				9,628	6,357	15,985
Chert				1,458	1,655	3,113
Flakes/debitage	1323	1450	2773			
Finished tools	78	47	125			
Cores	57	158	215			
Obsidian				11	8	19
Flakes/debitage	7	1	8			
Finished tools	4	7	11			
Ground stone				22	10	32
Shell				88	35	123

TABLE 3: Mounds and Mound Densities

Transect	No. of Mounds	km²	Mounds per km²
T/A1	407	3.13	130
T/A2	151	1.53	99
T/A3	31	1.24	25
All T/A	589	5.90	100

TABLE 4: Subtractive Features Newly Recorded in 1995

Transect	Aguada	Quarry	Chultun	Other
T/A1	1	0	2	0
T/A2	4	2	1	1
T/A3	0	2	5	1
Total	5	4	8	2

TABLE 5: Distribution of Site Types by Transects

	Site Type 1	Site Type 2	Site Type 3	Site Type 4	Site Type 5	Site Type 6	Site Type 7	No Type
T/A1 n=176	36%	34%	15%	3%	5%	3%	1%	3%
T/A2 n=91	46%	23%	15%	0%	0%	1%	1%	14%
T/A3 n=13	31%	15%	15%	8%	8%	15%	0%	8%
All T/A n=280	39%	29%	15%	2%	4%	3%	1%	7%

TABLE 6: Chronological Distribution of Occupation by Transect

	T/A1 n=96		T/A2 n=53		T/A3 n=8		All T/A n=158	
Occupied	n	%	n	%	n	%	n	%
PreClassic	22	23	16	30	0	0	38	24
Early Classic	12	13	5	9	0	0	17	11
Late Classic	88	92	48	91	7	88	143	91
TermClassic	20	21	7	13	0	0	27	17
PostClassic	0	0	0	0	2	25	2	2

TABLE 7: Chronological Distribution of Occupation of Site Types

	Site Type 1 n=44	Site Type 2 n=50	Site Type 3 n=32	Site Type 4 n=5	Site Type 5 n=10	Site Type 6 n=6	Site Type 7 n=2	No Type n=9
Pre-Class.	18%	22%	24%	0%	40%	67%	50%	33%
Early Class.	11%	10%	10%	60%	10%	0%	50%	0%
Late Class.	89%	92%	90%	100%	85%	100%	100%	78%
Term. Class.	7%	20%	16%	40%	30%	50%	50%	0%
Post-Class.	0%	0%	3%	0%	10%	0%	0%	0%

TABLE 8: Multi Phase vs. Single Phase Occupation of Site Types

	Site Type 1 n=44	Site Type 2 n=50	Site Type 3 n=32	Site Type 4 n=5	Site Type 5 n=10	Site Type 6 n=6	Site Type 7 n=2	No Type n=9
Multi Phase	29%	38%	35%	80%	50%	83%	100%	11%
Pre-Classic	7%	4%	3%	0%	0%	0%	0%	22%
Early Classic	0%	0%	0%	0%	10%	0%	0%	0%
Late Classic	64%	58%	62%	20%	40%	17%	0%	67%
Term. Classic	0%	2%	4%	0%	0%	0%	0%	0%
Post Classic	0%	0%	4%	0%	0%	0%	0%	0%

TABLE 9. XSS slope categories

Flat	<1°
Very gentle	1-9°
Gentle	10-18°
Moderate	19-27°
Steep	28-36°
Very Steep	≥37°

TABLE 10: 1995 Terraces and Slope Degree

% of Terraces on Slope	Slope Degree	# of Terraces on Slope	# of TS on Slope	Avg. # of Terraces in TS
1.6	very gentle	3	3	1.0
49.5	gentle	95	29	3.3
16.7	moderate	32	13	2.5
17.2	steep	33	9	3.7
3.1	very steep	6	1	6.0
12.0	not recorded	23	5	4.6
100.0	Totals:	192	60	

TABLE 11: 1994 and 1995 Terraces and Slope Degree

% of Terraces on Slope	Slope Degree	# of Terraces on Slope	# of TS on Slope	Avg. # of Terraces in TS
0.3	flat	2	1	2.0
5.1	very gentle	34	15	2.3
51.6	gentle	347	88	3.9
28.9	moderate	194	60	3.2
8.3	steep	56	17	3.3
0.9	very steep	6	1	6.0
4.9	not recorded	33	9	3.7
100.0	Totals:	672	191	

TABLE 12: 1995 Terraces and Slope Aspect

% of Terraces in Aspect	Slope Aspect	# of Terraces in Aspect	# of TS in Aspect	Avg. # of Terraces in TS
31.8	N	61	14	4.4
5.7	NE	11	4	2.8
29.2	E	56	16	3.5
9.4	SE	18	8	2.2
8.9	S	17	5	3.4
0.5	SW	1	1	1.0
3.6	W	7	4	1.8
4.2	NW	8	4	2.0
6.8	not recorded	13	4	3.2
100.0	Totals:	192	60	

TABLE 13: 1994 and 1995 Terraces and Slope Aspect

% of Terraces in Aspect	Slope Aspect	# of Terraces in aspect	# of TS in Aspect	Avg. # of Terraces in TS
22.8	N	153	41	3.7
11.0	NE	74	20	3.7
16.5	E	111	30	3.7
8.0	SE	54	17	3.2
10.3	S	69	25	2.8
7.3	SW	49	16	3.1
7.7	W	52	18	2.9
7.6	NW	51	15	3.4
3.9	not recorded	26	6	4.3
4.9	multiple	33	3	11.0
100.00	Totals:	672	191	

TABLE 14: Terrace Set Typology

No	Description	No. of terrace sets	% of terrace sets
I	≤ two terraces, built among residential sites, house garden plots for residents	24	12.6
II	ca. 4 terraces, larger terrace length and larger terrace set area (than Type I), built among residential sites, agricultural use	38	19.9
III	presence of field house, larger terrace length and larger terrace set area (than Type II), built away from or outside of residential sites, agricultural use	27	14.1
IV	lack of a field house, larger terrace length and larger terrace set area (than Type II), built away from or outside of residential sites, agricultural use	77	40.3
	Mixed or unknown	25	13.1

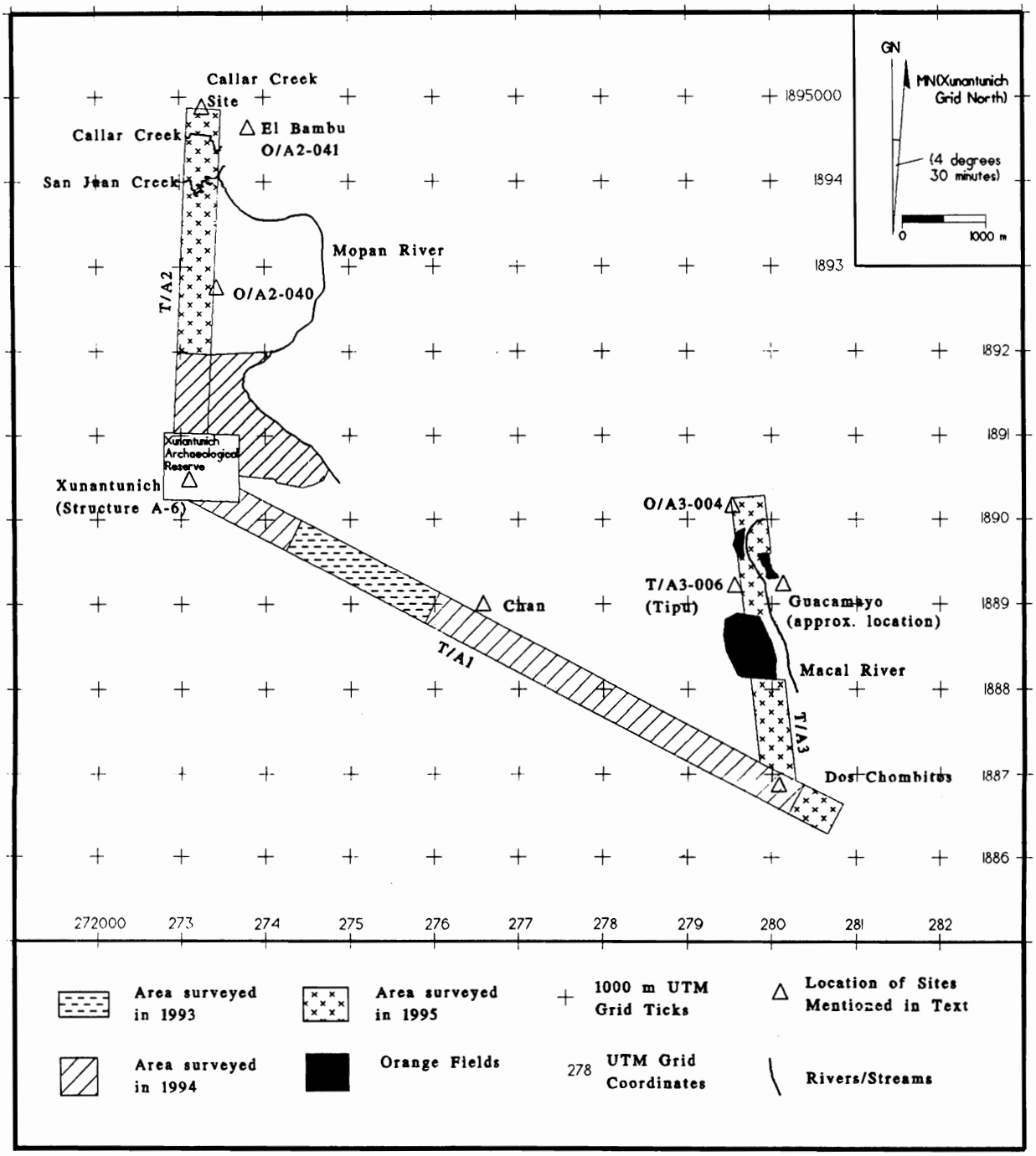


Figure 1. Xunantunich Settlement Survey Area documenting work accomplished in 1993, 94 and 95. Survey areas, sites and natural features referenced to the Universal Transverse Mercator grid system.

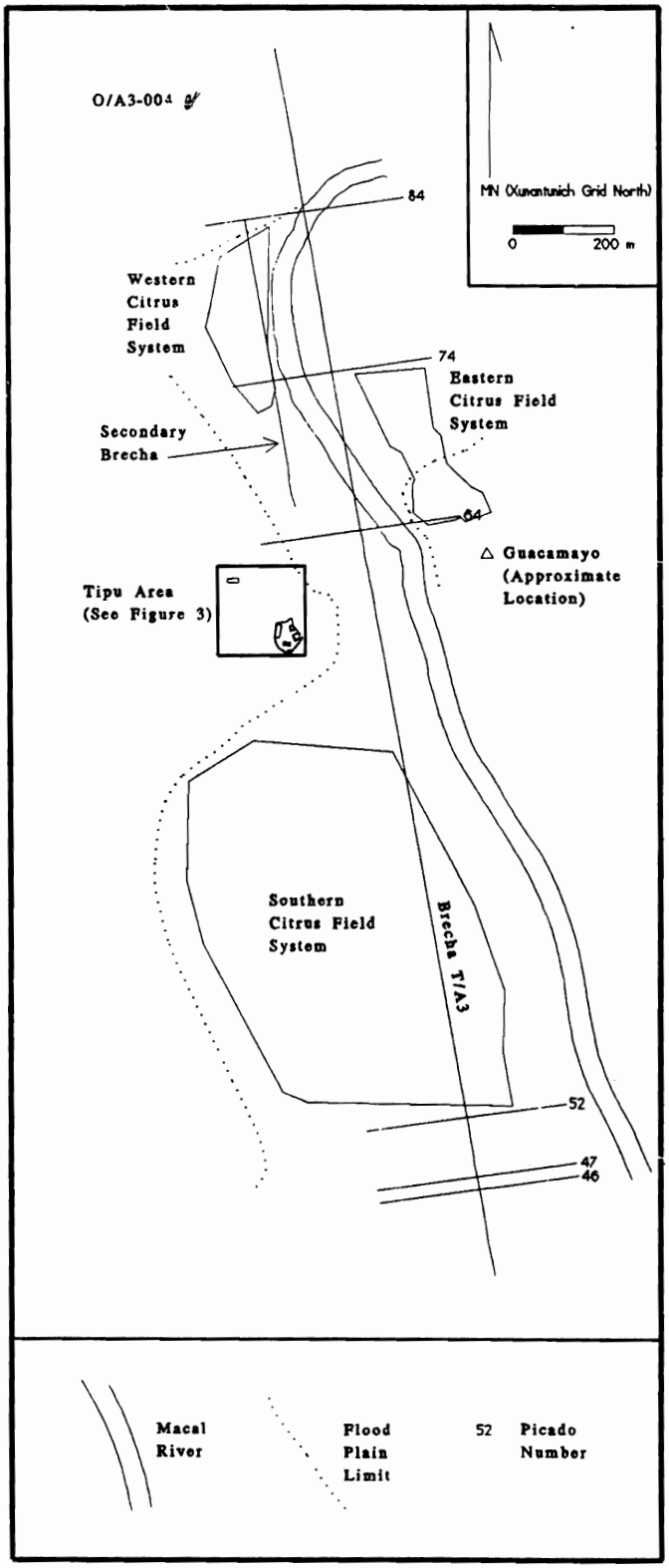


Figure 2. Area of Brecha T/A3 in the Macal River flood plain showing differing survey methods relative to natural and cultural features.

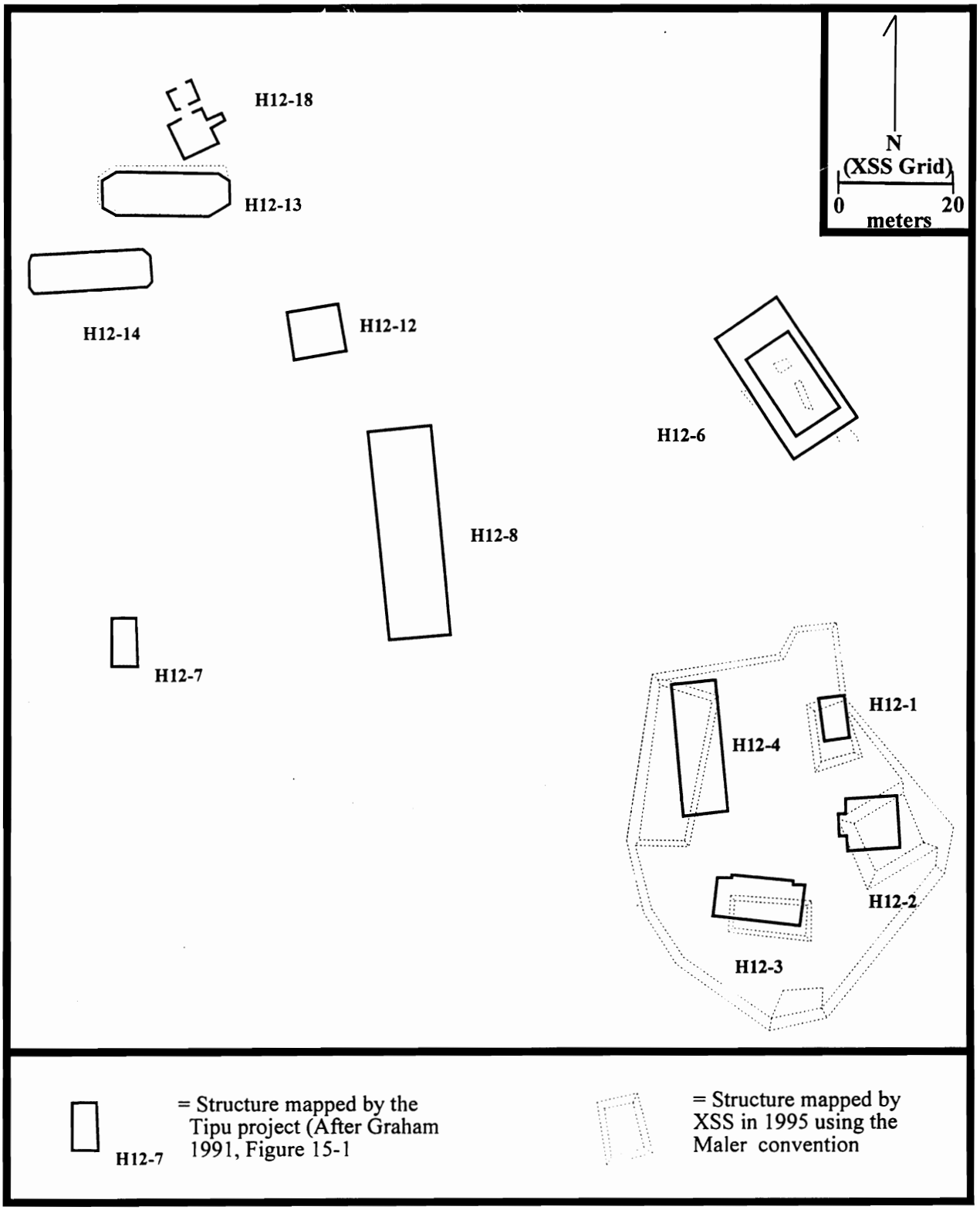
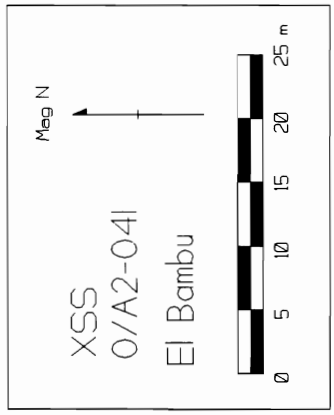
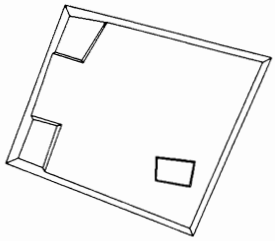

H12-18
H12-13
H12-14
H12-12
H12-6
H12-8
H12-7
H12-1
H12-4
H12-2
H12-3
N
(XSS Grid)
0
20
meters
H12-7
= Structure mapped by the Tipu project (After Graham 1991, Figure 15-1
= Structure mapped by XSS in 1995 using the Maler convention

Figure 3





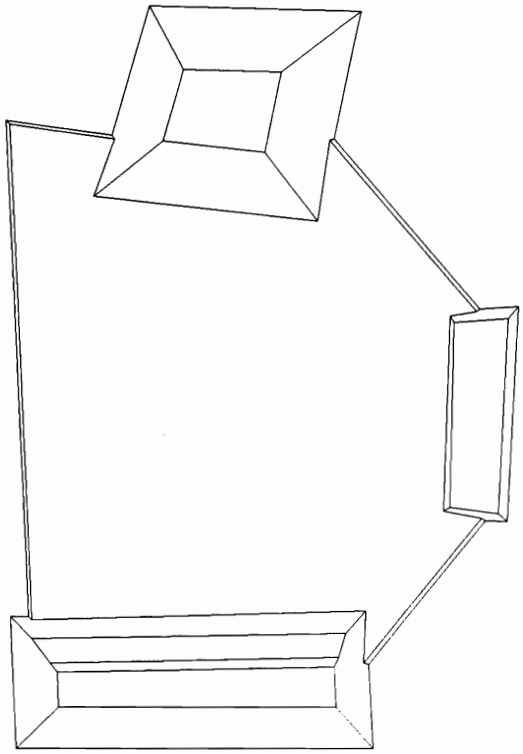


Figure 4

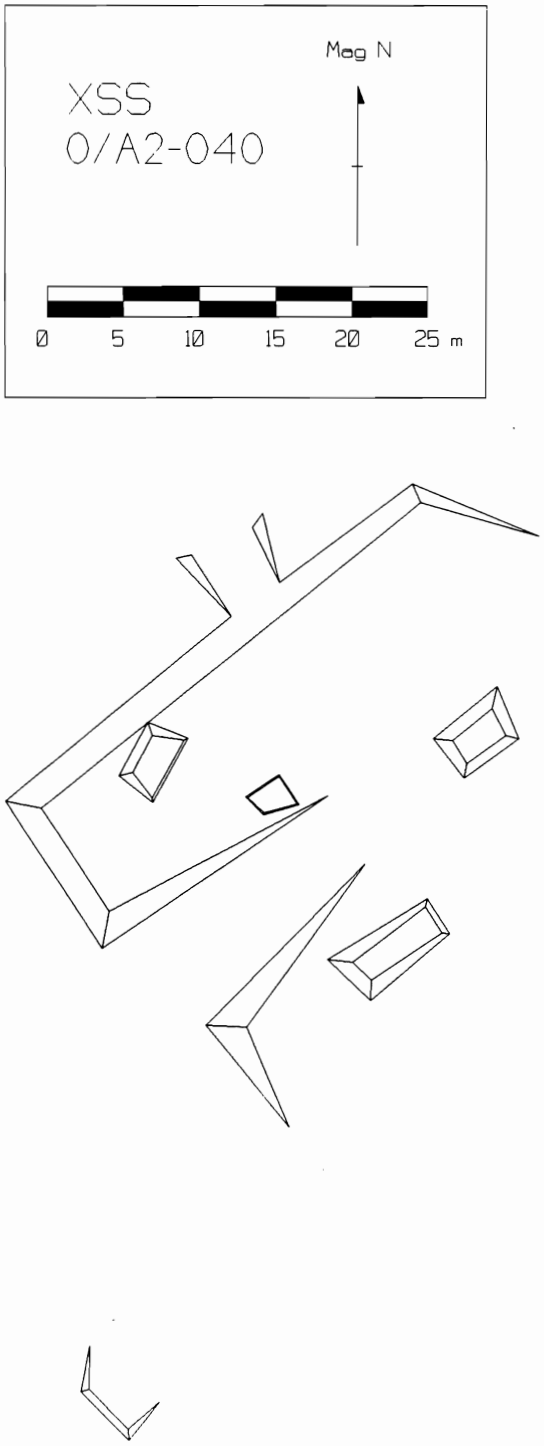
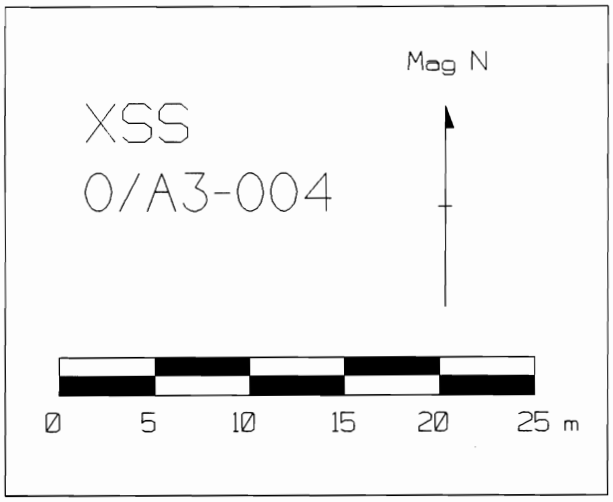


Figure 5



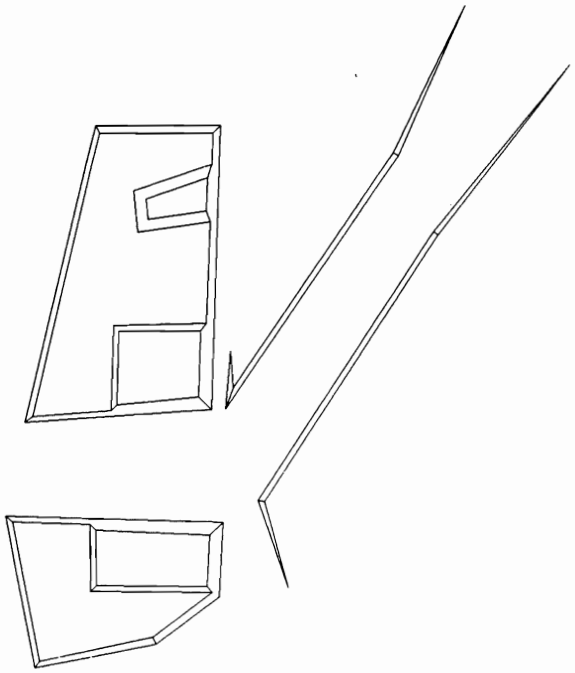


Figure 6

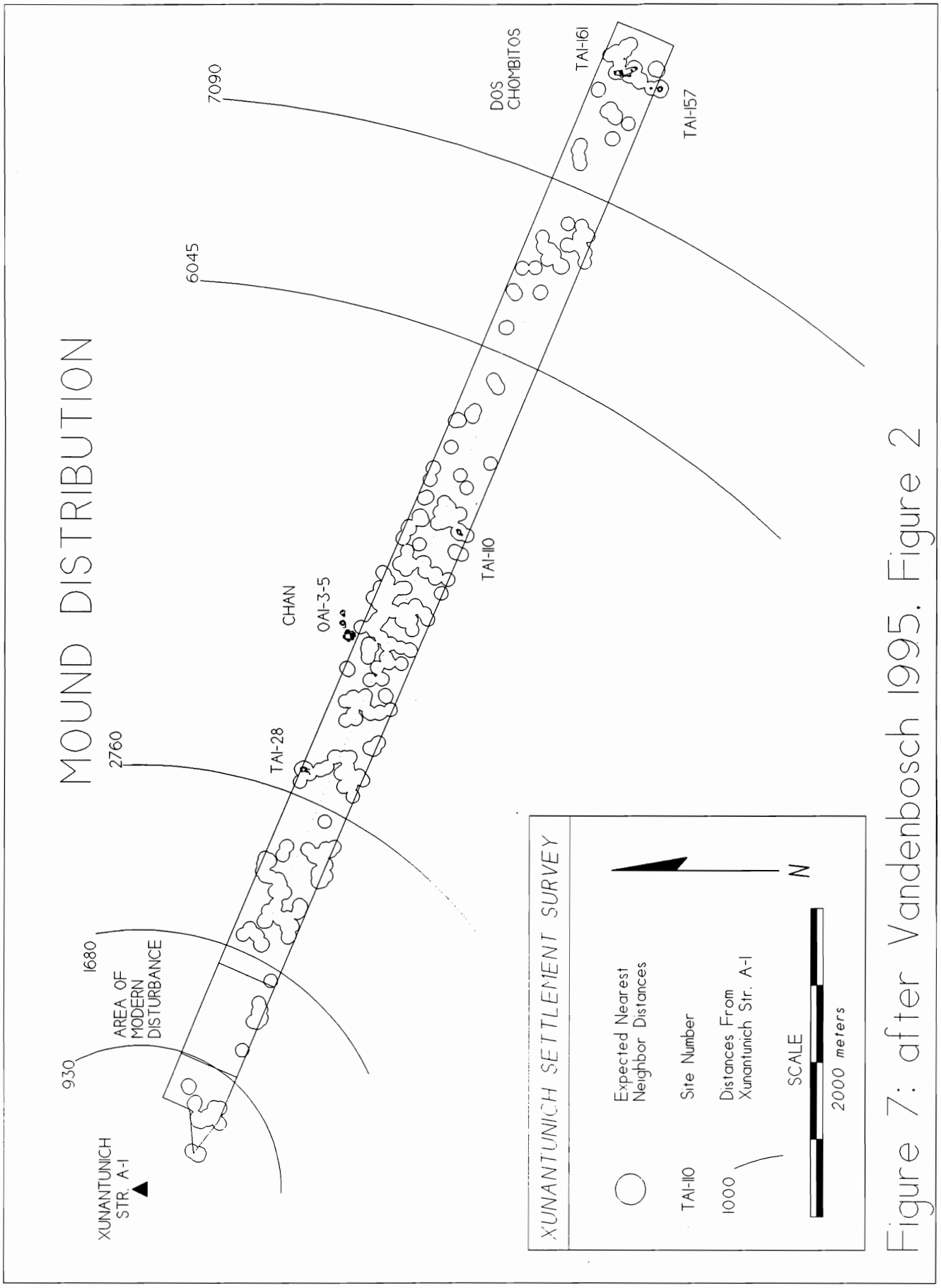


Figure 7: after Vandenbosch 1995. Figure 2

The Xunantunich Settlement Survey

Test-Pitting Program

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University of Pennsylvania

Introduction

The goal of the Xunantunich Settlement Survey (XSS) is to test current models of lowland Maya political and economic integration by defining the nature of settlement in the region surrounding the Classic Maya civic-center of Xunantunich, Belize (Ashmore 1993; Leventhal, et al.. 1992). The archaeological study of regional settlement systems has produced a tremendous amount of scholarly literature that focuses on population growth and social organization (e.g., Flannery 1976a; Ford 1986; Ford and Fedick 1992; Michels 1979; Puleston 1973; Steward 1937; Willey 1953; Willey, et al.. 1965). In recent years, the utility of settlement surveys has been broadened to address specific questions concerning large-scale socio-political change (e.g., Andrews and Andrews 1980; Culbert and Rice 1990; Dixon 1989; Fash 1983; Killion, et al.. 1989; Scarborough 1991; Webster and Freter 1990). The traditional link between settlement research and "household archaeology" has benefited the study of the "humblest Maya" (e.g., Webster and Gonlin 1988), and archaeologists are now exploring the correlation between settlement pattern change and community organization.

To this end, XSS has adopted a bottom-up approach to address the apparent socio-political upheavals the Southern Maya Lowlands experienced in the Late Classic and Terminal Classic periods (A.D. 600-1000) (Ashmore 1993). Not to be limited by the history of Xunantunich as a regional civic-center, XSS focuses equal amounts of energy to detailing regional agricultural methods (i.e., terracing), the diachronic development of local community systems, and the geomorphological basis of pre-Hispanic land-use. At present, XSS has completed the transect sample, and preliminary discussions of the above issues have been presented (Ashmore et al.. 1994; Neff et al., this volume). The transect settlement data will not only serve as a comparative database, but will form the backbone of secondary research projects. The latter are designed to elaborate on specific levels of community organization, and include (but are not limited to) the formal investigations of the more humble households, the integrative functions of secondary elites, and the nature of complex subsistence technologies.

Objective

Tracking community growth through time is of utmost importance to both the settlement survey and the future secondary projects. As evident in the nearby work of Willey et al.. (1965) and Ford and Fedick (1992), as well as elsewhere, regional settlement patterns must not be viewed as synchronic slices of time. Population change is a dynamic process, and data retrieved in the 1993-1995 XSS seasons support the hypothesis that local settlement patterns shifted through time in accordance to still undefined forces. Ashmore et al. (1994) and Neff et al. (this volume) detail preliminary associations of sites within time spans, and the developmental sequence corresponds closely to those of other projects recently conducted in neighboring regions (e.g., Ford 1986; Ford and Fedick 1992; Puleston 1983). The temporal designations set forth by the survey reconnaissance teams were based on opportunistic surface collections of ceramics and the excavation of small shovel test-pits (STPs). In some parts of Mesoamerica, surface collection data has been successful in delimiting phases of occupation (e.g., Dixon 1989; Killion et. al. 1989; Sabloff et. al. 1985), but more often the resulting temporal designations are statistically skewed in favor of the later time spans

of an individual site (Yaeger and Connell 1993). A second weakness of these techniques is that they often do not provide much detail as to the function of a structure or site.

The usual initial response to this dilemma is fuller test excavation at a sample of known sites, to establish more firmly the chronology of occupation and the range of activities involved in occupation (e.g., Ford 1990; Haviland 1985; Scarborough 1991). To this end, Ashmore (1993) proposed excavating a series of 1 x 2 m test pits at a sample of sites located by XSS. The ceramics and other artifacts retrieved from the test pits would enable survey personnel to assess more firmly the sequences of construction and occupation at a sample representing all site types and located along all three transects.

Strategy

The survey recorded 176 sites along T/A1, 91 sites along T/A2, and 13 sites along T/A3 (for details on survey, see Ashmore et al. 1994, Neff et al., this volume). The basic test-pit sampling strategy was devised in consultation with Dr. Ashmore, early in the 1995 season. Time constraints required that the test pit program begin before reconnaissance and survey were complete. Two working assumptions, therefore, were (1) that the number of recorded sites would approximately double during the 1995 field season, and (2) that the proportion of site types would remain roughly constant from the 1994 season (Tables 1 and 2). Based on 1994 data, it was decided that the sample would be stratified using our locally specific typology of sites (Ashmore, et al. 1994; Ehret et al., 1995). Listed in order of importance, the criteria for assignment to one of the site types are (1) number of mounds, (2) spatial layout of mounds (formal or informal--that is, presence or absence of orthogonal orientations and a formal patio), and (3) height of mound(s).

The typology calls attention to several factors potentially underlying the perceived types: (1) the social and functional implications of single, isolated mounds, (2) the social implications of formal patio groups, and (3) the socio-political implications of monumental architecture. Single, isolated mounds, if residential, imply that the occupants chose to live isolated from members of their extended family. Assuming that the occupants did not immigrate to a region from outside, their choice to live away from kin could have been a reaction to land scarcity or any other attempt to create a new loci of familial residence. In some cases, such as within the Chan Zone (see below), fairly dense settlement is distinguished by a large proportion of single-mound sites. The zone itself is cultivated today, and ancient residents made have constructed their households within infield gardens. Some isolated mounds may have served non-residential functions--such as a field house (see Neff et al., this volume). The field house is used when a milpa is some distance from the residence, and a secondary shelter is required for resting and eating during the work-day.

Across the Maya lowlands, the patio group is considered the fundamental residential unit, although the two categories are not isomorphic sets (e.g., Ashmore 1981; Wilk and Ashmore 1988). Types II-V in our typology are differentiated by recognizing formal, orthogonally arranged patio groups vs. informal structure arrangements, with no recognizable shared patio area. Types II and III are not considered as opposites, but more as indices of shared space and perhaps familial relationships. Types IV and V are quantitatively larger, and probably imply some level

of household development and social composition (e.g., Haviland 1988; Tourtellot 1988).

Mound height represents a rough proxy measure of the labor that went into the construction of the mound(s). Although Abrams (1994) does suggest that fairly substantial mounds and platforms can be constructed using residential-group labor, at some level, however intuitive, there is reason to assume that external (non residential-group) labor was used to construct a site. I would suggest that a Type VII site represents involvement of external labor, while the Type VI sites could have been constructed without additional help beyond the residence group. The height elaboration of the Type VI sites may imply site development and in some cases status distinctions (Tourtellot 1988).

The objective of the sampling process is to make accurate inferences about a population as a whole (Mueller 1974). In the XSS test-pitting program, the population is the total number of sites recorded by survey. The three transects and seven site types (I-VII) form cross-cutting sampling strata whose individual units are the recorded sites. A stratified sample of these units should produce sufficient chronological evidence for initial inferences concerning ancient demographic growth and social development within the population of surveyed sites.

An adequate sample of a regional settlement system must begin with the assumption that each element of that system was an integral part of the ancient community. In keeping with this assumption and broader XSS goals, a stratified purposive and roughly proportional approach was adopted for selecting the test-pitting sample (Ashmore 1993). As opposed to a random or systematic sampling strategy, the stratified proportional sample would permit investigation into each stratum of the settlement topology, however regularly or irregularly each is spaced across the landscape. In addition, the deviation from strict proportionality allows enhanced consideration of rarely occurring types. This enabled the project not just to avoid "missing Teotihuacan" (Flannery 1976b), but also to avoid giving rare or complex types of sites short shrift, even if the survey's metaphorical "Teotihuacan" is only the pool of (local) Type IV sites. Other sampling techniques might favor testing greater numbers of Type I and II sites simply due to the frequency of these types (Table 2). To this end, then, the test-pitting program chose a roughly proportional sample from within each site type (e.g., Chenhall 1975:10).

Within each stratum, the spatial distribution of each type would be the basis of a tertiary stratification--that by geographic location. Preliminary nearest neighbor and stem-and-leaf analyses by Jon VandenBosch (in Ashmore et al. 1994: 263-265) distinguished clusters of settlement along T/A1. These clusters focus in two cases, on Type VII sites (Chan and Dos Chombitos), and the third is within 2 km of Str. A-1 of the Xunantunich site core. Settlement between these clusters becomes more sparse, and in some locations non-existent. Again in keeping with XSS goals, the test-pit sample was further stratified by these clusters and intermediate zones I defined between them (Tables 3 and 4).

Although choice of sites could be made randomly or in clusters (e.g., Collins 1975; Ford 1990; Flannery 1976a; Judge, Ebert, and Hitchcock 1975; Paynter 1983; Plog

1978; Read 1975), the small projected sample size, together with the complexity of the stratification and nature of the research questions, supported a purposive sampling strategy. Infrequency of Types V-VII leaves little room for choice, and even in the more numerous types, selection was sometimes constrained by availability of permission from landowners.

During a 12-week field season, the 1995 test-pitting program excavated 67 test pits at 58 sites. In the field, the idealized sampling strategy detailed above was affected by several factors: (1) the progress of the survey reconnaissance team during the 1995 field season, (2) the spatially defined clusters of settlement as noted intuitively during survey reconnaissance, (3) the proportion of site types within these clusters, and as noted above, (4) variable permission by landowners to excavate test-pits on their property. Sampling distributions were maintained with approximate accuracy on T/A2 and T/A3, however the fourth factor affected sampling along T/A1, and precluded inclusion of two Type VI sites there.

Excavation

Once the sample was chosen, sites were located using maps and datums provided by the survey reconnaissance team. Although T/A2 and T/A3 were quite simple because the brecha and picado cuts were fresh, relocation proved more complex for sites mapped along T/A1 in 1993 and 1994. The fieldnotes and maps provided distances and some modern features as guides, but personal memory and faint visibility of brecha cuts proved invaluable adjuncts. Still, the in-field sampling design differed from that planned in several instances when a site (particularly those mapped in 1993) proved elusive. Perhaps the most important lesson pertaining to site relocation is to expand recording of modern features (fences, structures, roads), perhaps even as a separate layer on the formal CADD maps.

Once located, the placement of the test unit followed a strategy outlined by Ford (1990) and Puleston (1973). It was informed as well by more recent research examining the spatial distribution of cultural remains within a site (Ball and Kelsay 1992; Killion 1992; Santley and Kneebone 1992; Staski and Sutro 1991), as these are the products of daily domestic activities and craft production. Middens or other formal refuse deposits, as well as areas of opportunistic refuse disposal, are typically associated with the structures themselves, and provide a clearer picture of occupation history and site/structure function than do the cultural remains located in structural fill (Fry 1972; Haviland 1985; Puleston 1983). Randomly placed test-pits often have mixed results (e.g., Nance and Ball 1986), but the utilization of shovel test-pits can substantially increase the productive potential of a given excavation. Puleston (1973) noted that by placing 3-5 posthole probes in the region around a structure(s), areas of artifact concentrations can be located and test-pitted. The test-pitting project followed this methodology, and used XSS-style STPs to locate artifact concentrations and determine test-pit placement. Puleston (1973:168) also used the posthole method to test structurally "vacant" areas for cultural remains and "hidden" mounds, and he noted that when test-pitted structures were later subject to larger-scale excavations, the test-pit occupation spans held true.

In addition to harboring refuse deposits, areas around a structure often include the debris associated with collapsed structural fill (Puleston 1973: 136). If it is assumed

that the fill was not brought in from a far-removed area, it can provide additional information pertaining to earlier activity in the site area, as well as *terminus post quem* dates for the structure's construction.

The test-pits were laid out within a 1 m radius of the most productive STP, and off-mound contexts were preferred over fill. However, if the off-mound STPs were not productive, test-pits were placed atop platforms or mounds. On several occasions, surface-invisible platforms or features were encountered in what had appeared to be an off-mound area. When this occurred, the unit was completed and the existence of a potential architectural feature was noted.

Units were normally excavated in arbitrary levels, and in almost all cases, matrix was screened using 1/4" mesh (see Ehret 1995, for discussion of the three exceptions; sites T/A1-130, T/A2-021, and T/A2-075). Soil samples were taken from the second lot of a unit, in an effort to maintain some comparability across the samples. Black-and-white photographs and color slides were taken of each unit, and at least two sections (one 2m and one 1m side) were drawn.

The excavations were conducted by two pairs of workmen (one experienced excavator and one assistant per pair), while I traveled between units (at times up to 10 minutes walk apart) to record their progress. After five weeks, the two teams were merged, to increase recovery precision and recording efficiency, with excavators alternating and both assistants screening for artifacts. As needed, one workman and I served as an advance team to prepare the next site--cutting back overgrowth and relocating datums. Once excavations, photography, and drawings were completed, a unit's corners were plotted using pace and compass or tape and compass (depending on the availability of 30 m tapes), and the unit was backfilled.

Artifact Analysis

The results of the STPs were recorded in the field using the XSS artifact form (Ashmore et al. 1994). The ceramics retrieved from test-pitting were analyzed in June and July 1995, and this portion of the project was funded separately, by a grant from the University of Pennsylvania Department of Anthropology. XAP ceramicist, Lisa LeCount, advised that the questions asked and excavation contexts encountered did not call for in-depth trait-oriented analysis, and the same XSS artifact form was used to record the distribution of ceramic types, varieties, surface treatments, modes, and vessel forms in each lot. During the summer laboratory season, 100% of recovered ceramics were analyzed, and Jon VandenBosch analyzed lithic materials from T/A1. Non-ceramic and non-lithic artifacts were recorded, and a more detailed analysis of these, as well as T/A2 and T/A3 lithics, is planned for 1996.

For each time span, diagnostic ceramic types and form modes were utilized to make temporal assessments pertaining to the site. The temporal diagnostics are listed in Appendix 1. The lists feature the most common diagnostics, however additional ceramic types and varieties were recognized during analysis. LeCount offered invaluable assistance in recognizing less common, through temporally diagnostic, ceramic types. After analysis, plain or eroded body sherds were bagged for each excavation lot, and placed in long-term storage. Rim sherds, neck fragments, and sherds with surface treatment were separated and stored in an accessible location.

By far, the most numerous category of sherd is the plain or eroded calcite-tempered body sherd. Roughly 90% of the sherds recovered during the test-pitting project belonged to this category, and very often an excavation lot contains more of these temporal non-diagnostics than more informative rims or surface-treated sherds. Unfortunately, therefore, temporal designations must occasionally be drawn from a very small sample of diagnostics. Lot contents are treated as a whole, often yielding multiple chronological referents per lot. Many site formation processes lead to such admixture, of course, and in such cases the latest temporal period represented (i.e., the *terminus post quem*) is assumed here to approximate best the deposition date.

In previous analyses (e.g., Ehret, in Ashmore et al. 1994), ashware was considered diagnostic of the Late Classic. This year, however, LeCount noted that ash-tempered ceramics appear in the Middle Preclassic through Early Classic as well (personal communication, 1995). She suggests that the presence of several eroded ashware bodies (in an excavation lot) does not firmly indicate a Late Classic context (e.g., Gifford 1976: 74, 82, 141, 145, 169, 174). This pertains only to eroded ashware bodies, in that surface treatment and rim forms remain temporally diagnostic attributes. In this analysis, then, eroded ashware body sherds were considered diagnostic of the general Late Classic only when occurring in some quantity, at least 10% of large lots.

Micaceous wares, too, presented occasional interpretive ambiguities, worth noting here. Although particular micaceous wares could be diagnostic of one or another time span (e.g., that of the Chan Pond Ceramic Group, for the Protoclassic), such specificity of identification was not always possible. This merits mention because the alternative possibilities were not always close in time (see below, discussion of T/A1-163, Dos Chombitos Zone; T/A2-051 in the Vaca Brava Zone).

Results of Excavation and Analysis

A detailed description of each test-pit is provided elsewhere (Ehret 1995), and this section summarizes findings as they pertain to settlement in the survey region. Each zone is defined and described individually, followed by a more generalizing diachronic view of the settlement landscape, from the Middle Preclassic to the Terminal Classic, as depicted by the test-pit data (see Ashmore et al. 1994 and Neff et al., this volume for views as depicted by the survey data). It must be emphasized that the findings here pertain to the test-pit data. The table accompanying discussion of each zone represents diachronic development for individual sites and types in the area. When the site number shows a capital X for the time span, this signifies a primary date. Primary dates are spans when I believe an occupation or construction level dates to the period. Secondary dates imply that activity may have occurred in the general site vicinity during the time span. Secondary dates do not signify that the site or its recorded features were constructed or used during the time span; rather, they imply that temporally diagnostic ceramics were recovered in excavation, but in mixed contexts where the *terminus post quem* date differs. An example is a lot with Middle Preclassic and Late Classic ceramics in a mixed context. The lot is given a primary date of Late Classic, and a secondary date of Middle Preclassic. The Middle Preclassic material most likely implies that there was local activity in the Middle Preclassic, however it does not directly relate to the construction of the site's features. Of course the only method of

retrieving material directly related to construction is excavation of the feature itself. However, as noted earlier, Puleston (1973) showed that test-pitting in associated contexts can provide a very close estimate of the actual occupation sequence.

In the discussion to follow, time span designations are abbreviated as: MPC (Middle Preclassic - 1200-300 B.C.), LPC (Late Preclassic - 300-0 B.C.), PP (Protoclassic - A.D. 0-300), EC (Early Classic - A.D. 300-600), LCI (Late Classic I - A.D. 600-700), LCII (Late Classic II - A.D. 700-830), and TC (Terminal Classic - A.D. 830-1000).

Dos Chombitos Zone

The Dos Chombitos Zone is a geographically defined region which extends along T/A1 from the Macal river on the east to a deep gorge and arroyo on the west, bordering Valencia land (Figures 1-3). 1995 test-pitting investigated 9 sites which include all types except Type II. The apparent socio-political focus of the zone is the site of Dos Chombitos (T/A1-161), which is located in the approximate center of the zone. The investigated area includes the portion of T/A1 which extends from the arroyo to the Macal river, and the southernmost kilometer of T/A3--which begins north of the pyramid (Mound 7) of Dos Chombitos. With the exception of site T/A1-161, one test pit was excavated at each site. Two tests were excavated at Dos Chombitos, one on the main platform just north of Mound 3 (in Figure 2, the nearer mound of those south of the pyramid), and the second in a patio group just west of the main platform. Table 5 summarizes the chronology inferred for tested sites of this region.

Apart from the Type I site located along T/A3, almost a kilometer north of the Dos Chombitos site core, no tested sites produced evidence of activity in this zone during the Middle Preclassic. This is unique in the survey region, where redeposited remains of Middle Preclassic activity are otherwise distributed widely across the landscape (Ashmore et al. 1994).

Suboperation 183A, a unit excavated into the fill of the main platform of Site T/A1-161 (Dos Chombitos), produced one rim sherd diagnostic of the Late Preclassic. The rest of the small assemblage was not diagnostic of any time span. Some sherds collected from spoil of a fresh looter's trench in the main pyramid also dated to the Late Preclassic, however their context is unknown and Late Classic ceramic types were recovered as well. Ceramics from probable platform fill at site T/A1-162, the 'L'-shaped group located northeast of Dos Chombitos, included redeposited LPC material.

The location of primary Protoclassic activity at Type I sites (T/A1-163, -175, -190) is interesting-- especially because the two sites with primary PP dates do not show evidence of activity in any other time span. In this zone, the PP dates were determined by the presence of the ceramic group Chan Pond (Gifford 1976:149). Chan Pond is a variation of Tumbac Unslipped Ware, a micaceous-tempered pottery characterized by a very rough, granular surface. This group accounts for ca. 90% of the PP designations from the test-pit analyses. LeCount noted that there is a possibility that the micaceous-tempered PP ceramics may have been produced locally (LeCount, personal communication). The evidence of PP activity along the rest of T/A1 is virtually nil. The micaceous pottery at T/A1-163 wasn't definable as to type, and may be Terminal Classic (Ehret 1995).

Only secondary dates define activity during the Early Classic. A distinct level of platform fill at T/A1-162 contained LPC and EC diagnostics, but upper levels contained Late Classic ceramic types, and no distinguishable sub-floors were detected to indicate a sealed context. T/A1-157 is currently undergoing a typological facelift which involves splitting the site in two--T/A1-157, a Type I, and an off-transect site of Type VI (regarding off-transect or O/A sites, see Ashmore et al. 1994, Neff et al., this volume). The Type I component was tested in 1995.

There appears to be an increase of activity during the LCI period. Although most of the activity is evident as secondary dates, both Dos Chombitos and T/A1-163 show occupation in this time span. The LCI date at the Dos Chombitos site core comes from the unit excavated west of the main platform (SubOp 183B). This location was pointed out to me by Connell and Neff in 1994, and excavation encountered a dense refuse deposit just north of Mound 5. The LCI date comes from a Mount Maloney rim.

Construction activity clearly increases in the LCII period. With the exception of the two PP Type I sites, every site in the zone evidences activity in the LCII. 1994 surface collections at Dos Chombitos, as well as 1995 looter's trench ceramics, suggest that the visible architecture dates to this time span. All Type IV, V, and VI sites appear to correspond to this construction phase in the vicinity of the pyramid center. Ceramics retrieved from a series of STPs excavated across the *sacbe* southeast of T/A1-162 (Ashmore et al. 1994) were not diagnostic of any time span, however the closest site (T/A1-165) has a primary date of LCII.

T/A3-003 and T/A1-179 have primary dates in the Terminal Classic-- and in the case of the former, this date appears to correspond to its initial construction. In the case of T/A1-163, the Terminal designation is dependent on the ceramic group of the micaceous pottery (as noted above).

The preliminary analyses suggest that, aside from the two Protoclassic and one Terminal Classic Type I sites, every site sampled evidences construction and/or occupation dated to the LCII period. As well, nearly all locations produced ceramic types that are diagnostic of earlier time spans. In contrast to almost every other zone tested during the 1995 season, this one produced few ceramics diagnostic of the Middle Preclassic. The Negroman zone produced a large quantity of MPC material-- and this zone is only 2 km north of the northern border of the Dos Chombitos zone.

Second Intermediate Area

This zone is located west of the gorge/arroyo forming the western border of the Dos Chombitos zone, and east of T/A1-116 (Figures 1, 4, 5). This is the 'longest' zone--covering ca. 2.5 km of T/A1. Three sites were tested in 1995, 2 on the eastern end--on Valencia land, and 1 on the western end--near Rancho San Lorenzo. Two Type II and one Type III sites were tested. See Table 6 for the chronological summary.

The secondary date at T/A1-142 is the only evidence of MPC activity in this zone. There is no evidence of activity (primary or secondary) during the Late Preclassic, Protoclassic, Early Classic, or Late Classic I in the Second Intermediate Area.

The primary LCII dates at 100% of the tested sites replicates the results from XSS reconnaissance STPs in 1994 (Ashmore et al. 1994; Ehret et al. 1995). This zone did not produce direct evidence for construction predating the LCII.

The continuation of occupation at T/A1-142 site is the only evidence of Terminal Classic activity in the zone. Modern land use in the area suggests the soil is very productive, and complex ancient terrace systems are located in the immediate area. The quality of the land on which T/A1-142 is located might explain its locally unique life span. As well, the site is the only example of a non-Type I or II site in the zone, and therefore is the most architecturally complex local site. Complexity and site size suggest a higher status for its residents, as well as being consistent with greater frequency and perhaps duration of occupation. With this in mind, T/A1-142 *should* have been (and was) the site which evidenced the longest range of dates evidencing primary or secondary activity and/or construction.

Chan Zone

The Chan zone extends from (roughly) T/A1-061 in the west to T/A1-115 in the east (Figures 1, 5). Unfortunately, about half of the zone is located on land which could not be examined in 1995. This exclusion affected T/A1-110--a Type VI site 1.5 km east of the Chan site (O/A1-005). T/A1-110 and its immediate environs doubtless played an important role in the socio-political development of the zone and included settlement scattered along a range of terraced hillsides. The Chan site apparently served as the socio-political focus of the entire zone. The site and its immediate environs were available for archaeological investigation in 1995. It should be remembered, however, that the sample is skewed because only the western half of the zone could be tested. In this area, 9 sites were test-pitted-- representing all site-types except Types IV and V, which were not available. One Type I site (T/A1-077) yielded no datable material. Table 7 provides the chronological summary for the Chan Zone.

Secondary dates indicate some localized activity during the MPC, however T/A1-071 appears to have been occupied during this time span.

SubOp 183K, a unit placed in the southwest corner of the Chan site's main plaza/platform, showed evidence of at least one rebuilding episode. Excavation below an intact plaza floor produced ceramics diagnostic of the LPC and MPC, and nothing later. Deeper excavation recovered only MPC diagnostics. At this time it is not known when the visible architecture at the site was constructed, but the sealed Preclassic diagnostics suggest that the site may have begun developing before A.D. 600. There is no evidence of Protoclassic activity in the Chan zone.

Although there is secondary evidence for EC activity within the zone, no occupation or construction is dated to this time span. Early Classic ceramics at the Chan Site come from SubOp 183J, a unit excavated just north of the northern boundary of the main plaza area, and the sherds are redeposited in Late Classic strata.

T/A1-068 and T/A1-076 may have been constructed in the LCI period. Both of these sites are located 300-400 m southwest of the Chan site. The Chan site itself may have been occupied in the LCI period, in that the ceramics diagnostic of this time span were recovered in this first lot of SubOp 183K, well above the earlier plaza floor.

Two-thirds of the sites tested in the Chan zone evidence occupation and construction in the LCII period, and, with the exception of the Chan site and T/A1-076, all of these yield their earliest primary date in this time span. This quantitative increase in zone population is typical of the T/A1 area during the Late Classic II period (and the Maya lowlands in general).

Only one site evidences construction datable to the Terminal Classic. The Type I site is located on the northern boundary of a field stepped by pre-Hispanic agricultural terraces, and the Terminal occupation appears to have continued from the LCII.

Most of the sites tested in the Chan Zone show construction in the Late Classic period--especially the Late Classic II. At the Chan site, the pit excavated into platform fill encountered strata which date to the Late Preclassic and Middle Preclassic--while the upper strata, and the entire unit 183J, date to the Late Classic. Sites T/A1-068 and -076 do have strata dating to the Late Classic I period, and T/A1-071 (a type II) dates to the Middle Preclassic. All sites tested had evidence of pre-Late Classic II activity--collectively spanning the Middle Preclassic through Late Classic I. One Type I site showed occupation activity into the Terminal Classic.

First Intermediate Area

This area extends from around T/A1-020 in the west to T/A1-060 in the east (Figures 1, 5, 6). As with the Chan Zone, a portion of the area was unavailable for testing in the 1995 season. Unfortunately this area included an important Type VI site, T/A1-028, which most likely served an important socio-political function during the zone's prehistory. The First Intermediate Area is a horizontally ambiguous region--with modern San Jose Succotz marking its western border. Site density is actually quite moderate, and without firmer dates for T/A1-028 (XSS 1993 produced a Middle Preclassic and Terminal Classic designation), the diachronic development of the area could lack a coherent substructure. Four sites were tested in 1995-- representing Types I and III. (The one Type II example was redesignated as Type III; see note to table.) Pending discussion with other XSS personnel, sites in this region may be absorbed into the Chan and Xunantunich Zones. Table 8 provides the chronological summary for the First Intermediate Area.

Only one secondary date places human activity in the First Intermediate Area during the MPC. We found no ceramics diagnostic of the Late Preclassic within the zone.

T/A1-051 evidences first occupation in the Protoclassic--however neither LeCount nor I had ever before encountered the ceramic form which was used to date the site. Based on the contents of Keller's chultun in the Xunantunich site core (Keller, this volume), the rim form now appears to pertain to the Protoclassic (LeCount, personal communication). The site is located on the eastern boundary of the zone--at least 3.5 km from Xunantunich, and less than 1 km from the Chan site. It is suggested that T/A1-051 would have more likely been affiliated socially with the inhabitants of the Chan Site than with any group occupying the area along the banks of the Mopán river.

There are no primary or secondary dates correlated to the Early Classic period.

Site T/A1-042 is located along the eastern boundary of the zone, and shows a secondary date of MPC. However, initial primary occupation is dated to this period, as is that of the other Type III site assigned to the LCI, T/A1-027. The questionable date at T/A1-043 stems from LeCount's opinion of the site's assemblage as simply "Classic--probably Late." T/A1-042 does not provide evidence of subsequent occupation.

Interestingly enough, 50-75% of the area's tested sites (2 or perhaps 3 out of 4) do not show occupation in the LCII. The example of definite occupation is from T/A1-027--the westernmost site tested in the zone. The question regarding T/A1-043 stems from the same comment as in the discussion of the LCI. We encountered no evidence of Terminal Classic activity in the First Intermediate Area.

In a surprising shift, this area yielded fewer Late Classic II dates than expected. The Type III sites may predate that period. The Type I site probably dates to the general Late Classic. Although the Second Intermediate Area dates (almost totally) to the Late Classic II, the First Intermediate Area doesn't appear to have been an area open to population expansion during the Late Classic II. The data suggest that the zone may already have had a settled population before the LCII. The primary and secondary dates correspond with evidence for pre-Late Classic activity in the Chan Zone, as well as in the environs of Xunantunich (e.g., Group E, O/A2-001; see Robin et al. 1994).

Xunantunich Zone

The Xunantunich Zone extends from the Late Classic center to T/A1-020 on the east, and northward ca. 1 km to the northern boundary of Valdez land along T/A2 (Figures 1, 7). The eventual survey of T/A4 will be within this zone (Ashmore 1993). Unfortunately, the area within a 1-km radius north and east of Xunantunich was not available for testing during the 1995 season--although Robin (et al. 1994) was able to test two of the more prominent sites in this area (Group E and O/A2-001). In the portion of the zone east of the Mopán river, 1995 investigations tested 6 sites. These sites were of Types II, III, IV, and V. Table 9 provides the chronological summary for Xunantunich Zone sites tested in 1995.

The 1995 test-pitting program recovered no evidence of Middle Preclassic, Late Preclassic, or Protoclassic activity in the Xunantunich Zone.

The hilltop site of T/A1-006 is located just east of the eastern boundary of the modern town of San Jose Succotz. Initial occupation dates to the Early Classic, and continues into the general Late Classic. The limited distribution of EC activity is plausible, following an inactive MPC, LPC, and PP (according to the 1995 test-pit sample).

The Late Classic I shows an increase in activity in this area, including possible construction at T/A1-006 and primary activity at T/A1-090. The unit placed at the latter site (SubOp 183AA) produced the richest refuse context located during the course of 1995 XSS test-pit excavations. Secondary evidence shows a scattered horizontal distribution of LCI activity.

Except for T/A1-006, every site sampled in this zone was likely occupied in the Late Classic II period, and even at that site, such a date is possible. Its assemblage is

"general" Late Classic. T/A1-090 has secondary evidence, but this suggests continued occupation from the LCI into the Terminal Classic. Every other site shows primary evidence for occupation and/or construction during this time span.

Although less abundant than the data pertaining to the LCII, Terminal Classic occupation occurred at two sites. It is interesting to note that activity appears to cease at the two Type V sites tested in the zone. T/A1-008 is a hilltop site located on the eastern border of modern Succotz, and the site lies beneath modern structures.

The dates recovered in this zone outline a variety of occupation histories. Sites representing the range of types sampled have construction in the Late Classic II period. The Type III site shows a 'Classic' beginning, with definite Terminal Classic occupation. T/A1-090 begins its history in the Late Classic I period--and shows heavy use into the Terminal Classic. Finally, T/A1-006--the site closest to the Succotz Mound--has multiple occupations (Early Classic and Late Classic).

Actuncan Zone

The Actuncan Zone is located north of Valdez land, and extends to a creek which crosses the brecha around picado 75--a distance of ca. 1 km (Figures 1, 8). A portion of this area was surveyed by McGovern in 1993, but no datable materials were retrieved at that time. A total of 7 sites were tested in 1995, including examples of Types I, II, III, and V. Table 10 summarizes the chronology evident in test pits in the Actuncan Zone.

All sites tested in the Actuncan Zone evidenced secondary activity during the Middle Preclassic. Although all materials encountered were redeposited in later matrices, it seems clear that there was some level of localized activity. This is an interesting contrast to the Xunantunich Zone east of the Mopán river--which shows *no* activity until the Early Classic. Horizontally, both survey zones are the same distance from the Xunantunich site core.

Site O/A2-040, located in the area called "Actuncan North", had been reconnoitered and mapped by McGovern in 1993, however no testing of the site was accomplished until 1995. This Type V site produced abundant material diagnostic of the Late Preclassic, although mixed with ceramics datable to later time periods. The site core of Actuncan is located several hundred meters to the southeast. Secondary LPC dates were recovered elsewhere within the zone.

Protoclassic and Early Classic materials were was recovered only in secondary contexts, all at sites exhibiting earlier secondary evidence.

Site T/A2-016, a patio group located in the center of the brecha cut, shows occupation during the LCI period. O/A2-040 also has its first primary date during this time span. Most sites tested show at least secondary activity. This is a sharp contrast from the Callar Creek zone, where nearly every site tested seems to have experienced a distinct occupation during the LCI. Of course, the data from the Actuncan zone are comparable to the other zones tested in 1995.

Every site in the zone experienced activity during the LCII period--and five out of seven sites experienced occupation and/or construction during the time span. With

the exception of O/A2-040, the other sites have their first primary dates during the LCII.

"Actuncan North" and the Type I sites appear to have been abandoned following the LCII. However, the Type III and one of the Type II sites continued to be occupied into the Terminal Classic. The sites with primary Terminal Classic dates are three of the four closest to the Xunantunich Zone.

Every site in the Actuncan Zone was the scene of some level of activity in the Middle Preclassic period--however no construction can be dated as pre-Late Classic. The Type I sites both appear to date to the Late Classic. The Type II sites date to the Late Classic II and one to the Terminal Classic as well. Both also show some localized activity in the Late Preclassic. The Type III sites evidence pre-Late Classic secondary activity, but occupation dates to the LCI or LCII, and Terminal Classic. Finally, Actuncan North site O/A2-040 shows a strong representation of redeposited material pertaining to the LPC--leading into a Late Classic I and Late Classic II occupation sequence. The variety in occupation histories in this zone focuses on the Late Classic and Terminal Classic, however this zone diverges from T/A1 in that secondary dates represent *all* previous time spans.

Vaca Brava Zone

This zone extends from the creek at picado 75 to just north of the San Juan Creek--a distance of ca. 1 km (Figures 1, 8, 9). This area has a very low density of sites in comparison to the Actuncan and Callar Creek Zones. Five sites were tested in the 1995 season. These sites represent Types I, II, III, and VI. The Vaca Brava site (T/A2-047; Type VI) most likely served an important socio-political function in the zone in LCII times, and still serves as its visual focus. Table 11 summarizes test-pit data on chronology in the Vaca Brava Zone.

The question mark (on Table 11) pertaining to the primary date at site T/A2-051 refers to several small micaceous-tempered sherds which LeCount thought were either MPC or Terminal Classic. If TC, there is only secondary evidence only for MPC in the Vaca Brava Zone. If MPC, then T/A2-051 was a precocious settlement in a zone which otherwise does not yield evidence for primary occupation until the LCII.

There is only secondary evidence for activity during the LPC--however, it comes from both ends of the zone's north-south extent.

As with the LPC, there is secondary evidence for activity during the PP. Two sites continue as loci of activity (LPC to PP), and T/A2-051 lies directly west of Vaca Brava--the Late Classic Type VI site located on the modern west bank of the Mopán river. No actual occupation is datable to either time span.

T/A2-055 is the only site with even secondary material dating to the Early Classic, and unlike the Actuncan Zone, this area evinces no primary activity during the LCI period.

Four of the five sites tested in the zone yielded evidence suggesting distinct occupation dated to the LCII. This is in keeping with data for the LCII period across the

survey region. All sampled site types are represented, and all developed in a general area of pre-LCII secondary activity.

Unfortunately, both primary dates for the Terminal period are questionable. Site T/A2-051 was discussed above, and T/A2-055 contained a micaceous sherd which was not MPC nor PP, and therefore is assumed to be Terminal.

With the exception of T/A2-051, every site in the sample seems to have been occupied and/or constructed in the Late Classic II period. As well, every site except Vaca Brava experienced localized activity which pre-dates the Late Classic. Unlike the Actuncan Zone, this zone does not evidence *complete* widespread activity in the Middle Preclassic.

Callar Creek Zone

The Callar Creek Zone extends from just north of the San Juan Creek to the site core of Callar Creek--a distance of ca. 1 km (Figures 1, 9). At the Callar Creek site core (T/A2-087, Figure 10), five locations were chosen for testing (Suboperations 205V-Z), based on a series of 20 STPs placed around the 3 platforms and within the 4 plaza areas. As well, the XSS team placed 8-9 STPs and conducted various surface collections during reconnaissance in March. Including T/A2-087, 10 sites were investigated in 1995--representing Types I, II, III, and VII. Site T/A2-084 was originally designated as Type III, it now appears to be simply an artifact scatter located at a historic site.

All but one of the sites sampled in the Callar Creek zone shows secondary evidence for MPC activity. In contrast to the T/A1 region, MPC activity appears widespread along the entire stretch of T/A2.

Site T/A2-082, located ca. 200 m southeast of the Callar Creek site, produced evidence of primary occupation during the LPC. Five other sites showed evidence of secondary during the time span.

Eight sites produced ceramics diagnostic of the Protoclassic. Finds at T/A2-069 are strong enough to suggest this is a primary date for the site. The temporal diagnostics included the Chan Pond Ceramic Group. If micaceous-tempered ceramics (represented by the Chan Pond Group) were being produced in the Macal river area, their presence in this zone might indicate interaction between the two regions during this time span.

The Type VII center of Callar Creek produced three contexts which had primary dates linked to a potential of either Protoclassic construction phase. A total of five test pits were excavated at Callar Creek. Two pits were located at the base of the main platform--one off the southwest corner, and the other near the base of the east side. Three test-pits were placed atop the site, one into each of the three platforms. The goal of the test pits placed in fill was to develop a preliminary estimate of the building episodes of the site. The test-pit which produced the primary PP date was excavated into the fill of Platform 1 (F1 on Figure 10)--the central plaza area bounded on the east and west by two pyramid structures. The test-pit (SubOp 205W) section showed a level of stone ballast which probably supported a floor (the remains of which were not preserved). The strata excavated beneath the ballast included ceramics diagnostic of the

MPC, LPC, and PP. The earliest strata of SubOp 205V, the unit placed off the southwest corner of the main platform, also produced MPC, LPC, and PP diagnostics. The third primary PP context came out of the lowest cultural stratum in SubOp 205Y--a unit excavated in the north plaza (F3). I would suggest that the F1 and F3 areas were constructed during the Protoclassic, and test-pit data suggest occupation continued into the Late Classic.

Seven sites within the zone produced evidence of secondary activity during the Early Classic.

Surprisingly, the Callar Creek zone evidences primary activity at almost all sites during the LCI period. Across all three archaeological transects, this is the only occasion in which primary LCI dates are more prolific than LCII. One test-pit at Callar Creek (T/A2-087, SubOp 205Z), located east of the main platform, had primary dates of general Late Classic and Late Classic II. The specific time span represented by the general Late Classic is unknown. As well, SubOps 205Y and 205X turned up primary dates in the general Late Classic and Late Classic I, and/or secondary dates in the Late Classic I. SubOp 205Y was located in the northern plaza, and 205X was excavated into the western plaza (F2).

Callar Creek is located not far from the Late Classic center of Buenavista del Cayo--a LCI center which was socio-political power was eclipsed by Xunantunich during the LCII. The proximity of Callar Creek to Buenavista could explain the unique (at least for XSS) proliferation of primary activity during the LCI period. The Late Classic dates in SubOp 205X were recovered from the stratum overlying bedrock, and I would suggest that the F2 patio group was added to the main group of T/A2-087 during the Late Classic (I or II).

Embedded in the surface of F3 are three large, severely eroded limestone monoliths. The XSS team disagrees as to the interpretation of these three features, but one view, first advanced by Tom Jamison, is that these are fragments of three broken stelae. If this interpretation is correct, the three are set up in an alignment which bears northeast in the direction of Buenavista del Cayo.

Primary LCII activity was recorded at the Callar Creek site and T/A2-064--a Type II site located less than 40 m from the Mopán, across the Callar creek from the Type VII site. At Callar Creek site, SubOp 205W in F1 yielded the primary dates from its uppermost strata. As well, SubOp 205Z, off the eastern side of FI, contained primary LCII material in the first lot. A (now) fallen stela was probably erected (in antiquity) at the summit of a ramp or stair which ascends to the F1 plaza from the south. Using a Brunton compass I determined that the stela is due north (magnetic) of the summit of El Castillo at Xunantunich. The stela's erection date is unknown, but I suggest that the Late Classic II occupants of Callar Creek may have severed their ties with the elites at Buenavista, and opportunistically turned their sights southward towards the new political power. This was perhaps represented by the destruction of the stelae in the F3 area (if indeed they are stelae). In an argument supporting this interpretation, the nature and severity of erosion suffered by the limestone stumps suggests that the natural stone surface, or bonded surface created by polishing, was broken--and exposed the stones' interior to erosion. If these had been stones of a foundation wall, there is no explanation for the severity in the patterns of erosion--or the arrangement

which is completely skewed in relation to every other structure at the site. Perhaps the southern stela was erected as a show of support for the elites at Xunantunich--whose elaborate friezes would have been very visible from Callar Creek.

In a remarkable contraction, only one site shows activity during the Terminal Classic. T/A2-061 is located on a hilltop directly bisected by the survey brecha. In fact, apart from the Callar Creek site, T/A2-061 has the only (modern) view of El Castillo along T/A2. Of course in antiquity this may not have been the case, but this is an interesting side-note when the site evidences primary activity during this time span.

The activity outside of the Callar Creek site core points to a widespread occupation in the Late Classic I period. The type I sites are all occupied during the Late Classic, and one continues into the Terminal Classic. T/A2-082 also has an occupation in the Late Preclassic. All type I sites contain sherds diagnostic of multiple time spans--usually beginning in the Middle Preclassic. The type II sites were occupied in the Late Classic I and/or II, but show a long history of activity beginning in the Middle Preclassic. In the case of T/A2-069, one Type II site has primary dates diagnostic of the Protoclassic. The Type III site evidences a Late Classic I occupation. The site of Callar Creek appears to have been first constructed in the Early Classic, and subsequent rebuilding episodes in the LCI and LCII may have altered the site's physical appearance. Inferences concerning the socio-political development of Callar Creek are very preliminary, but there is evidence suggesting distinct LCI and LCII occupations.

Negroman Zone

The Negroman Zone might also be called the Negroman/Guacamayo Zone--although exceedingly little is known about the latter site at this time (see Neff et al. this volume, for available information). The zone (Figures 1, 3) basically is contained in the Negroman citrus plantation, and includes the Postclassic/Colonial site of Tipú. Three sites were tested in 1995, and all three are located at various "levels" up the southern side of a steep ridge which forms the northern limit of T/A3. See Table 13 for a chronological summary of test-pit data from this zone.

All of the sites samples from this zone evidenced some level of activity during the Middle Preclassic--and T/A3-009 is one of the few sites--from the entire XSS sample--which shows what I would call primary activity during this time span. SubOp 221F, the unit excavated at this site, produced four out of six lots which contained micaceous-tempered Jocote sherds as the dominant temper class. Without exception, every other lot (containing cultural material) excavated in 1995 contained calcite-tempered pottery as the dominant temper class. Site T/A3-009 is located at the summit of the steep ridge which marks the northern limit of the brecha.

Only 20 meters up the ridge-slope, T/A3-007 is a Type II site resting precariously on a narrow shelf above the Macal river. The whole slope area has undergone extensive erosion, but the lowest strata at this site produced ceramics diagnostic of the MPC through general Classic.

Site T/A3-013 sits on the shelf directly below the ridge's summit, and the site has an associated chultun. Two 1 x 1 m square test-pits were excavated--one off the eastern platform edge, and a second in the center of the platform into fill. The lowest strata in

the former unit were dated to the Protoclassic, and the upper lots to the Terminal Classic.

The unit excavated into fill at T/A3-013 evidenced a strong Protoclassic or Early Classic assemblage (LeCount, personal communication), including Aguacate type ceramics and several EC flanges. The lowest strata at T/A3-007 yielded a primary Classic "date," which could pertain to any time during the Classic period (A.D. 300-830).

Only evidence of secondary occupation is available for the LCI period. The general 'Classic' date at T/A3-007 is again being considered as a primary date (EC, LCI).

With the exception of T/A3-013-- the site with primary dates in the PP and EC, the rest of the Negroman Zone sample shows primary activity during the LCII period. Proportionally, this is similar to the rest of the survey region --with the exception of Callar Creek Zone. At site T/A3-007 there is an exact LCII date in the upper strata of the unit.

Only T/A3-013 evidences primary activity during the Terminal Classic.

This zone produced some surprising dates. Following reconnaissance by the survey crew, Postclassic and Late Classic dates were expected from test-pits; however, each site investigated had an early occupation. The Type VI sites were constructed in the Early Classic and Middle Preclassic, and then experienced, respectively, a subsequent Late Classic or Terminal Classic occupation. The Type II site was occupied at some point prior to the LCII, and then during the LCII. After locating these early dates, the history and function of Guacamayo begs investigation even more strongly. Unfortunately there is virtually information yet available concerning this newly recognized player in the socio-political landscape of the Macal river (see Neff et al., this volume).

In my opinion, the Macal river area is one of the more diverse zones investigated during the 1995 test-pitting project. The Negroman and Callar Creek zones evidence the most consistent level of occupation spread from the MPC through Terminal Classic. Settlement along T/A1 maintained the patterns recognized in Ashmore (et al. 1994) and Ehret (et al. 1995), and the socio-political "pull" of the centers of Actuncan, Callar Creek, and (presumably) Guacamayo do appear to have affected the pattern of settlement distribution from the Late Preclassic through Late Classic. The more powerful regional players, Xunantunich and Buenavista, also affected the patterning of settlement in the LCI vs. the LCII periods. The smaller centers of Dos Chombitos and Chaa Creek probably interacted with Guacamayo at some point during the Classic.

A Preliminary View of Settlement in the Xunantunich Region

During the Middle Preclassic, evidence for activity is scattered across the survey region. While activity was slight in the inter-riverine zones, the concentration of activity along T/A2 follows Willey's (et al. 1965) preliminary hypothesis that settlement in the Belize River Valley followed the linear path of the Mopán river. It is interesting, however, that test-pitting in the Xunantunich zone did not recover evidence of even secondary MPC activity. In most cases, the sites sampled from the Xunantunich Zone were physically closer to the Mopán than were sites in the Actuncan Zone. It should be remembered that 50% of the Xunantunich zone is located on terrain which could not be

tested in 1995, and earlier STPs from the latter area (Ashmore, et al. 1994) did recover MPC material. However, the area of the zone sampled in 1995 occupies an entirely different setting. The location of Group E and O/A2-001 would lead one to deduce that MPC material would be recovered in the portion of the Xunantunich Zone located north and northeast of the civic center. Once the fourth survey quadrat is completed (Ashmore 1993, this volume), it will be interesting to see the extent of MPC activity west of Xunantunich.

The site of T/A3-009 provided one of the cleanest Middle Preclassic assemblages recovered during the test-pitting project. The proximity of Guacamayo, Tipú, and the modern orchards of Negroman farms argue that the land has been very productive since antiquity. All of the T/A3 sites sampled during the 1995 season suggested (at least) secondary occupation for multiple periods. Long-term secondary activity that was not seen at most T/A1 sites--with the exception of the Type VII centers.

Along T/A1, the Late Preclassic is best represented at the Type VII centers. Both Chan Site and Dos Chombitos have primary or secondary dates, as does O/A2-040. As mentioned in Ehret (et al., 1995), this time span begins to evidence the clustering of settlement around (what would become) the Type VII sites. The fill of F1 at Callar Creek produced a moderate quantity of LPC diagnostics, and the zone's sites show a high distribution of secondary activity. One would expect activity in the Actuncan Zone, due to the presence of this primary center. The LPC is also well-represented by secondary dates in the Negroman zone.

The Protoclassic remained elusive across T/A1--with the exception of the sites located between Dos Chombitos and the Macal river. The distribution of the ceramics of the Chan Pond Group are limited to this area, as well as the entire length of T/A2 and the Negroman zone (in fact one variety within the ceramic Group is "Negroman"). Connell and others have hypothesized that an inter-riverine portage linked the Mopán and Macal rivers, and the distribution of the Chan Pond micaceous-tempered pottery--whether or not it was produced in the T/A3 area--may suggest some level of interaction between people along the two rivers during the PP. The lack of evidence for this ceramic type across T/A1 may not signify that the region wasn't populated during this time span. The assemblage which came from Keller's chultun (Keller, this volume) implies that there was activity in the Protoclassic. However, the absence on T/A1 of this utilitarian ware, so common on T/A2 and T/A3, suggests that much of the T/A1 area--perhaps the First Intermediate Area and the Chan Zone, may have been developing as a distinct polity. This polity may have been focused on the Chan site, as vs. the communities located near Actuncan, El Bambú/Callar Creek (see Neff et al. this volume), Dos Chombitos, and perhaps Guacamayo.

The Early Classic seems to have been a time of population growth along the T/A1 area. With the exception of the Second Intermediate Area, all zones along T/A1 show at least secondary activity--and in the cases of T/A1-006 and T/A1-051 there was primary activity. Along T/A2, each zone shows secondary activity, with Callar Creek having a possible construction episode at its main platform. The Negroman Zone shows primary activity in the Type VI site T/A3-013, and secondary activity at T/A3-007.

The unique explosion of primary activity in the LCI of the Callar Creek Zone is one of the more exciting discoveries of the test-pitting program. It is evidence supporting a relationship between the zone and Buenavista del Cayo--and the continued growth of the Callar Creek site into the LCII period may support the current models of Classic Maya political organization (e.g., Marcus 1993). These models indicate that secondary elites were a dynamic social echelon--who may have had the ability to manipulate their alliances with the primary elites. A local transfer of power between Buenavista and Xunantunich--whether peaceful or not--would have most affected the political lives of the residents of Callar Creek. A clue to this issue is the three limestone stumps.

Elsewhere in the survey region, the LCI does evidence some increase in population, but nowhere so clearly as in the Callar Creek zone.

During the Late Classic II, increasing population levels in the vicinity of the Chan site and Dos Chombitos may have been a factor in the sudden appearance of settlement in the Second Intermediate Area. In general, levels of primary activity increase in all zones--again with the exception of Callar Creek. It is interesting to note that, except for T/A2-064 and Callar Creek itself, we found no evidence of even secondary activity in the Callar Creek zone--perhaps the population moved closer to Xunantunich, or some area unsampled, or off-transect but still in the Callar Creek Zone.

There was less evidence of activity during the Terminal Classic than expected, especially in the Dos Chombitos Zone. Following the initial work of the 1994 field season, I expected the Terminal Classic to be well-represented in this zone. It appears that the Terminal was mostly recovered from the Type V and VI sites located near to Dos Chombitos. This is based on 1994 data, and several of these sites are actually located off-transect, or were not part of the sampling design in March 1995[1]. There is evidence of Terminal Classic activity in all zones except the First Intermediate Area.

Oddly, no Postclassic material was recovered during test-pitting, although the XSS reconnaissance team located material in a road cut near the site of Tipú (Neff, et al. this volume). The sites located on the T/A3 terminus did not produce any post-Terminal Classic dates. It may be that the Postclassic population lived on the valley bottom--and therefore the test-pitting missed them as a matter of sampling error.

The settlement clustering model offered in Ehret (et al. 1995) still holds true in the T/A1 area. However, the settlement along T/A2--although horizontally distributed into three distinct clusters--does not maintain the same nodal focus. There is some level of activity in the Vaca Brava zone throughout the MPC to Terminal Classic, even though the Type VI site of Vaca Brava is not occupied until the Late Classic II. Without more information pertaining to the occupation of Guacamayo, not much can be suggested for

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[1]Following the 1994 season, the majority of sites located within the Dos Chombitos zone were Types III-VI. This is because the survey team left the region in early May-- after only completing the survey of the immediate hinterland (less than 0.3km) of Dos Chombitos. It appears that we had visited most architecturally complex sites, and when T/A1 was completed in 1995, the XSS team located mostly site Types I and II. So, when the sampling design was conceived in February 1995, the Dos Chombitos zone contained an inordinate number of site Types III-VI, and test-pitting had to 'miss' some of the more substantial Type III sites located southeast of Dos Chombitos.

the Negroman Zone. The Chaa Creek sites and Dos Chombitos are both ca. 3 km from this zone--so Guacamayo is suggested as the leading local player.

Conclusion

The XSS Test-Pitting Program resulted in the construction of a preliminary regional chronology with respect to site type and geographic location. The artifact assemblages will not only offer temporal information, but evidence of domestic activities and regional development patterns. Functional discussion of site assemblages awaits completion of the lithics and other non-ceramic artifact analyses. These data will form a critical part in the development of research designs associated with the future secondary projects, but more importantly, they will stand alone in any forthcoming model of settlement patterns in the greater Xunantunich area.

T/A1 stands apart from T/A2 and T/A3 for several reasons. First, across its 8 km length, there is no single nearby permanent water supply. Second, it most clearly details the "clustering" of settlement into spatially distinct communities while illustrating population expansion during the LCII. Third, although there is scattered evidence of long term activity, most activity is correlated to the Late Classic period. These observations suggest that the pre-Hispanic inhabitants' activities were influenced by both their landscape and the socio-political development of local and regional centers. Future research will define the activities which took place in the local centers and smaller domestic groups, and examine the agricultural systems which supported the population.

ACKNOWLEDGMENTS: This project would not have taken place without the financial support of the National Science Foundation (#SBR-9321503) and the Brody Memorial Fellowship of the Department of Anthropology, University of Pennsylvania. The project was directed by Dr. Wendy Ashmore whose advice and support was critical in all stages of its completion. Of course, none of us would be here were it not for Dr. Richard Leventhal and the Department of Archaeology, Ministry of Tourism and Environment, Belize. For their technical and moral support I would like to thank L. LeCount, Arq. R. Larios, T. Graham, A. Keller, S.V. Connell, L. T.. Neff, J. Yaeger, C. Robin, and J. C. VandenBosch and the rest of the XAP crew. The fieldwork could not have been accomplished without Don Lucresio Chan, Ventura Cocom, Miguel Chan, Jose Lopez, and Ronaldo Chuc. The summer lab work was accomplished thanks to Florentin Penados, Terri Graham, Mr. Mike, the Sanchez family, and Bruce the dog.

Appendix 1 - Time Span Diagnostics

The following list summarizes the ceramic types, varieties and morphological modes that are diagnostic of the time spans discussed in the report. The list is based primarily on the ceramic analyses discussed in Gifford (1976), Thompson (1940), and LeCount (1992, 1993, 1994). This summary does not include *every* type used to define temporal periods the analysis of the XSS test-pit ceramics, rather, it presents the most important and distinctive types and characteristics used by myself and the XSS reconnaissance team in 1994 and 1995 (see Neff et al., this volume).

Type-variety designations are drawn from the paste/temper and surface treatment of ceramics. Surface treatment includes the color and texture of the slip, as well as decorative technique(s). The four primary paste types are calcite, ash, micaceous, and orange.

Middle Preclassic
Jocote Ceramic Group and its Varieties
Mode: Appliqué-fillet
Mars Orange Ware: the Savana Ceramic Group and its Varieties; Reforma Incised

Late Preclassic
Paso Caballo Waxy Ware: Sierra Red; Flor Cream; Polvero Black
Mode: lip flange

Protoclassic
Holmul Orange: Aguacate Ceramic Group
Modes: mammiform feet; medial flanges and Z-angles
Chan Pond Ceramic Group

Early Classic
Fowler Ceramic Group: Fowler Orange-red
Peten Gloss Ware: Minanha Ceramic Group; Dos Hermanos Ceramic Group
Actuncan Ceramic Group
Modes: basal flange; mammiform feet

Late Classic I
Mountain Pine Ceramic Group: Mountain Pine Red
Sotero Ceramic Group: Sotero Red-brown
Zibal Ceramic Group: Zibal Unslipped
Modes: lateral ridge; Mount Maloney Group: smooth rim

Late Classic II
Cayo Ceramic Group: Cayo Unslipped; Alexander variety; Beaverdam variety; Tu-Tu Camp Striated
Dolphin Head Group
Mode: basal angle
Belize Red Group (ashware): Belize Red variety; Planton Punctate; MacRae Impressed
Vinaceous Tawny Ware (ashware): Chunhuitz Ceramic Group; Benque Viejo Polychrome

Mode: Mount Maloney Group: beveled rim

Terminal Classic
Vaca Falls Ceramic Group
Daylight Ceramic Group
More Force Ceramic Group
Modes: Cayo Ceramic Group: piecrust rim, flaring rim; Mount Maloney Group: square rimBelize Red Group (ashware): flaring rim; oven feet; Chunhuitz Ceramic Group: flaring lip

Appendix 2: Conservation Work at Dos Chombitos

When the XSS crew arrived at the site of Dos Chombitos in early March, we made the unpleasant discovery of a series of fresh looter's trenches and tunnels in the site core. The most dramatic destruction occurred in Mound 7--the main pyramid of the Type VII site. Although there had been illegal trenching in 1994 (see below), the impact on the structure's summit had been minimal. The most recent looting consisted of cutting a north-south trench, ca. 1 m wide, which effectively bisected the upper 7 m of the summit area. A tunnel, 1 m wide and 2 m high, extended east from the center of the north-south trench, and exits on the eastern facade of Mound 7.

The looters must have encountered primary deposits within the structural core because a ca. 5 m x 5 m area was excavated out from within this core. Visible in the summit's cross section were at least four plaster floors, including one ca. 7" thick level which represents multiple, consecutive plaster surfaces--each exhibiting evidence of burning prior to refinishing. This complex level(s) is the 'lowest' visible floor, and may be temporally correlated to the alleged primary deposits which were excavated from a 2 m deep (2 x 1 m) pit located in the center of the 5 x 5 m dugout. When the trench was discovered by the XSS crew in March, Belizean workmen encountered three whole vessels (dishes) within the excavated area. Their context of origin is unknown, and the looters apparently excavated them from a primary deposit, deemed them inconsequential, and laid them aside. Based on surface treatment and form, one vessel receives a preliminary date within the Late Preclassic or Protoclassic period (LeCount, personal communication). The other two vessels are not temporally diagnostic. Based on the 'worn' condition of the datable vessel, I suggest that the time of actual deposition may post-date the Late Preclassic-Protoclassic span.

The fill within the central core of the structure is densely packed sascab/marl. Roughly 4-5 meters below the summit, the fill changes to a loose cobble matrix--a very unstable technique. Two to three reflooring episodes that used this fill were visible. Conservationist Dr. Rudy Larios visited the site with Dr. Ashmore, and it was decided that the entire trench should be backfilled by XSS in order to maintain the structural integrity of the upper structure. In fact, Dr. Larios stated that, were it not for a large tree growing out of the Mound 7 summit, the pyramid's upper 4 meters may have collapsed into the central trench--effectively destroying any traces of summit structures.

In addition to the upper trench/tunnel system, another tunnel, 1 m wide and 1-2 m high, runs north-south at the base of the pyramid. In the center of the structure, where the north and south tunnel branches meet, the looters excavated upward ca 2 meter. Most likely they were trying to find primary deposits which were below the one(s) uncovered in the upper trench. There was at least one plaster floor visible in the cross section of the lower tunnel's south branch. Fragments of human bone were collected near the entrance of the northern branch, but their context of origin is unknown. Part of the northern branch had been excavated in 1994.

The lower tunnel entrances were backfilled in order to impede future looting attempts. Sherd fragments located from the looter's trenches included Late Preclassic and Late Classic ceramic types--but the original contexts are unknown.

Site T/A1-162, a Type VI site located just east of Dos Chombitos, also experienced further looting between the 1994 and 1995 seasons. The site's main focus is an "L"-shaped structure, and the northern 'limb' has been almost completely cleared by illegal excavating. Architecturally, the western side of the structure, whose long axis

runs north-south, consisted of a narrow room with masonry walls and a corbelled arch roof. The room was ca. 1 m wide and 3 m long, and was entered by a door located in the center of the west façade. The remnants of a plaster floor are visible along the border of the room, but the floor had been broken through (apparently by the looters seeking primary deposits). The southern limb of the "L"-shaped structure evidences some small STP-size pits, but nothing as dramatic as the northern limb. The XSS crew backfilled the northern building.

Schematic plan and section drawings of every trench and tunnel were made at both Mound 7 of Dos Chombitos and the north room of T/A1-162.

Unfortunately, Dos Chombitos and its environs are located in a remote area near the Macal river. This makes the site(s) very vulnerable to illegal looting because, logistically, there is no way to safeguard the area. In contrast, the sites located along T/A2 are mostly in sight of modern dwellings and evidenced much less destruction--including the center of Callar Creek. The XSS team, with the help of Rudy Larios, did what we could to stabilize the structural integrity of the architecture.

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Table 1 - 1995 Xunantunich Settlement Survey Site Typology

I	Single isolated mound or platform, less than 2 m in height
II	2-4 informally arranged mounds or platforms, all less than 2 m high
III	2-4 orthogonally arranged mounds or platforms, all less than 2 m high
IV	5 or more informally arranged mounds or platforms, all less than 2 m high
V	5 or more mounds or platforms, with at least 2 arranged orthogonally, all less than 2 m high
VI	1 or more mounds or platforms, with at least one 2-5 m high
VII	2 or more mounds or platforms, with at least one higher than 5 m

Table 2 - Distribution of Sites by Type as of June 1994 (T/A1 and T/A2)

Site Type	Quantity	Percent of (N) (N = 217)	Sample size (n = 47)
I	68	31%	14 (20%)
II	79	36%	15 (20%)
III	34	16%	6 (20%)
IV	19	9%	3 (20%)
V	7	3%	3 (50%)
VI	8	4%	4 (50%)
VII	2	0.9%	2 (100%)
Total	217		47

Table 3 - Distribution of Settlement Sample for T/Al as of June 1994

Xunantunich Zone	1st Intermediate	Chan Zone	2nd Intermediate	Dos Chombitos Zone
25% sample	12.5% sample	25% sample	12.5% sample	25% sample

Table 4 - Actual Distribution within Sample as of June 1995

Zone	No. of Sites Tested	% of Total Tests
Xunantunich	6	10
1st Intermediate	4	7
Chan	9	16
2nd Intermediate	3	5
Dos Chombitos	11	19
Actuncan	7	12
Vaca Brava	5	9
Callar Creek	10 17	
Negroman	3	5
Total	58	100

Table 5: Dos Chombitos Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A1-157	I				x	x	X	
T/A1-161	VII		X?			X	X	
T/A1-162	VI		x		x	x	X	
T/A1-163	I			x?	x	X	X	x?
T/A1-165	IV					x	X	
T/A1-175	I			X				
T/A1-179	---					x	X	X
T/A1-183	III						X	
T/A1-190	I			X				
T/A3-001	IV			x			X	
T/A3-003	I	x					x	X

Table 6: Second Intermediate Area Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A1-130	II						X	
T/A1-142	III	x					X	X
T/A1-145	II						X	

Table 7: Chan Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
O/A1-005	VII	x	X		x	x	X	
T/A1-062	I				x	x	X	
T/A1-063	III	x			x		X	
T/A1-068	I				x	X		
T/A1-069	I		x		x		X	X
T/A1-071	II	X						
T/A1-076	II	x				X	X	
T/A1-080	II					x	X	

Table 8: First Intermediate Area Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A1-027*	III					X	X	
T/A1-042	III	x				X		
T/A1-043	I					X?	X?	
T/A1-051	III			X?				

*Site initially recorded 1993, assigned to Type II 1994; reassessed 1995 as Type III by both VandenBosch and Ehret

Table 9: Xunantunich Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A1-006	V				X	X?	X	
T/A1-008	III					x	X	X
T/A1-010	V						X	
T/A1-019	II				x	x	X	
T/A1-046	IV					x	X	
T/A1-090	II					X	x	X

Table 10: Actuncan Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
O/A2-040	V	x	x	x	x	X	X	
T/A2-016	III	x	x	x	x	X	x	X
T/A2-018	III	x		x		x	X	X
T/A2-021	II	x	x		x	x	X	
T/A2-027	II	x	x			x	x	X
T/A2-036	I	x		x			X	
T/A2-037	I	x			x		X	

Table 11: Vaca Brava Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A2-041	I	x	x	x		x	X	
T/A2-047	VI						X	
T/A2-051	III	X?		x			x	X?
T/A2-055	III		x	x	x	x	X	X?
T/A2-058	II	x					X	

Table 12: Callar Creek Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A2-061	I		x	x		x?		X
T/A2-064	II	x	x	x	x	x	X	
T/A2-067	I	x		x	x	X		
T/A2-069	II	x	x	X	x	X		
T/A2-070	III	x		x	x	X		
T/A2-075	I	x		x		X		
T/A2-082	I	x	X	x	x	X		
T/A2-084	---	x			x	X		
T/A2-086	I	x	x					
T/A2-087	VII	x	x	X	x	X	X	

Table 13: Negroman Zone Chronological Summary

Site	Type	MPC	LPC	PP	EC	LCI	LCII	TC
T/A3-007	II	x	x	x	X	X	X	
T/A3-009	VI	X				x	X	
T/A3-013	VI	x	x	X	X		x	X

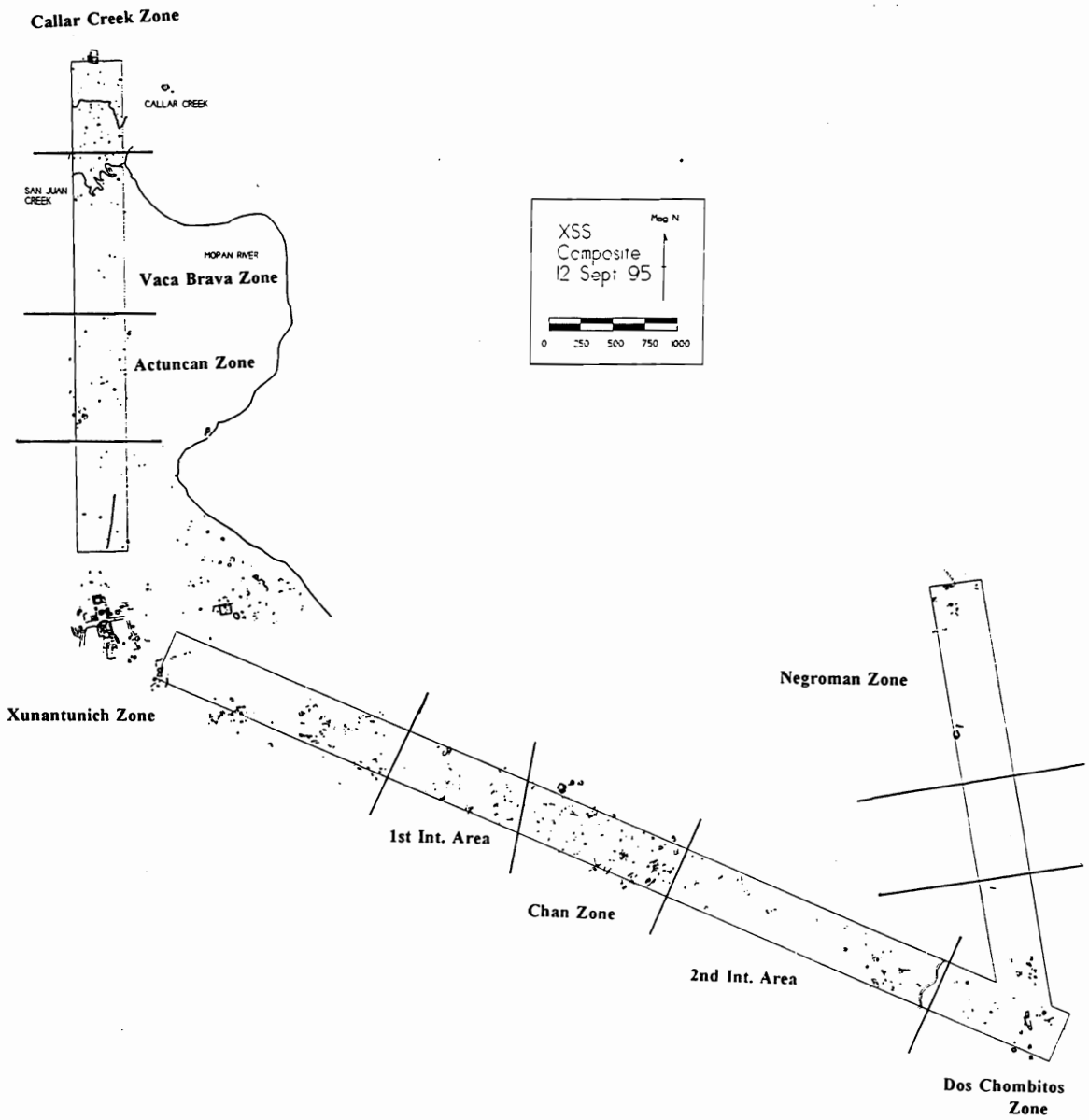

Figure 1.

The XSS Region with Zones Marked. Map courtesy of C.Robin, 1995.

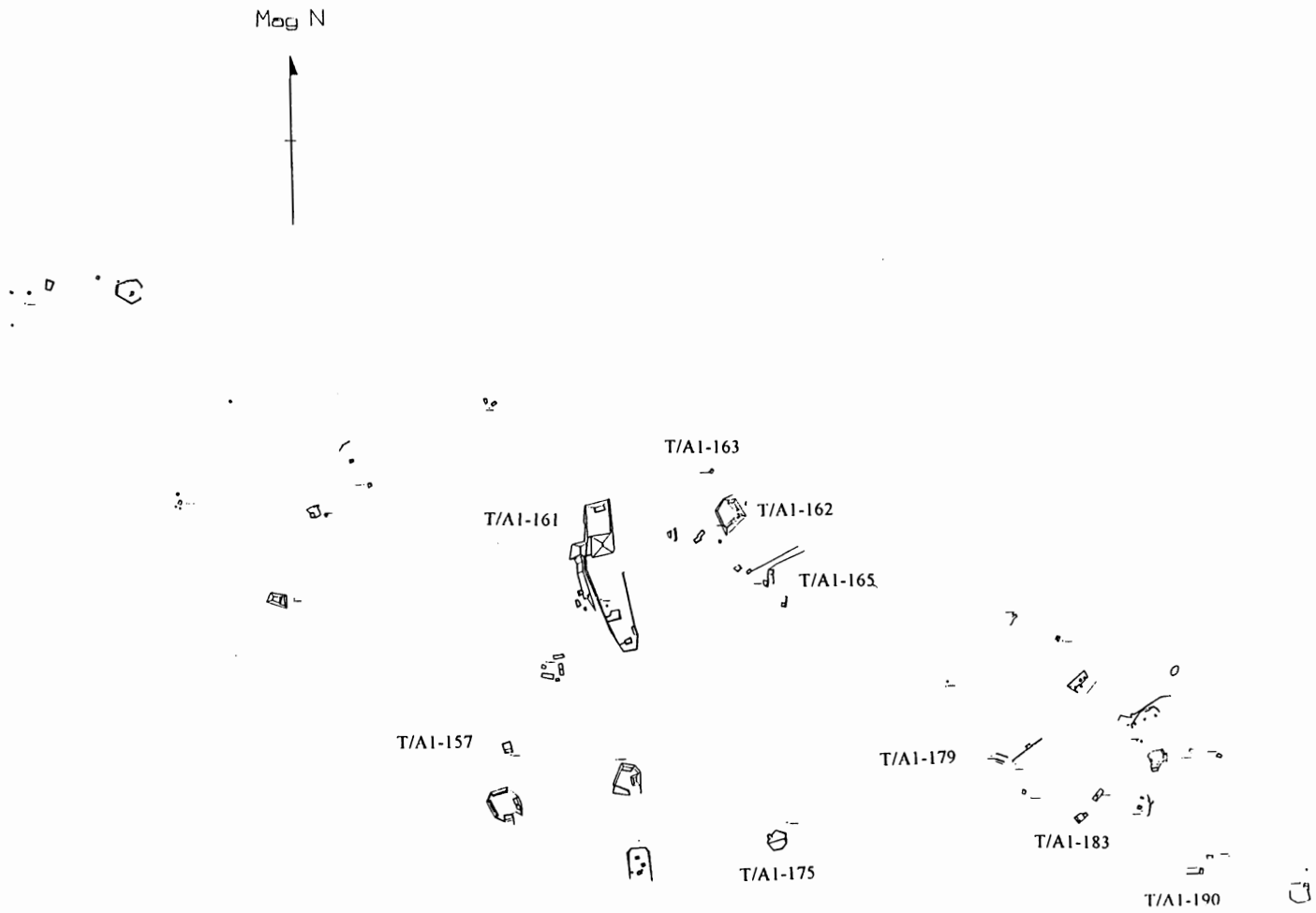

Figure 2.
The Dos Chombitos Zone along T/A1. Site Test-Pitted are Marked.

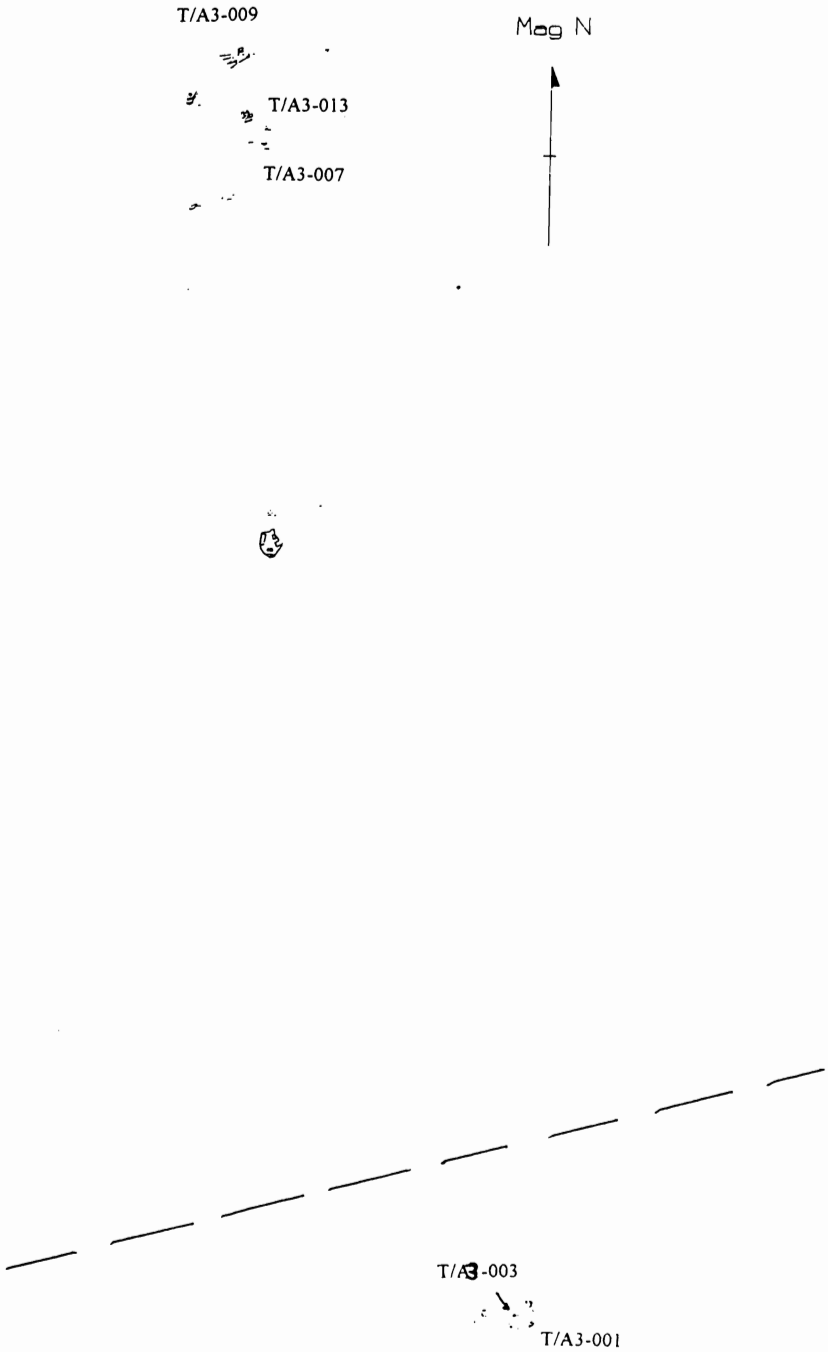

Figure 3.

Transect 3. Dos Chombitos Zone and Negroman Zone are Shown. Site Test-Pitted are Marked.

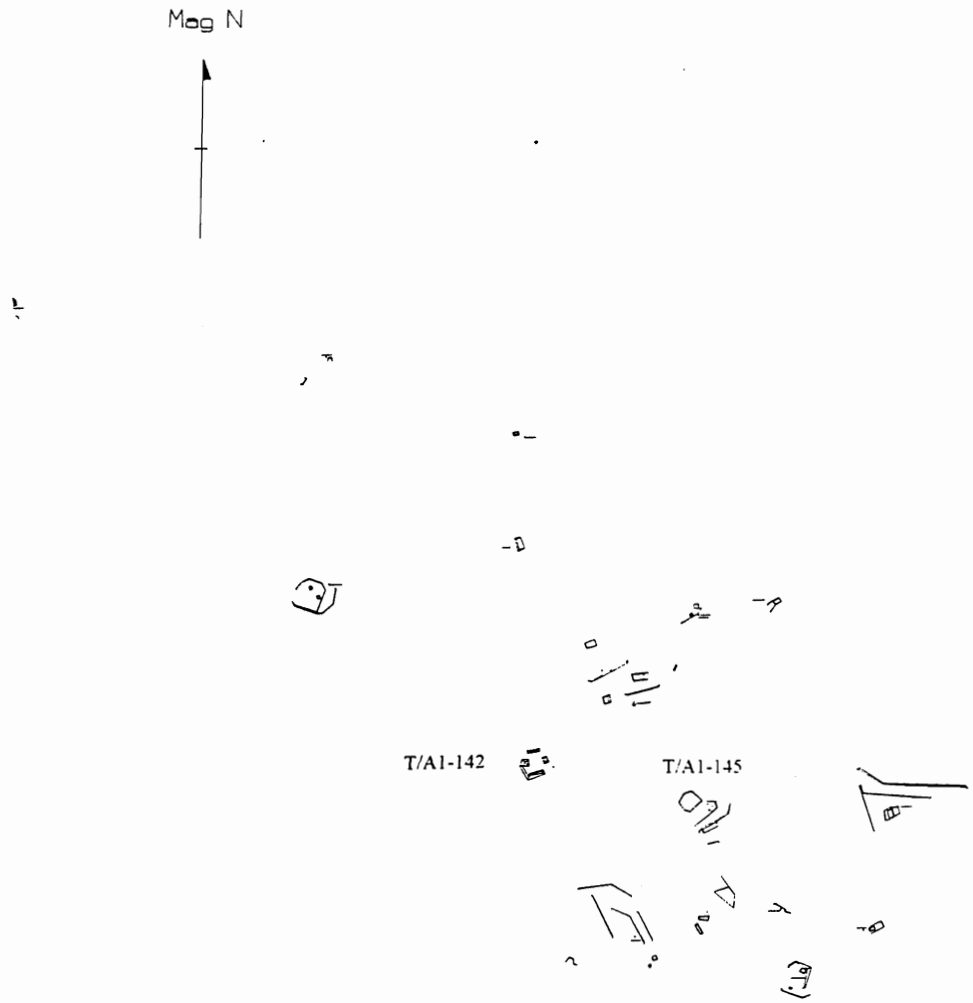

Figure 4.
Partial Map of Second Intermediate Area. Site Test-Pitted are Marked.

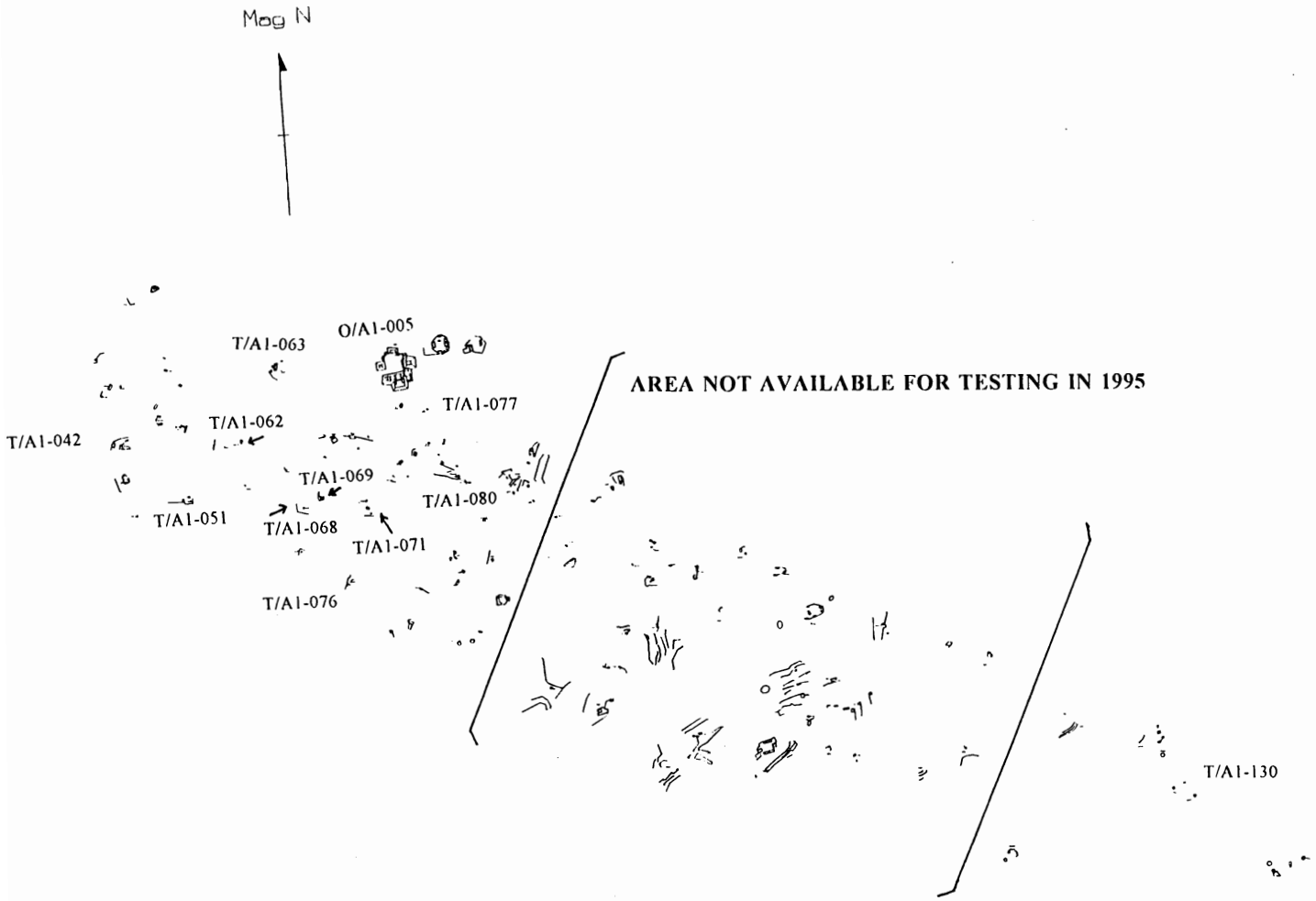

Figure 5.

The Chan Zone with Partial inclusions of the First Intermediate Area and Second Intermediate Area. Sites Test-Pitted are Marked.

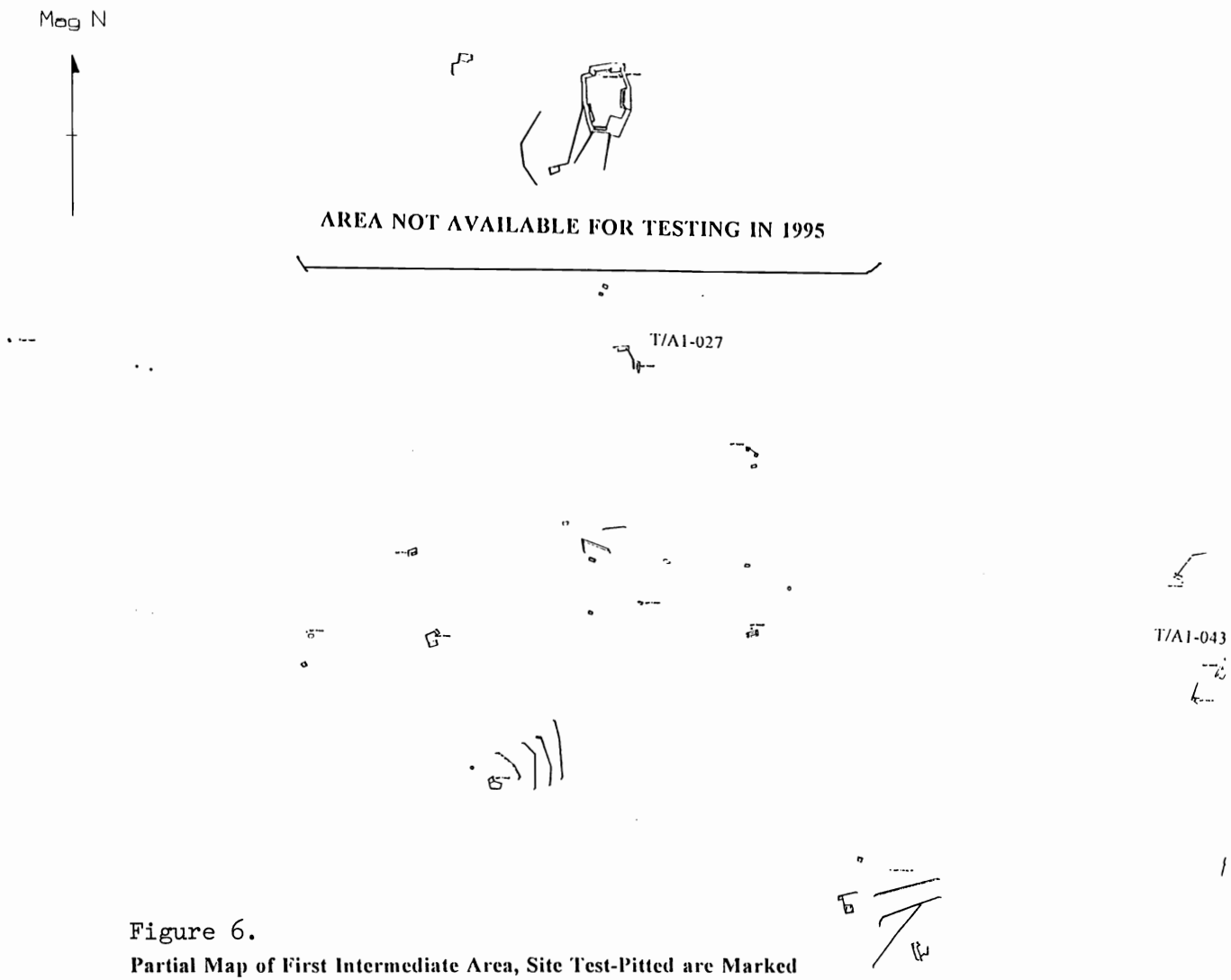

Figure 6.
Partial Map of First Intermediate Area, Site Test-Pitted are Marked

Figure 7.
The Xunantunich Zone of T/A1. Site Test-Pitted are Marked.

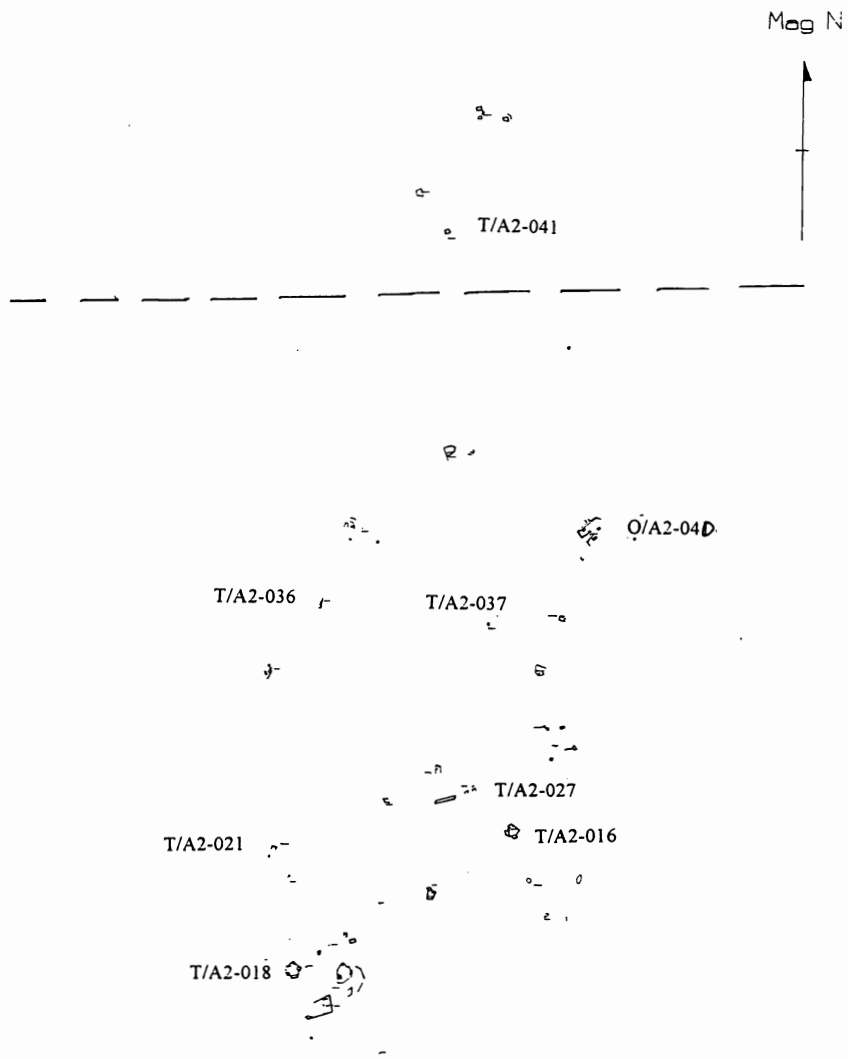

Figure 8.

The Actuncan Zone and portion of the Vaca Brava Zone. Site Test-Pitted are Markec

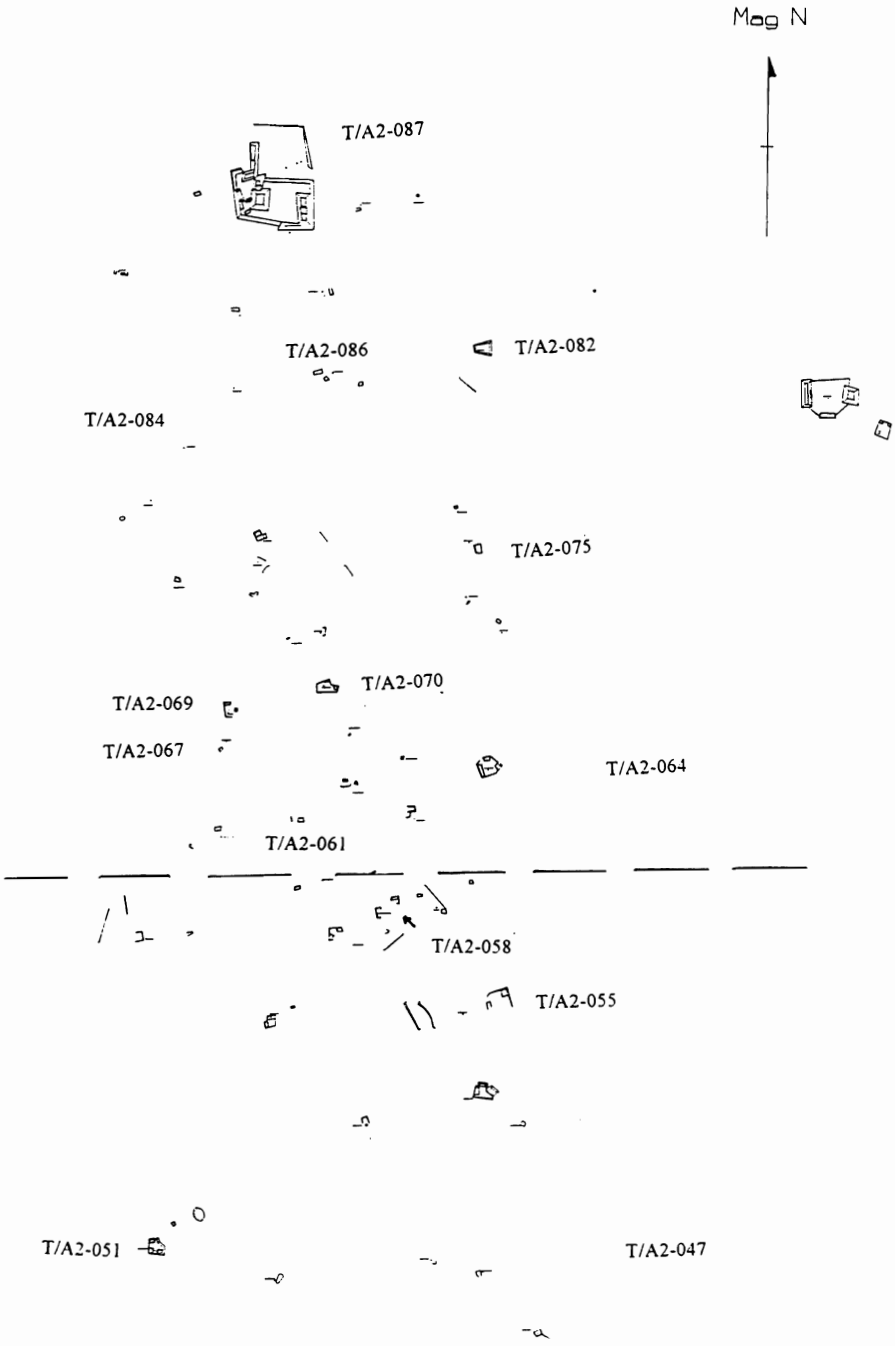

Figure 9.

The Callar Creek Zone and portion of the Vaca Brava Zone. Sites T/A2-047 and T/A2-064 are not depicted on map. Site Test-Pitted are Marked.

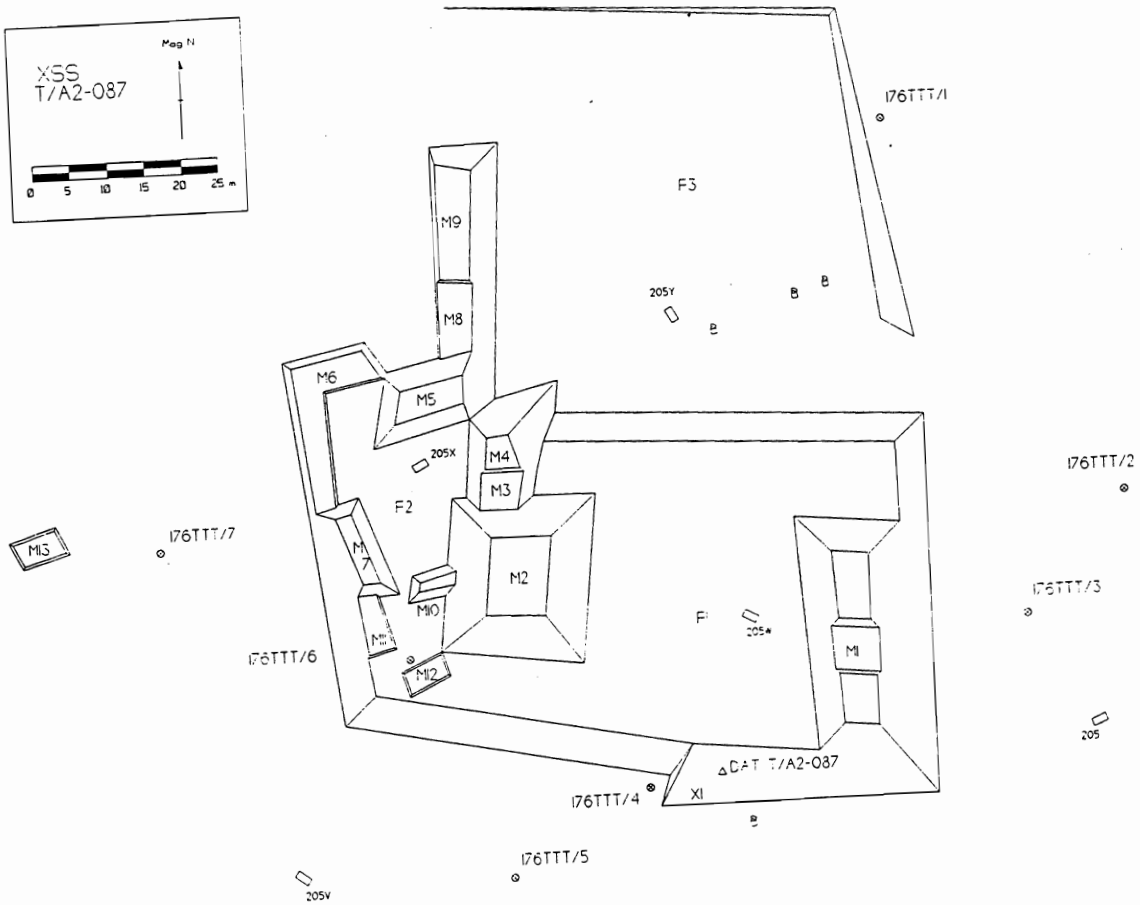

Figure 10.
The Site Core of Callar Creek - T/A2-087

Research at Chaa Creek in 1995: Developing Social Complexity in the Xunantunich Hinterlands

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Introduction

My research seeks to understand the developmental processes of ancient Maya state-level complexity. To this end, I focus on the changing relationships between the outlying settlement of Chaa Creek and the nearby center of Xunantunich. The 1995 archaeological investigations in the Chaa Creek settlement sought to define Chaa Creek's active role within the changing social dynamics of the Upper Belize River Valley region (UBRV). Models of elite-induced (top-down) growth of state-level social complexity miss the importance of a community-level role (bottom-up) as part of the complex negotiations that create the state. Subtle changes that peripheral communities undergo can indicate important changes in the level of regional social complexity. I borrow concepts from both sociology and geography (Durkheim 1933, Mann 1984, 1986; Sack 1986) in developing a model that explains how increasingly complex levels of interactions or linkages produce well-defined social and spatial territoriality. I posit that this boundedness or 'caging' defines the state entity. Though we can in no way pin down these interactions specifically, we should be able to find archaeological products of these linkages as state-level complexity manifests itself physically. In sum, I am trying to identify the complex interactions that are the reason for and the result of ancient Maya state formation processes. This report will document important highlights of my findings from the 1995 season, and relate them to the aforementioned model.

Background Model

I propose that during the end of the Late Classic, an autonomous localized-state was formed at Xunantunich, if only for a short a period of time until a Terminal Classic demise (Leventhal 1993, 1994). A combination of external and internal circumstances created this new localized-state. On the one hand, exterior geopolitical events during the end of the Late Classic, such as the collapsing hegemonies (Martin and Grube 1995), freed the local elite from the shackles of direct domination by larger center of Naranjo. The need to fill this power vacuum stimulated the creation of the localized Xunantunich state. On the other hand, my research focuses primarily on social relations internal to the UBRV. I believe that local UBRV internal population pressures necessitated increased intraregional interactions which in conjunction with geopolitical events resulted in the formation of the localized-state (Durkheim 1933, Mann 1986). It is possible for me to investigate these processes of change because I believe that the entire transformation into an independent autonomous state took place on a micro-regional level. Though there are many other small centers within the UBRV, only Xunantunich developed into the local dominant seat of power during the end of the Late Classic (Leventhal 1993, 1994). I argue that during this period the elite at Xunantunich built the upper portion of the Castillo, the massive central temple-pyramid. These late additions (A-6 1st and A-6 2nd - see Sanchez 1993, Robin 1994; and A-20 see Neff in this volume) created the sense of enormity that harkens to the central pyramids of the great ancient Maya, such as Tikal, Palenque, Calakmul, Caracol and Copan. Survey data show that in no way was there a local (within 1 km) population infrastructure of civilian labor that could support the building of this pyramid (Leventhal pers. comm. 1995, see XSS report Ashmore et al. this volume, 1994, and for an argument to the contrary see Abrams 1994). Support or 'cooperation' had to be garnered from the entire UBRV, including

the middle-level community of Chaa Creek located approximately 6 km to the west of Xunantunich.

Xunantunich Settlement Survey (XSS) documents a loosely-tethered periphery scarcely connected to the ongoing changes of the upper elite strata (Ashmore et. al. 1994, this volume, Ashmore 1993). I would agree up to a point, but argue that some time during the end of the Late Classic local community-level elites were drawn into a hierarchical social network composed of varying levels of patron-client relationships dominated by the incipient localized-state of Xunantunich. Community leaders became inextricably linked with networks of social interaction that increasingly developed into socially differentiated relationships. The model proposes that once free from the shackles of hegemonic domination, the elite at Xunantunich began to utilize the various techniques for state formation which had been used by the Maya elite for millennia. The elite of Xunantunich consolidated power by entering into complex sets of negotiations with the local populace. Outlying communities, such as Chaa Creek, were integrated into the rapidly developing new state identity.

To reiterate, I believe the time span before, during and after Xunantunich's relatively late florescence is critical because the region (and most importantly the relationship between Chaa Creek and Xunantunich) underwent an accelerated period of developing complexity as elites constituted a more complex state-level organization within the valley. Results of extensive fieldwork from Xunantunich, Chaa Creek and the rest of the valley, in conjunction with ideas and concepts borrowed from the disciplines of sociology and geography, will help us get at the possibilities for the change in this relationship.

Chaa Creek

Theorists in geography and sociology use the symbol of the container or cage as a way of describing the socially determined circumscription resulting in state formation (Mann 1984, Taylor 1995, Sack 1986). The state entity is spatially defined by an area which mirrors the social boundaries of negotiated core-periphery relations. As stated above, I believe that the formation of the Xunantunich localized-state would have had to involve convincing previously semi-autonomous community-level leaders to become part of a social container. In this light we need to investigate the middle-level or secondary centers located on the margins or periphery between the larger sites. These *interstitial* sites (Dunham et al 1989, Dunham 1990) are the key to understanding regional patterning of social development. My research at Chaa Creek follows others who have looked at middle-level centers as articulators (Iannone 1994), corporate groups (Braswell 1994, 1993) and community level organizations (Yaeger 1994, S. Chase 1993). Iannone's work most closely parallels my own. He posits that Middle Level Settlement Units (MLSU's) house sub-level elites who articulate between the commoner and the upper-level elite strata.

Prior to the 1995 field season I presented Chaa Creek as a semi-autonomous secondary center loosely integrated into UBRV sociopolitical dynamics. The heads of the Chaa Creek settlement area or community originally generated power in a bottom-up fashion from the local surrounding settlement. This power emanated from localized lineage ties to the land (McAnany 1994). I have since expanded my argument in an attempt to understand the possible formation of the Xunantunich state. I now believe

the top-down power of Xunantunich elite probably meshed with the localized and evenly distributed power of the communities to form a state. Can we see evidence for Chaa Creek's link to the proposed developing Xunantunich state, as 'community leaders' became new sub-level elites (see Ehret et al. 1995 for comments on communities)?

The Development of the State

What first does the state mean? I view it as an entity (with boundaries) that consists of people in a variety of differentiated roles. I would define it as Mann does, "a differentiated set of institutions and personnel embodying centrality in the sense that political relations radiate outwards from a center to cover a territorially-demarcated area, over which it exercises a monopoly of authoritative binding rule-making, backed up by a monopoly of the means of physical violence (Mann 1984:187-188)."

State power is seen as a dialectic between despotic power of the state elite and the infrastructural power of the civil society (Mann 1984). According to Mann, state level complexity grows as the networks of infrastructural power enter into negotiations with the elite in order to create an arrangement called the autonomous state. Additionally, the sociologist Niklas Luhmann (1982) devalues core focused models of social complexity. He attributes importance to individuality as an active ingredient in social development. A common theme throughout his work is this: *The whole is less than the sum of its parts* (1982:xx).

At this point it might be useful to describe how Mann envisions society as a whole. Society is a conglomeration of social networks that relate to the four different kinds of social power which he defines as ideological, economic, military and political. These networks all intertwine to create different social formations. This framework attaches primacy to no specific type of social power, but accepts as primary the machinations of the social networks themselves. These networks become so diffuse and broad within complex societies that they are actually what makes complex societies more complex. Like most social theorists Mann (1986) attributes developing complexity to heightened social differentiation brought about by the increasing scale of social interactions (see Berreman 1978). Mann suggests that the number of social interactions increases with the size of population. As a result of resource control over agricultural lands certain peoples enter into different kinds of social interactions (ie. trading the use of their good land) that result in the rise of their power and the linking of the rest of the populace in the state social system. The entity which becomes the future autonomous state is initially socially circumscripted, and only later is the state territorially defined (Sack 1986). Mann has since commented that he might have attached too much primacy to the local civil interactions in the creation of states, at the fault of ignoring the geopolitical connections (Taylor 1995).

As posited above, I believe the case of Xunantunich also deals with an interplay between the local and exterior. I am very interested in isolating this interplay in the archaeological record. I see historically significant geopolitical events at the end of the Late Classic involved in a dialectic with localized changes in social relationships between communities. I believe the dialectic is necessary to form a state. This research question necessitates a more secure understanding of how changing social relationships translate to the archaeological record.

Developing Social Complexity: Archaeological Investigations

I use Durkheim's framework for social change as background for my examination of the local interactions between Chaa Creek and Xunantunich (see Marcus 1993, DeMontmollin 1989, Coe 1965). Durkheim complements Mann by explaining how social relations fuel change. According to Durkheim, there are two types of social groupings which are held together with a solidarity, or moral authority, called collective consciousness (what Mann (1984, 1986) calls a 'transcendent ideology'). Societies where the members of the same collective share similar values and emotions and are undifferentiated in their roles, are held together by a mechanical solidarity. Durkheim extends this idea by suggesting that a transformation of a society into collectives, based upon differentiation, develops an organic form of cohesion which, in contrast to the mechanical coherence of smaller societies, depends upon the complex interdependence created by an advancing division of labor. Following his model, as the scale and complexity of society grows the number of interpersonal interactions increases which leads to a growing specialization of roles (economic, political, military and ideological) within society, thus an organic solidarity. Durkheim's evolutionary model provides a framework for new interpretations of ancient Maya sociopolitical changes during the Late and Terminal Classic (550-1000 AD).

In their characterization of Maya sociopolitical complexity other scholars focus on either a segmentary state or a unitary state model for their interpretations. For example, some scholars posit that segmentary states, whose members perform similar sociopolitical and economic roles, coexist as independent polities (Ball and Taschek 1991, Dunham 1990, Southall 1956). In contrast, other scholars believe that unitary polities centrally administer an interdependent and highly specialized populace (Chase and Chase 1987, 1992). These unitary states are characterized by large cities which control galactic polities or provinces while seeking regional dominance. The singular application of these models, however, fails to explain the changes we see over time in the archaeological record.

I propose to equate mechanical and organic solidarity with segmentary and unitary states respectively. The evolutionary dynamism of Durkheim's societal transformation from mechanical to organic is the essence of the transition that occurs when a segmentary organization develops into a complex unitary structure. Using Durkheim's framework of social change as a backdrop we can incorporate both of these static representations of Maya sociopolitical structure into a holistic, more dynamic model of cultural process. In the Maya region, specifically, I want to identify archaeologically the evolution of mechanical polities (segmentary) into centrally administered organic polities (unitary). I propose that this change is accompanied by a corresponding shift in social status within certain surrounding communities, which allows us to investigate the developing Maya social system.

During past seasons of field work (Connell 1993, 1994), the Chaa Creek settlement zone was surveyed and excavated. The clearing of substructures and plazas focused upon artifact contexts and architectural patterning. Preliminary evidence argues for a change in Chaa Creek's relationship to Xunantunich during the Late Classic (550-800 AD) and into the Terminal Classic (800-1000 AD). During stage one, the first part of the Late Classic (550-750 AD), the link appears to be mechanical, as Chaa Creek lies at the nexus between three mechanically structured (roughly similar) segmentary

polities: Xunantunich, Buenavista, and Guacamayo. This can be argued because of the replication of monumental architectural features such as temples, large open plazas, and entranceway complexes that have ancient roads (sacbeob) intersecting with stone monuments (stelae). Secondary centers, such as Chaa Creek, probably were partially autonomous and had some of the same political functions as primary centers, but were required to give tribute and show deference. During this first stage, I expected to find archaeologically a variety of artifacts and architectural styles at Chaa Creek that represent weaker and more variable ties to several segmentary centers in the region.

Stage two (750-1000 AD) proposes a shift to organic solidarity or unitary statehood during the end of the Late Classic and into the Terminal Classic. Preliminary evidence suggests that as the mechanical/segmentary political system underwent changes, peripheral districts like Chaa Creek, aligned themselves with more dominant large-scale centers in the region which indicates a trend towards organic solidarity. Preliminary evidence indicates more direct links between Chaa Creek and Xunantunich than between Chaa Creek and the other primary centers (Buenavista and Guacamayo). For example, a cache of eccentric flints found at the base of a small Chaa Creek temple is identical to important caches found in the central temples at Xunantunich (see below). Similarities in cache patterning are indicative of a similar organic collective consciousness permeating the political, economic, and ideological spheres. Additional evidence of connections between the two sites are found in final phase monumental architecture, such as ramps and staircases that align to Xunantunich, and more importantly in the line-of-site visibility between Chaa Creek and Xunantunich (i.e., important communications could be relayed quickly between the two sites).
Due to its peripheral nature and small size, Chaa Creek provides insight into the inner workings of an increasingly integrated regional political system dominated by the large nearby Maya center of Xunantunich. As Xunantunich expanded organically it may have become dependent on communities like Chaa Creek for survival and legitimization.

Chaa Creek was probably an economically and politically valuable community to the rulers of Xunantunich because of its critical location (Connell 1994). The site is located at the midway point of a portage route between the two major rivers in the region and the community overlooks a large, fertile tract of land. I posit that Chaa Creek began to carry out critical functions required for the maintenance of the Xunantunich state. During this second stage, I expect to find archaeologically more evidence of increased material linkages between Chaa Creek and Xunantunich.
For the purposes of this report I will try to show that there is a clear two stage distinction at Chaa Creek. Until further analysis is undertaken I can only refer to qualitative analyses. Statistical evidence of decreased artifact variability (fewer connections to the other large centers in the region, Buenavista and Guacamayo) will in the future demonstrate increased interaction with the dominant center, Xunantunich. Additionally, the discovery of more direct ties from architectural patterning (ramps and stairways) and cache patterning will support the preliminary evidence on alignments.

Archaeological Investigations at Chaa Creek

I was testing for evidence of new social links forged during the end of the Late Classic that may have resulted from increased social interactions between the emerging elite of Xunantunich and the sub-elites at Chaa Creek. The investigations

gave a clearer picture of the economic and political interactions that were taking place. This annual report of excavations at the sites of Chaa Creek provides only a brief review of the field season.

Site CC5 (Plantain Group)

Prior to excavation the site was cleared of heavy brush. When everything within 100m to the west of the site was cleared, a wide ramp was discovered which gently sloped downward to the west [Map #1]. The ramp conforms to the natural topography of the ridge. The N and S sides were quarried to create subtractive features that serve as the edges of the ramp. In addition, the ramp has three terrace steps crossing its width and a mound along its north side. I believe the ramp was a formal entranceway into CC5 with various structures placed along its sides. Two other subtractive features (possible aguadas) were discovered to the NE and SW of the main platform group. These would have provided sufficient water storage capacity.

Operation 174

The goal of this operation was to formally define the ramp-feature, the proposed western entranceway into the site. Suboperation 174F-H exposed an intact grand-staircase which climbs up onto the plaza level of the platform. Though we cleared an area of the stairs 5 m in length, it appears the steps were even wider, stretching the entire western length of the platform. The cut-block limestone risers are one course high and each tread is practically a meter wide. The stairway was placed on bedrock, which slopes downward to the west (see above).

There was a large amount of collapse found on top of the staircase as it was being exposed. The rubble and blocks were definitely not part of the stairs, which appeared intact. I believe a collapsed superstructural wall left these traces. I believe this is probably evidence of a collapsed masonry which would have been placed at the top of the stairs. The existence of masonry walls suggests that those at site CC5 were closing themselves off from the public eye. This pattern of elite restriction of space was prevalent in downtown Xunantunich during the latter stages of its occupation (Leventhal 1994, this volume, Neff this volume). In addition, Demarest (1995) explains that palisade walls are evidence for Terminal Classic warfare during the height of the collapse. At CC5 we do have other evidence suggesting violence, but nothing conclusively points to warfare.

Test units were unable to formally define the sides of the entranceway ramp itself. Evidence suggests that ancient architects selectively quarried the sides to create the ramp. The ramp heads west towards a large hill, and not to the NW where we would assume it naturally to go given the topography, and the assumed flow of people. The center-line of the ramp and the perpendicular angle from the grand entranceway stairwell align at 259 degrees E of N which corroborates alignments seen at site CC1 (Stela Group). The alignments show a connection to Xunantunich in that they head directly for the Castillo, and are off by one degree [Map #2].

Operations 161 and 178

Plantain Group (CC5) is a Type 6 site (Ashmore et al. 1994) on the west end of the southernmost of the three E-W running ridges of settlement that are the Chaa Creek zone. Site CC5 is an impressive flat platform with two large 2m+ high structures

arranged in an L-shape and connecting in the NE corner of the platform. The intersecting structures are M1 (north building) and M2 (east building) [Map #1]. Early reconnaissance indicated the importance of this site. The rear southern portion of M2 had been gutted and the exposed architecture indicative of massive vaulted superstructures with plaster benches.

These operations began extensive clearing excavations at site CC5 or Plantain Group [Map #3]. In 1994, Operation 161 investigations probed a 1x2 m unit on the plaza floor (Connell 1994). That test-pit recovered a dense strata of ceramics and an unusually thick plaster plaza floor. Sub-operation 161A broke through the floor and, following the removal of a soft plaster construction floor, the excavation team (Neff, Neff, and Carpenter) uncovered the S end of a stone-lined crypt. Approximately 50 cm below the crypt, a Preclassic floor and ceramics were revealed. We determined there was a two phase occupation sequence consisting of a Late Preclassic platform followed by a hiatus and then the large-scale Late Classic construction and occupation.

Research in 1995 was designed to recover data from the Late Classic occupation with the intention of further breaking down the Late Classic occupation at Chaa Creek into the two stages outlined above. Using seriations developed by LeCount (1993, 1994) the two groups are arrived at by lumping sherds identified as LCI to LCIIa as stage one ceramics (mechanical solidarity) and LCIIb to Terminal Classic as stage two (organic solidarity). In our excavations we attempted to find artifact dumps and final occupation debris on the plaza floor, as well as special deposits and features, such as the aforementioned crypt. The site of CC5 (Plantain Group) was chosen to investigate most thoroughly for four reasons: 1) It was the most accessible, lying along the Chaa Creek entrance road, which may have been similarly used by the ancient Maya; 2) we had already determined that the preservation on-site was exceptional for the tropical environs (see Carpenter et al. 1992, Connell 1994 and 1993 for descriptions of the exposed architecture in the looter's trenches); 3) it provided the opportunity to hone excavation strategy and methodology; and, 4) the site would provide an extensive database to develop a comparative artifact or architectural typology
In very broad terms, the site was excavated in hopes of gaining insight into contextual patterning of architecture and artifacts. By consistently exploring similar contexts I looked for intracommunity patterning and began to compare my information with the discoveries external to Chaa Creek. With either consistent patterning between CC5 a nd other XAP excavations, or a unique Chaa Creek patterning, we were able to more confidently excavate the other sites later in the season. Excavations at the L-shaped platform group evolved into a more extensive operation than planned, but as a result we recovered a wealth of archaeological data pertinent to my questions about intraregional social dynamics and Chaa Creek's social connections to Xunantunich.

M2 Staircase

In order to separate the clearing excavations into the N and S sections, Operation 161 was coupled with Operation 178. The two operations met at the center of the M2 staircase, which was entirely exposed. The staircase was remarkably preserved, with most of the limestone cut-blocks still in place. Stretching 5.5m N-S, there are 5 levels of risers and treads, with some of the original plaster still preserved. We only exposed the staircase to the level of the top of Yuca wall (the 1.5m high substructural wall of the M2 platform). The south side of the staircase was so well-

preserved, that it looked like a tightly fitted brick wall. It was smooth and perfectly vertical with a consistently similar size to each small stone. We can compare architectural forms to understand chronology and linkages. For example, the type of stairside construction technique mentioned above for site CC5 is seen at Xunantunich on the side of stairwells (Keller pers. comm. 1995). In addition, the M2 staircase projects to the SW at 259 degrees E of N, which coincides with the angles of the ramp and entranceway staircase mentioned above. This alignment might be symbolic of a connection to the site of Xunantunich. I would expect efforts such as this not to be made with the earlier construction phases at site CC5, because these architectural features would have been made prior to the initiation of organic or unitary state-level regional integration. I believe that at some point it behooved the occupants of Chaa Creek to build architecture that aligned to Xunantunich.

Further excavations probed the interior front center of the stairs. After documenting the staircase we removed a 1.5x1 m section from the center line. The exposure uncovered no special deposits. Similar to other XAP sites, a spectacular 'cache-not' was discovered, with an appropriately perfect capstone that was removed to expose nothing (see Keller this volume). I believe this pattern of negative evidence for caching suggests another pattern of linkage to Xunantunich, in that either 1) all accessible caches had been removed, 2) biodegradable materials were used exclusively, or 3) no material was ever intended to be put into these cache-nots.

These excavations into the M2 staircase were important for our understanding of the overall sequence of construction. Inside the staircase we exposed an earlier wall, Iskun, with an earlier plaza floor (F2) running underneath. F2 is apparently the initial Late Classic plaza floor, at some point the final M2 staircase was constructed with a new plaster floor (F1) lipping up to its base. The F2 we see here is conjectured to be the thick, nicely ballasted floor we see throughout the CC5 platform. In some spots in the plaza (where the crypts were exposed) the difference between F1 and F2 is only a thin replastering, while evidently in places (near the stairs) a releveling of the plaza floor was necessary. A final F1 leveling (planing) did occur, which was weakly done and did not preserve well, it appears to have been a thin plaster veneer on a tightly tamped clay earth. This would explain the contrast seen at CC5 between areas of the plaza with no evidence of a plaster floor, as if it was completely deteriorated, and other areas where the floor was more than a centimeter thick and like concrete to break through. In sum, the probe into the staircase discovered a cache-not and demonstrated a distinct two phase Late Classic construction period, with the latter phase being less labor intensive and possibly having more emphasis on veneer. This was the initial documentation of two architectural phases at site CC5 during the Late Classic, which I believe indicates the division between stages one and two that I seek in the process of mechanical to organic state-level complexity in the UBRV.

Plaza Floor

Much of the excavations at CC5 concentrated upon 1) exposing plaza floor deposits indicative of the last occupation and 2) exposing the final phase architecture, which I originally assumed to be Late Classic (LCIIb in LeCount this volume). The removal of superstructural collapse uncovered some unexpected results. The plaza floor area between the M1 staircase and the M2 staircase was covered with Terminal Classic artifacts. XAP archaeologists have consistently discovered in situ deposits on plaza

floors (Chase 1993, Yaeger 1994; Etheridge this volume). I focused excavation near the M1 and M2 intersection (at the inner corner of the L), as well as the interior corners of the staircases [Map#4]. I began by clearing of the extensive collapse in front of basal platform walls Ramon (M1) and Yuca (M2) which was initially interpreted as a confusing mesh of different deposits caused by differential rates of deterioration and other natural transformation processes. A loosely packed gray silty loam collapse stratum lay below the 'A' horizon. It was filled with a high number of superstructural blocks, including large vault stones. There was no apparent fall pattern for any of the collapse stratum and its depth was variable.

Throughout the area our clearing excavations were halted at an extremely hard-packed silty clay loam stratum which was sitting on top of the well-preserved plaster floor. We removed all the collapse above the area was removed before penetrating the deposit. This deposit of hard-packed matrix tapered off the edge of the mound as if it were a deposit or build-up of collapse that slid off the top of the structures. Soil analyses determined that there were two strata (A and B) within this dense deposit. The upper stratum (A) was the initial collapse stratum. It was filled with plaster and stucco pieces that would have fallen off the superstructure before it collapsed. In a sense these would have 'melted' creating a hard-packed stratum. As moisture collected on the hard-packed plaster floor the deposits of limestone blocks, plaster and stucco that had collapsed would deteriorate into a very hard-packed marl. Luckily, not everything melted, throughout the clearing excavations we sporadically located pieces of stucco sculpture. Every piece of sculpture was a block upon which were carved 2 or more 15 cm high tapered columns. I believe these pieces formed part of a molding which trailed around the top of the vaulted superstructure. This is seen at Xunantunich where the tapered pillars appear as a molding along the top of the eastern frieze on the Castillo

The lower stratum (B) touched the plaster plaza floor. This silty clay loam matrix had fewer calcite inclusions and much more charcoal. The stratum was filled with large ceramic and stone artifacts dated to the LCIIb and Terminal Classic. It defines a deposition phase that occurred during the final occupation of the site. I cannot tell whether it was built up over time or if it was deposited in a single phase, such as the ritual termination of the area. This would corroborate other suggestions of Terminal Classic termination rituals posited for Actuncan (McGovern 1994), Group D (Braswell 1994), and now A-20 (Neff this volume). Within the upper level of stratum B, we found a possibly intrusive special deposit of a smashed ceramic jar inside of which was found a piece of cranium and a jade bead (161H/5-D2). Though explanations for termination rituals coming out of work at Yaxuna are popular, at this point I only feel comfortable saying that it marks the end of occupation for a site.

In certain areas both extremely hard packed strata A and B were removed in order to expose the floor. Many special deposits covered the area. These deposits were initially thought to be part of the termination itself, but subsequent excavations exposed a small altar and subplatform crypt burials that were most likely also connected to the deposits. The entire area was covered with Terminal Classic artifacts that were left on the floor, and within this matrix. The floor deposits included ceramics, flint bifaces, large carbon chunks, jade pieces, shell artifacts, fragments of slate, and other unidentifiable materials (one artifact was shaped like a bowling pin made out of a smooth yellowish-brown stone that was unidentifiable).

Pile-up of Collapse Rubble and Ramon Wall

The stratum B Terminal Classic artifact deposits help explain the existence of an anomalous deposit of limestone cut-block collapse that had no deposit of stratum B above it [Map #4]. We found this stack of the collapsed material placed at the intersecting corner of Ramon wall (M1) and Yuca wall (M2). The pile of rubble rose almost to the height of the basal terrace walls (1.3m high). There was no matrix between the stones. Initially we thought it was a collapse event of a weakened inset corner, but the high basal walls of Yuca and Ramon were found intact behind the pile.

Why the pile of limestone rubble pushed into the corner of the plaza? First, it does appear that in other places much of Ramon wall (M1) did collapse. Intact parts of the wall show that the upper portions were constructed of large blocks that slipped off the more secure (smaller harder stones) lower portion of the wall. A 1x2m trench into the top of M1 revealed that lower Ramon wall matches with the original M1 platform construction. The height of platform was doubled with the construction of upper Ramon wall. The second phase of construction at M1 (which precedes the final phase construction of M2 Yuca wall) appears to have collapsed in places, and the rubble swept into the corner of the plaza. I am not sure of the cause of collapse, but can say with certainty that part of it occurred while CC5 was occupied. Speculations about seismic activity continue to be fueled by finds such as this and E-W running cracks in platform floors at other sites investigated by XAP such as San Lorenzo and Xunantunich.

In addition, I think that the pile of limestone may have been used as a makeshift stairway after the main stairs of M1 had collapsed. The limestone pile was probably a slapdash Terminal Classic addition, and, in fact, a Terminal pierces jar rim sherd was discovered at the top of the stairs near some of collapsed M1 superstructure.

Two elements to this phase of excavation signal ties to other XAP excavations. First, Ramon wall was constructed in two phases (again demonstrating two phases of construction at CC5). The upper or later phase of construction is similar to Late Classic walls at San Lorenzo and Xunantunich, in that it consists of very large soft limestone blocks placed on top of a layer of small thin chinking stones that are in turn placed on a lower more sturdily constructed wall. Secondly, the secondary nature of the rubble pile-up is also similar to Terminal Classic construction in the Xunantunich region which is characterized additions and modifications to preexisting structures (Yaeger and LeCount 1995).

Crypt and Altar Excavations

More evidence for a two phase Late Classic construction sequence was found in the refuse at CC5. There is a temporal distinction between refuse dumps that were strongly LCI-LCIIa (Op 171A to the S of M4), and others such as those on the plaza floor that were LCIIb-Terminal. The Terminal Classic occupation was unexpected and dominated the final phase platform deposits. I believe the final phase architecture at the site dates to LCIIb and into the Terminal Classic while the penultimate construction is associated with the early part of the Late Classic (LCI-LCIIa). Something occurred at site CC5 that sent it into a downward spiral. This is indicated by the discovery of approximately 10 secondary burials in subplatform crypts, and the construction of a

small altar on top of the crypts at the plaza level. It is culminated with evidence for the termination of the site (see above).

The clearing of the plaza floor uncovered evidence of crypt burials underneath the platform [Map #4]. Three crypts were fully exposed beneath the platform (161Q, 161EE, 161XX), while the crypt identified in 1994 was not excavated (161A). Crypt #2 (Op 161EE) contained a single extended burial that had either been tampered with or placed as a secondary burial. The faint outline of a replastering event was discovered in the plaster floor. No burial accouterments were associated with the individual. Interestingly, another 2 or 3 crypts were discovered after removal of some of the platform fill to the southeast, northeast, and northwest. Apparently the entire subplatform between the two stairways was covered with simple stone-lined burial chambers, or crypts.

We discovered crypt #1 (Op 161Q) below an unplastered area on the plaza floor that was approximately the length and width of a small human. At floor level we found a special deposit of Terminal Classic sherds (161Q-D1). The fill above the crypt was very loose-packed and apparently was tossed in haphazardly. After removing the capstones (each crypt had 9-12 flat limestone capstones precariously balanced on top of the thin vertical side stones), we cleaned away the loamy clay matrix. Two skulls were found at the S end of the crypt (typical for the Belize River valley), while their jaws were both down at the N end of the crypt (atypical for the Belize River valley). No upper torso bones were discovered. Except for the two skulls, all other bones were at the N end of the crypt, which had no Northern side stone. Construction was the same for all crypts at CC5. Below the two bodies was bedrock, no artifacts were associated with the burials. I believe these were secondary burials deposited in haste after some event befell them, and this same event signaled a time for termination and the subsequent end of occupation at the site.

A small channel almost 50 cm wide was cut into the plaster floor to the east of the crypt #1. I investigated the space for cache deposits but found nothing. The channel of missing plaza floor trailed off underneath a large balk of the hard-packed 'termination' deposit that had been preserved for future archaeologists. We removed a small amount of the deposit to see if a cache associated with crypt #1 lay below, and subsequently discovered the western side of a small altar which was placed on the plaza floor [Map #5]. Now it became clear that the dense amounts of artifacts found throughout stratum B were associated in some manner for this altar. The altar is a one course high platform constructed out of limestone cut-blocks which were apparently recovered from collapse. This is a pattern seen at Xunantunich by MacKie (1961) and Schmidt (1974). Schmidt describes an abandoned construction project involving the movement of old ceremonial objects (stela and altars) and other building materials into Plaza A-1. On the CC5 altar, a sloppily constructed plaster floor on the 1.8 x 0.8 meter platform lipped up the sides of a central limestone block. This stone was charred from extensive burning, probably of small sacrifices or copal. Dense amounts of charcoal and artifacts were found throughout the matrix covering the altar.

Below the small platform we discovered another human sized cut into the plaza floor. It was possible that the altar and the many surrounding deposits were marking the death of the individual(s) below. The capstones for crypt #3 were much

larger than those covering the two other crypts and the southern side stones were double lined. The crypt itself was full of a dark brown loamy clay. Within the crypt 6-8 individuals, including a small child, were placed in a single phase of deposition. Preliminary evidence shows that these secondary burials were put in the crypt in a variety of different positions, but generally had their feet at the North end of the crypt. An intact extended burial of an individual on his/her front with feet pointing north lay below the mass of secondary bones [Map #6]. At the north end a heavy dose of red hematite was placed around the body. This final body lay on bedrock, and we could locate no burial accouterments. For the entire crypt only a spindle whorl and a the tip of an arrowhead (from an individual's chest area) were recovered.

To date no analysis has been done on the recovered bones. I am in no position to postulate the reasons behind the secondary burials and the altar. I would feel comfortable in saying they are related to the same event that caused the collapse of Ramon wall, and the subsequent pile of limestone rubble in the corner. I believe that the termination deposits around the altar occurred following the hypothetical event and subsequent construction and use of the altar, but that the actual termination was not too long afterward.

Shovel Test Pits and Test Units

These operations were designed to locate refuse dumps around the perimeter of the site. Shovel Test-Pits (STPs) were spaced at regular intervals. Approximately 50 cm across, each hole was excavated to sterile. Artifacts were collected for analysis after a preliminary count. A profile of each STP was drawn in order to get a sense of the stratigraphy and quality of soil development around each site. The STP with the highest number of artifacts at each site signaled the placement of a 1x2 meter test unit. The test units (Op 171 at CC5, Op 175 at CC70, Op 189 at CC1, Op 214 at CC15, Op 220I at CC19, and Ops 217 and 223 at C18) successfully recovered large samples of ceramics in single phase refuse deposits. At no sites did we discover a well stratified midden. Preliminary analysis of the ceramics indicates distinctively separate chronological phases of deposition. They were either predominantly LCI-LCIIa or LCIIb-Terminal Classic. Please note that this is based upon very preliminary dating assessments. Further analysis of the differences and similarities in artifact assemblages will allow us to understand the kinds of social relationships in which these sites were involved. In addition, a 1x2m unit placed near an STP where no artifacts were found yielded a false-positive (Op 180 at CC5).

Site CC1 (Stela Group)

Stela Group sits atop the western end of the central ridge at Chaa Creek. The site is known for its three stone monuments [Map #7]. The south building (M2) has two stelae located in front of it which are aligned to Xunantunich at 259 degrees E of N [Map #2 and #7]. This angle supports evidence of alignments thus connections to Xunantunich interpreted for site CC5. At CC1, an entranceway monument sits at the end of a small sacbe that opens up into the main platform (Connell 1994). Both stelae were investigated for cache deposits. These excavations yielded no offerings made as dedications. Unlike previous research in the Belize River Valley (Braswell 1994) these stelae were not dedicated with deposits of non-perishable items. Each was 2+ meters in height with no apparent carving. Stratigraphic evidence suggests they were used during the final occupation phase of the site. The base of each stela is set into the final

floor. They were probably placed in front of doorways leading into perishable structures on M2, which looks like a low range structure (0.5m high).

Operation 190

The most interesting find of 1995 occurred in front of M1, the 5+ meter high pyramidal east building. We discovered a cache of eight flint eccentrics while clearing along the base of the final phase staircase (190G/4-D1). The eccentrics were probably placed as a dedication to the completion of the last construction phase at CC1. The cache was placed just under a new plaster floor (F1), which had deteriorated. Each piece was knapped into peculiar but familiar forms. It contained three lunates, two scorpio-forms, a serrated-edged biface (possibly made from petrified wood), and three other different forms. The lunates were placed on top of the cache, covering the scorpions which were placed in a cross at the bottom of the deposit. Very similar caches have been found in the Xunantunich site core around each stelae and on top of temple A-1 (see Department of Archaeology File Cards for Stewart and Schmidt caches A, B and C). The materials and forms are identical, but the Xunantunich caches have approximately 2-3 times more pieces. This is the most straightforward example of material culture that we found in 1995 that represents an ideological link between Xunantunich and Chaa Creek. Beyond knowing that the Chaa Creek cache was deposited under the final floor, we do not have secure dates for its deposition. I believe the caches from Xunantunich are securely dated to the Late Classic. Yet I offer that this cache represents a deposition from the end of the Late Classic and is part of the expanding new localized collective ideology that was used by the elite of the emerging autonomous Xunantunich state to integrate local communities such as Chaa Creek.

The construction of the staircase at M1, was similar to that of upper Ramon wall at CC5. Big limestone blocks were sitting on top of smaller thinner stones which serve as the base of the stair. As mentioned above this is a pattern seen in late constructions at San Lorenzo (Yaeger 1994), and at Xunantunich (Keller 1995 pers comm.). Unfortunately at site CC1 we do not have definite dates for the construction of the last staircase (and the stela and the cache). Future work will aim at determining temporal and stylistic correlations within the sites of Chaa Creek and so that we can then begin translating these elements of collective identity into a more formalized analysis of linkages with larger regional centers such as Xunantunich.

The Chultuns

Two chultuns were excavated. Operation 180 was a salvage excavation of a bell-shaped chultun below the site of CC4. The site is located on the top of a small hill at the entrance to Chaa Creek just to the South of the road. A bulldozer excavating marl sliced the chultun in half, exposing the inside south portion. The manhole sized cover was evidently firmly in place prior to the destruction event because the inside was empty of sediment. Investigating beneath the rubble, we saved a special deposit consisting of broken jars and found an intact Belize Red tripod vessel dating to the end of the Late Classic (LCIIb). The pieces were placed below a tamped floor of friable light-brown loam. There were fragments from three separate jars, from each jar was found the intact rim and neck, as well as a large triangular piece of the body. Each body fragment was left sitting on top of the rim of its respective jar. It appears as if each jar was ritually dismantled, stacked on top of one another, put inside a tripod vessel, and the whole offering placed in the chultun below the floor.

A second chultun was preliminarily excavated near site CC13, which is located on top of a hill overlooking the Macal River. This chultun was investigated as part of the preparations for the Chaa Creek Natural History Center constructed by Mick and Lucy Fleming. Sediments filled the chultun up to the entrance hole. Most of the excavations were spent removing the loamy matrix. As yet unfinished, the excavations produced no artifacts of interest. Excavator Ted Neff found the floor of the chultun to be the same as that at site CC4, a tamped yet friable light-brown earthen surface.

Discussion

We have investigated specific features within the Chaa Creek settlement cluster which may tell us about changing Maya regional social organization. For example, elements like monumental architecture with stucco facades, stelae, formalized entrance features, pyramid structures, and exotic artifacts characterized the Type VI and VII sites in the Chaa Creek zone (Ehret et al. 1995, Ashmore et al. 1994). How might these features relate to socio-political integration at the regional scale?

The 1995 excavations at Chaa Creek tested this question. By analyzing contexts and contents of artifact deposition and architectural patterning we can begin to understand the kinds of relationships Xunantunich and Chaa Creek were engaged in or at least determine what types of connections we can archaeologically identify as indicators of sociopolitical change. For example, final phase monumental architecture at the major platform groups align architecturally with Xunantunich, as well as have direct line-of-site visibility. At Plantain Group (CC5), the entrance ramp, platform staircase, and building staircases point toward Xunantunich at an angle of 259 degrees E of N. At Stela Group, the two stelae orient in a straight line aimed at El Castillo. These spatial alignments suggest other alignments of a political and/or economic nature.

These important discoveries make the case for these regional connections. At Plantain Group (CC5), stucco pieces were recovered that are similar in appearance to the upper elements of the East frieze at the Castillo. The top register of the Xunantunich frieze is beneath a molding of tapered pillars, which are similar in form to chunks of stucco molding recovered in collapse at Chaa Creek. Moreover, Stela Group (CC1) produced a cache of 8 chert eccentrics (190G/4-D1). The forms are comparable to others found in the Xunantunich area, including lunates and two scorpio-forms placed to form an X.

Plantain Group had a mass secondary burial intruded into its platform. Remains of 6-8 individuals were put simultaneously into a stone-lined crypt. The crypt burial was similar to those found at Xunantunich's Group D by Jennifer Braswell (1994). The informality of body placement, the total lack of burial accouterments, and the lack of intentional replastering over the cut into the platform floor suggest this was the end result of a dramatic event for the residents of the group. In addition, placed over the burials was a low platform or crude altar constructed of reused wall stones. At the altar's center was a single, heavily-burned limestone block, and burnt deposits of Terminal Classic vessels and offerings were excavated from around its perimeter. This termination event might be explained at the regional level.

Aside from the spectacular nature of some the finds from this past season, we did begin to isolate the time periods for stage one (LCI-LCIIa) and stage two (LCIIb-Terminal) in the proposed development of state-level complexity. Artifacts and architectural patterning indicate that at Chaa Creek we have two distinct phases, and that there is a shift in patterning from one phase to the next. This is reassuring given the need to formally test for the development of a state based upon different sets of social relations between the elite and the local populace. The 1995 investigations began to get at the types of archaeological data that will in the future be more readily categorized and quantified as representations of the increasing levels of interaction between Chaa Creek and Xunantunich. Further test implications derived from the research will more specifically address the development state-level social differentiation, or stratification. Tests could be set up that quantitatively and qualitatively categorize the levels of integration, and interdependency, as seen through artifact and architectural styles, as well architectural alignments and ritual caching patterns. More specifically, what are the archaeological indicators of state development or non-development? And how can we test the levels involvement of peripheral communities in the development of a state?

Acknowledgments: I want to thank very much all those who helped me during both the field season in Belize and in Los Angeles during the completion of this report. Those who funded the research include the Sigma Xi Grants-In-Aid of Research, the Friends of Archaeology and the UCLA Department of Anthropology. Drs. Richard Leventhal and Wendy Ashmore have guided this research from its inception and I can only hope to do their support justice. Mick and Lucy Fleming were as always giving of their time and energy, even if we didn't find the sister tomb to the Sun God at Altun Ha. The Department of Archaeology in Belize was exceptionally helpful, particularly Mr. Harriot Topsey and Teresa Green. Succotz is home to the fine 1995 Chaa Creek excavation crew of Glis 'Slacka' Penados, Cruz'Docî Puc, Wilfredo'Humina' Escalante, Amir Cocom, and Ismael'Chorri' Chan. In XAP camp I thank Mike, Dalila, Ara, Jason, Ted, Linda, Jon, Jenn B, Jenn E, Angie, Tatiana, Julia, Cynthia, Missie, Bevin, Kevin, Vicki, Lisa and last but not least Brandon'Le Don' Lewis. Also in Belize I wanted to thank Jon and Ag, Jim Scott, Ellie, Tino, and Miguel'Maya Guy'. In Los Angeles, everyone at school should be thanked, but especially Lady for regular morning inspiration, Bonnie MacDougall for giving the drawings life, Angela for living with me, Mo, Aimee and Dina for being there, Ann, Nancy, Madelyn, and Jeanne for saving me from bureaucracy and John Morris mi compadre and good friend for being in the lab at 3 AM.

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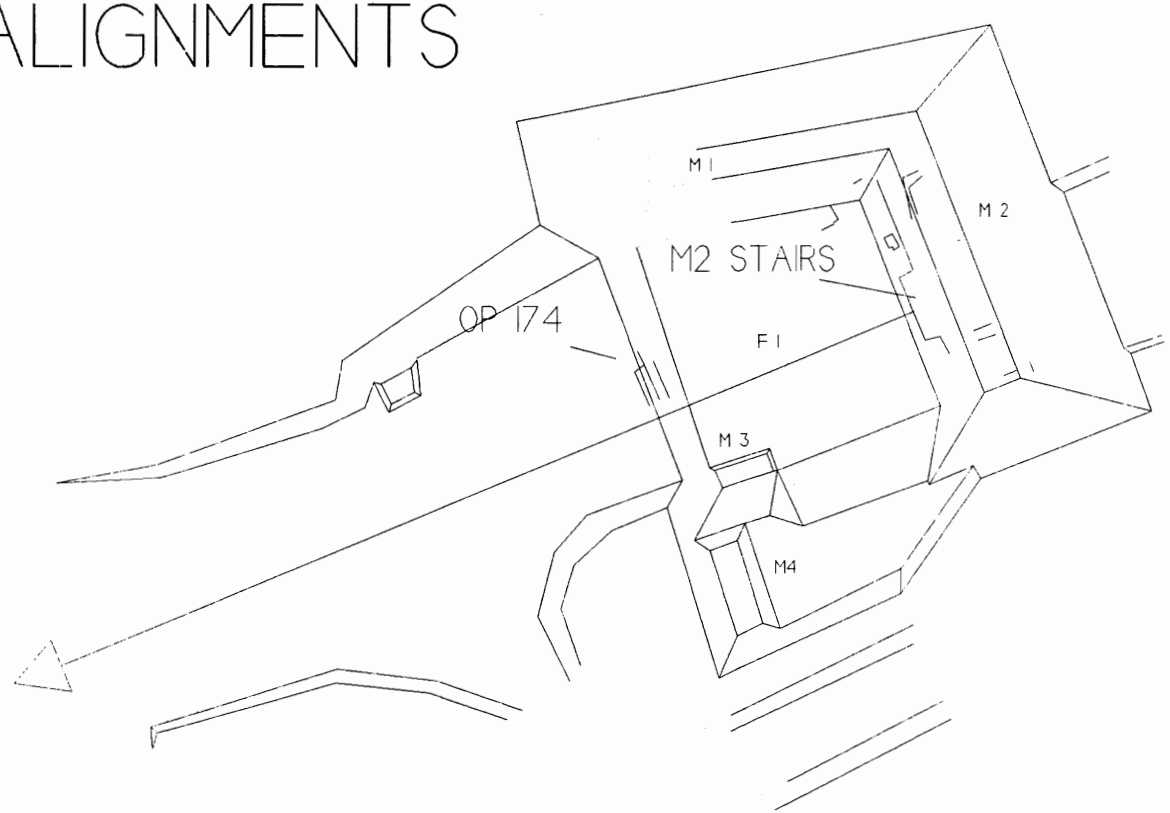
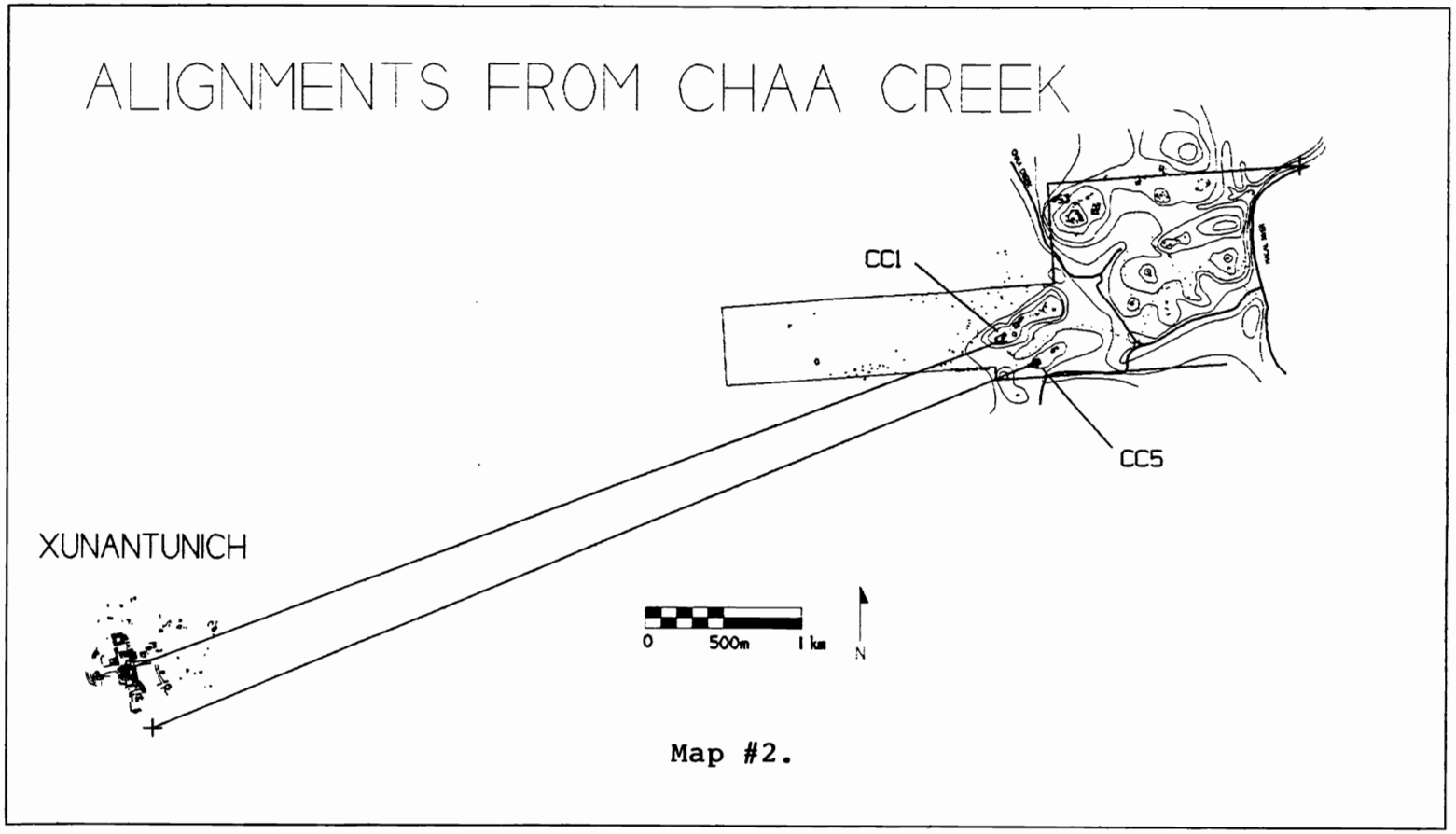
PLANTAIN GROUP (SITE CC5) ALIGNMENTS



Map #1.



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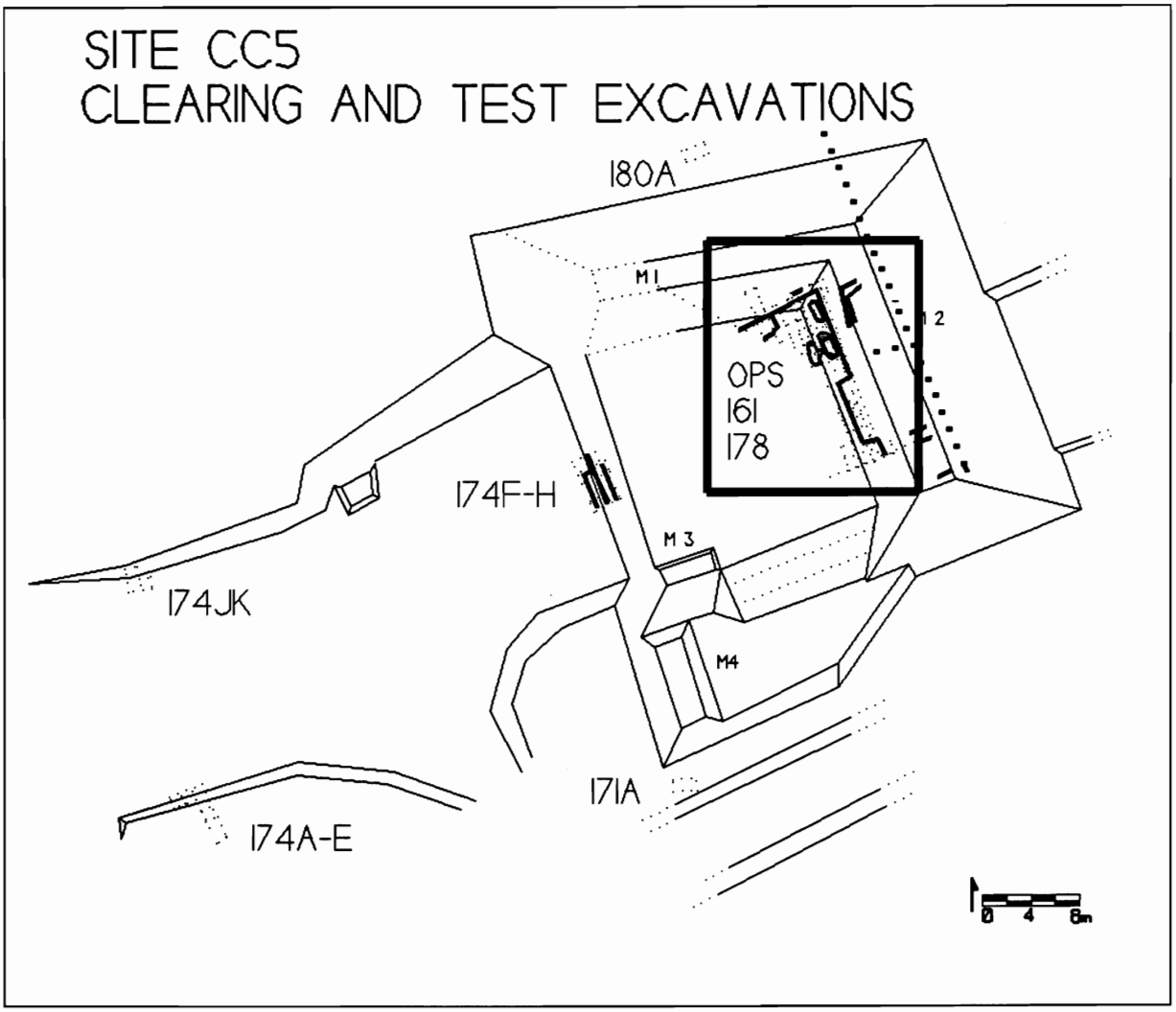
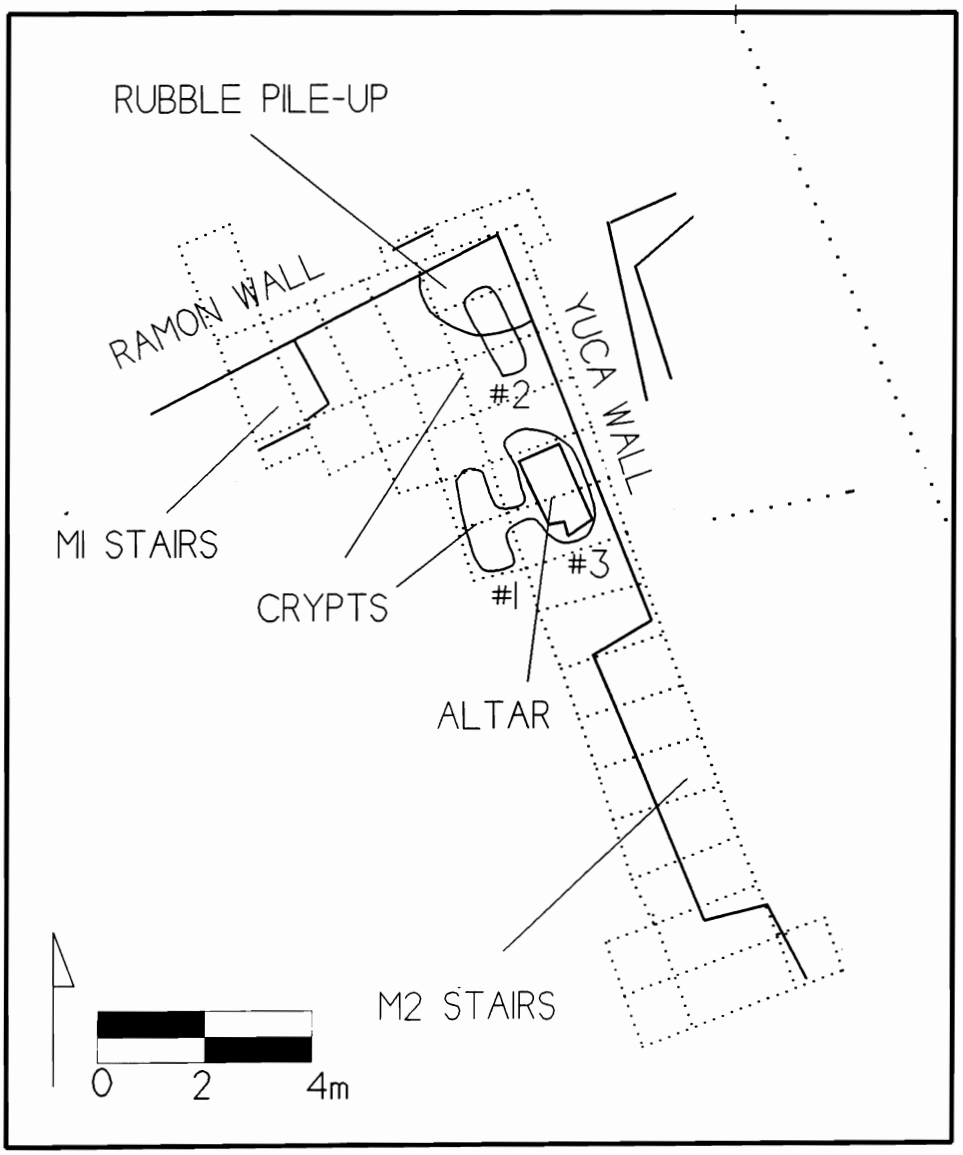
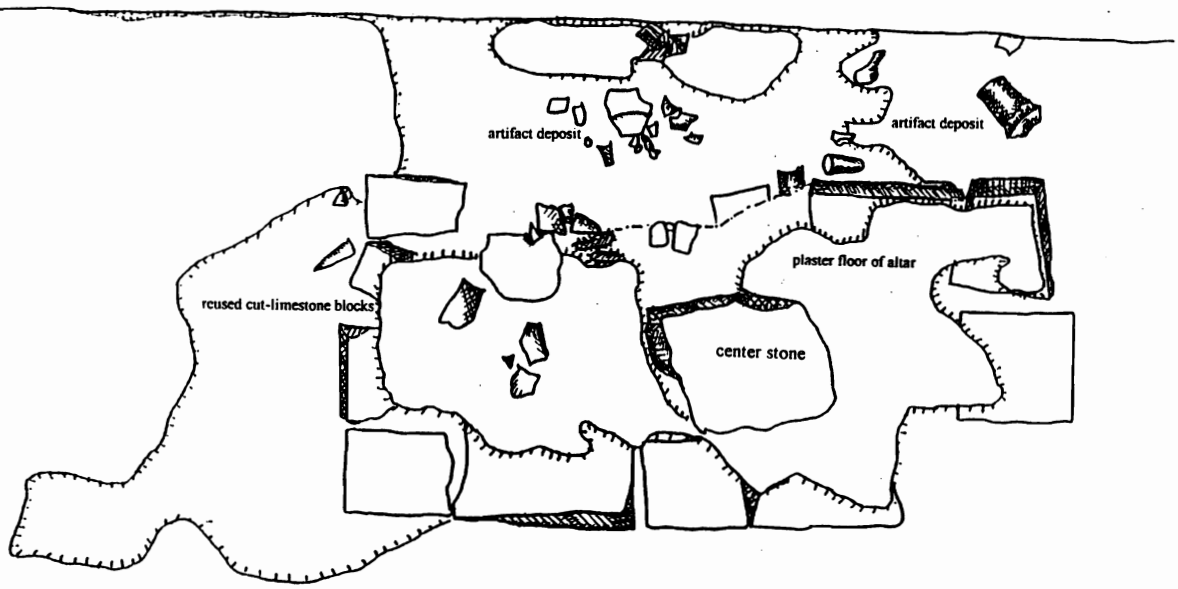

SITE CC5
CLEARING AND TEST EXCAVATIONS
180A
M1
M2
OPS
161
178
174F-H
M3
174JK
M4
171A
174A-E
0 4 8m

Map #3.

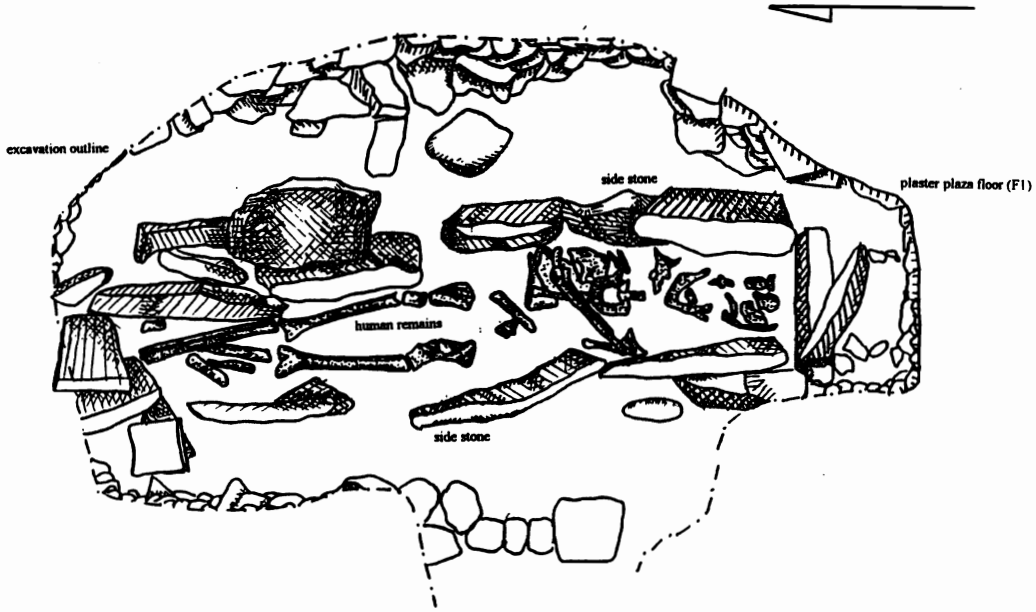
SITE CC5, OPS 161 & 178
EXPOSED ARCHITECTURE



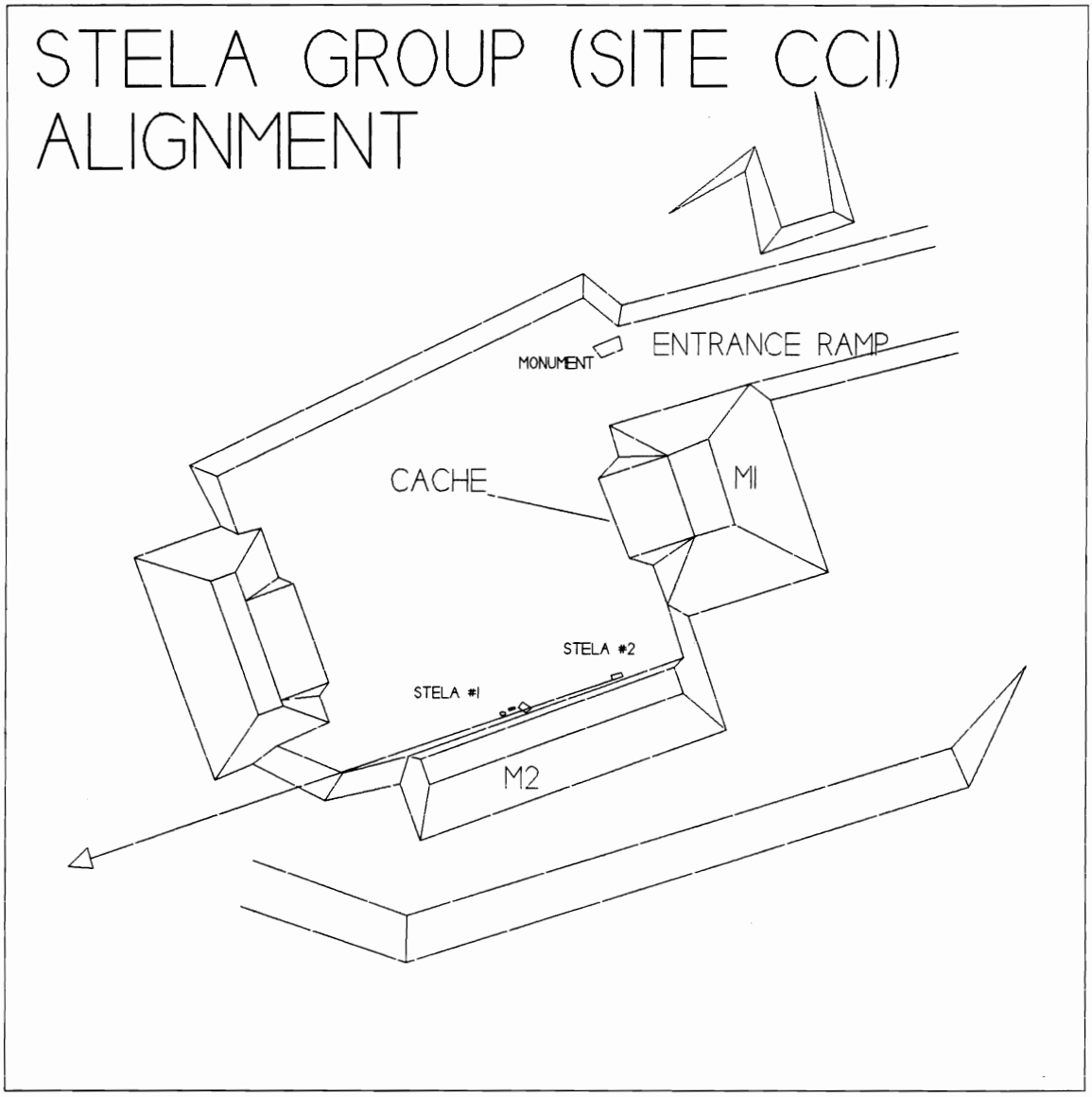
Map #4.



Map #5. Terminal Classic Altar, Site CC5, Chaa Creek, Belize (S. Connell and B. MacDougal)



Map #6. Extended Burial at Base of Crypt #3, Site CC5, Chaa Creek, Belize (S. Connell and B. MacDougal).


STELA GROUP (SITE CCI)
ALIGNMENT
ENTRANCE RAMP
MONUMENT
CACHE
M1
STELA #2
STELA #1
M2

Map #7.