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UNIVERSITY OF CALIFORNIA, SAN DIEGO

La Muralla de Chichén:
Excavations of a Maya Site Perimeter Wall

A Thesis submitted in partial satisfaction of the requirements
for the degree Master of Arts

in

Anthropology

by

Lauren D. Hahn

Committee in charge:

Professor Geoffrey E. Braswell, Chair
Professor Paul S. Goldstein
Professor Thomas E. Levy

2010

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Chair

University of California, San Diego

2010

DEDICATION

This thesis is dedicated to my parents,
Laurence and Deborah Hahn,
for their continued love and support.

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ABSTRACT OF THE THESIS

La Muralla de Chichén:
Excavations of a Maya Site Perimeter Wall

by

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Master of Arts in Anthropology

University of California, San Diego, 2010

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Site perimeter walls in the Maya area have traditionally been assumed to represent defensive features, and as such are used as evidence for the presence of increasingly violent warfare, especially in the Late and Terminal Classic periods. Although walls may be used for defense, simply equating them with warfare is a dangerous oversimplification. Site walls may have multiple and concurrent or changing functions, and I identify three hypotheses for the primary functions of site walls: the defensive

hypothesis, the use of walls as water management features, and their use as symbolic structures meant to define and restrict sacred or elite space. I apply these hypotheses to data collected during 2009 excavations of a portion of the site wall that surrounds the center of Chichén Itzá, a Late/Terminal Classic site in the northern Maya lowlands. I argue that the primary purpose for the initial construction of the Chichén wall was the delineation of sacred or elite space, with a secondary function of water management incorporated into its design and construction strategy. A defensive function may have existed after the original construction of the wall, and this function likely arose due to new concerns regarding the potential need for defense that accompanied the process of political decentralization that occurred during the Terminal Classic/Early Postclassic period in the Maya area and at this site.

INTRODUCTION

The Maya site of Chichén Itzá in the northern lowlands of Mesoamerica has, since the early days of its investigation, been associated with themes of warfare, conquest, and hegemonic domination. Debate over the political structure of this site and its evolution over time is still prominent among those working at Chichén. In this paper, I discuss recent excavations of a portion of the wall that surrounds part of the Chichén Itzá site center, and their implications regarding possible changes in social and political organization at this site and neighboring regions in the Terminal Classic to Early Postclassic Periods (AD 800-1100).

In studying the development and interaction of societies, questions of political power, social structure, and hegemonic expansion are clearly important topics of investigation. It is equally clear that interaction between political entities of all sizes and types, in most if not all areas of the world, has not always been peaceful. Recently, interest in violent conflict as a central subject of inquiry in archaeology has increased due to the recognition that warfare is often an indicator of change in a society's political or social structure (Allen and Arkush 2006:1-8; Vencl 1984:117). Allen and Arkush (2006:2) note that in exploring the relationship between warfare and culture, many researchers view violent conflict as either a *cause* or a *consequence* of "fundamental social change." However, these two aspects of the connection between conflict and changes in political or social structure should by no means be understood to be mutually exclusive, because in reality "warfare... operates continually as both cause and effect of social transformations" (Allen and Arkush 2006:14). Recognizing the presence and role of warfare in archaic societies can thus lead to a greater understanding of the processes of

social change, from the origins of complex social structures to the formation, interaction, and decline of state-level societies.

Among scholars working in the Maya area, the discussion of warfare has historically centered on the question of the type of war practiced by the Maya. Webster (1993) notes that until the mid-1970s the Maya were typically viewed as “peaceful and enlightened,” but with the breakdown of the “peaceful Maya mystique,” scholars’ assessments of Maya warfare centered on a perceived dichotomy between highly ritualized, controlled elite warfare involving comparatively “low-level effects,” and a more “unlimited” type of conflict with the goal of more disruptive devastation, conquest, or annihilation of enemies. This dichotomy is present in the anthropological literature regarding warfare in numerous societies (Arkush and Stanish 2005). However, it may inadequately characterize Maya warfare, particularly with regard to the fact that while it was “initiated by elites, led by elites, and carried out for elite purposes,” warfare among the Maya often also “had many perfectly real political or material goals” and effects, including territorial expansion and control of scarce resources (Webster 1993: 430-432, 2000:111).

Not only is it true that extremely destructive forms of warfare can be highly ritualized (i.e. “wrapped in religious and nationalistic symbolism and permeated with ritual practices”), it is also the case that warfare is often “limited by commonly understood conventions” that define the extent to which violence can be exercised (Arkush and Stanish 2005:11; Webster 2000:104). For Webster, more important than the dichotomy between elite prestige battles and “total war” is the question of “under what circumstances warfare is limited by convention and under what circumstances such

limitations break down” (Webster 1993:429). It is within these situations of the breakdown of conventional boundaries that warfare’s role in social change becomes most critically apparent.

Webster (1993:435-441) has proposed a model of Maya warfare in which Maya elites of the Classic period “devised ideological charters which [sic]... defused the terror of war, making it a special and noncompetitive royal display” intended to maintain the balance of power and legitimize their rulership. Nonetheless, according to this model, increasing environmental and political stresses and the inflexibility of these ideological frameworks led to “warfare [that] was more frequent, more intense, more lethal, and less constrained by political/ideological conventions during the Terminal Classic/Early Postclassic than it had ever been before” (Webster 1993:439). In particular, warfare during this period may have shifted from peripheral arenas and second-tier sites along frontiers, such as those described by Connell and Silverstein (2006) during the Late Classic, into central places including major political centers. Such pervasive violent conflict may in turn have been an important contributing factor in the restructuring of the Maya world in the Postclassic period, accompanying and contributing to the political decentralization that took place at that time.

Because it reached its ascendancy in the Terminal Classic period, the site of Chichén Itzá in the northern Maya lowlands is ideally situated to test this model (Cobos 2004:520). Chichén Itzá is well known for the militaristic focus of its iconographic program, as well as for the role that warfare may have played in its rise to power and its interaction with neighboring polities (Friedel 2007; Kowalski and Kristan-Graham 2007; Suhler et al. 2004:453). Yet the particulars of the site’s decline and abandonment are far

from well understood. Specifically, the role of warfare in the fall of Chichén Itzá is unclear. In order to shed some light on this problem, in this paper I evaluate the results of the Proyecto Chichén Itzá 2009 Operation AB excavation, which was conducted along a 94-meter stretch of the wall surrounding the Great Platform, on which a large portion of the site center is built.

The investigation of site walls may be key to understanding the nature of warfare in the northern lowlands, the Maya area, and perhaps even in archaic states in general. This is because the presence and characteristics of defensive fortifications, which often include walls, are indicative of the arenas within which conflict occurred as well as the strategies and tactics employed (Webster 1993:420-422). Most importantly, the presence of defensive fortifications at sites away from frontiers signifies “a weakness or absence of central authority” in archaic societies (Keegan 1993:145). Thus, if Webster’s model of escalating warfare accompanied by the breakdown of social and political institutions in the Terminal Classic/Early Postclassic period is accurate, this warfare and political decentralization may have been accompanied by the intensification of defensive fortifications at sites that had previously been political central places.

Nevertheless, to simply equate site walls with warfare is to both understate the complexity of wall systems and to misrepresent the scale and nature of warfare among the Maya. Dahlin (2000:294) correctly states that “perimeter walls are probably not a good indicator of the frequency or severity of warfare” because they may represent only that the “threat of siege tactics” existed. Some sites may have perimeter walls that were built without any defensive purpose in mind. Instead of merely equating the presence of

site walls with the need for defense, care should be taken in identifying the attributes of such walls that indicate the walls' primary purposes or functions (Webster 1993:419).

An inherent quality of any wall is that it creates a physical boundary on the landscape. Walls are intrinsically useful to the archaeologist, because they are physical features that “represent emic expressions of the prehistoric functional definition of space” (Webster 1980:835). In some cases, perimeter walls may be intended to form barriers against the outside world, built to protect against threats from without. In other instances, walls may be physical manifestations of ideological barriers—for instance, the boundary between sacred ritual space and areas of mundane daily activity. Additionally, site walls in the Maya area may have performed many functions simultaneously:

As boundary features, wall or ditch/ embankment systems may have functioned to define and protect social space, to delineate sacred space symbolically, to control human traffic and commerce, or to restrict access to elite and/or administrative zones. These functions, of course, are not mutually exclusive. In addition it should be noted that any of these possible uses may also have had a defensive aspect as well [Rice and Rice 1981:272].

While the functions of walls may be multiple and concurrent, interpretations of wall constructions in archaic states, and especially within the Maya area, fall into three major categories: the defensive, water management, and social space delineation hypotheses.

In the remainder of this paper, I discuss these primary types of walls, and the archaeological correlates of each, drawing from analyses of site walls throughout the northern Maya lowlands as well as nearby regions within the Maya area. Based on these archaeological correlates, I argue that the primary purpose for the initial construction of the Chichén wall was the delineation of sacred or elite space, with a secondary function of water management incorporated into its design and construction strategy. Defensive

functionality is not apparent as a principal consideration in the construction of the site wall. However, it is important to view this wall, like any other architectural feature, as a dynamic construction, capable of multiple and changing functions and meanings; in other words, it is highly likely that “the evolution of the wall system represents a shift in function over time” (Ringle et al. 2004:510). In the case of the Great Platform wall at Chichén Itzá, I contend that a defensive function may have existed after the original construction of the wall, and that this function likely arose due to new concerns regarding the potential need for defense that accompanied the process of political decentralization that occurred during the Terminal Classic/Early Postclassic period in the Maya area and at this site. Thus, investigating the Chichén Itzá platform wall can contribute to a greater understanding of the processes of social change at this site, the practice of warfare among the Maya, and the relationship of warfare to greater social and political processes in archaic states.

SITE WALLS IN THE MAYA LOWLANDS

Several scholars have recently commented on the difficulty of identifying evidence of warfare in the archaeological record (Allen and Arkush 2006:6; Arkush and Stanish 2005:7; Connell and Silverstein 2006:399; Vencl 1984; Webster 2000:73). Indications of particular conflicts are scarce for several reasons. Many battles “were probably fought on open battlefields” (Dahlin 2000:294-295) away from known settlement centers; battles may leave little or no evidence after bodies are cleared; and evidence of battles that did take place at settlement centers may be obscured so long as the area continued to be inhabited afterward. Because direct evidence for warfare is infrequent, the study of defensive fortifications is an appealing and obvious means of examining warfare in the archaeological record. Such fortifications often include walls around sites, and indeed, defensive functionality is the purpose most commonly ascribed to site walls in archaic states. However, as mentioned above, defense is certainly not the only purpose for the construction of perimeter walls and other freestanding walls, and it is necessary to identify all possible functions of such walls in order to accurately interpret them.

Walls surrounding all or part of an architectural center are a common feature at many sites in the Maya area. Walls have been reported at sites of varying sizes, from small villages to second-tier sites and large regional centers including Uxmal, Mayapán, and Chichén Itzá. Wall construction has been dated to all time periods in the northern Maya lowlands, from the Preclassic through the Classic era, and into the Terminal and Postclassic. In this section, I discuss the history of wall research in the Maya area, beginning with the discovery of the Great Earthwork at Tikal in the 1960’s, a find that

had far-reaching implications regarding the militaristic nature of Maya political and social life. I analyze major developments in our understanding of wall systems through the following decades, including a new interpretation of the Tikal Earthwork that may yet again revolutionize the way scholars view walls and their relation to political organization. I conclude this section by evaluating each of the three major hypotheses for site walls in the Maya area, the defensive, water management, and social space delineation hypotheses. A map of important sites discussed in the text is presented in Figure 1.1.

A Selected History of Wall Research in the Maya Area

Although many walled sites have been reported throughout the Maya area, the walls themselves are not often discussed as site features of primary importance. Where walls are reported, they are almost uniformly interpreted as defensive features, and at times walls are described as defensive despite a lack of evidence other than their very existence (cf. Perez Ruiz 2004). This trend of ascribing a defensive function as the default purpose of site walls began with Puleston and Callender's (1967) discovery of the Great Earthwork of Tikal. Based on pace-and-compass mapping and three excavation trenches, Puleston and Callender interpreted the Tikal earthwork, a ditch/embankment system several kilometers from the center of the site, as "a defensive barrier and hinterland boundary" (Silverstein et al. 2009:45). This description "became a keystone in our assumptions about interpolity conflict in the Maya Lowlands, suggesting not only warfare, but warfare on an impressive scale" (Silverstein et al. 2009:46).

On the heels of this discovery, Webster's investigations at the site of Becan revealed immense defensive fortifications dating to the Late Preclassic period (AD 100-250) (Webster 1976:362-363). The fortifications at this site consist of a 5.3-meter-deep "ditch backed by a vertical obstacle about 11 [meters] in height," features that remain the clearest example of perimeter defense in the Maya area (Webster 1976:362). In the following years, Webster identified wall features at numerous other Maya sites including Cuca, Chacchob, and Dzonot Aké, and concluded that the walls at Cuca and Chacchob were most likely defensive, while the smaller Dzonot Ake walls probably served a defensive function as their primary purpose, with a secondary function of "[defining] high-status, socially significant space" (Webster 1976, 1978, 1980:842). Webster's recognition of a secondary purpose of social space delineation for the wall at Dzonot Ake represents one of the first non-defensive interpretations of a site wall in the Maya area.

Meanwhile, Kurjack and Andrews (1976) recorded site walls at Aké, Cuca, and Muna during an aerial mapping project. They also interpreted these walls as defensive fortifications, based mostly on the fact that they enclose large portions of the architectural centers of these sites and seem to have been built after most of the sites' architecture was complete (Kurjack and Andrews 1976). Additionally, they noted that several other sites in the northern Maya lowlands had similar fortifications, including Uxmal and Chunchucmil (Kurjack and Andrews 1976:322). Kurjack and Andrews (1976:323) were the first to discuss site perimeter walls in the Maya area as part of a larger process of social change; they argued that these walls represent an intensification of the boundary maintenance that is represented in a more passive form by the earlier *sacbes*, and continued into the Postclassic period.

During the 1980s, new wall features were reported from Maya sites including “Mirador, Muralla de Leon, El Paar, Calakmul, Oxpemul, Ek Balam [and] Yaxuná” (Webster 1993:424). Despite Rice and Rice’s assertions that wall systems may have served many purposes, and despite the fact that many had been only “casually investigated,” the default defensive hypothesis was invoked in the interpretation of the majority of these sites (Rice and Rice 1981:272; Webster 1993:424). In the late 1980s, the Vanderbilt Petexbatun Regional Archaeological Project launched a major reconnaissance and excavation project, the Defensive Systems Subproject, with the goal of documenting and investigating defensive walls in that region. The results of their investigation, summarized in Demarest et al. 1997, demonstrated that numerous sites in the Petexbatun region, including the major centers of Dos Pilas and Aguateca, were fortified by low, hastily built stone walls that supported wooden palisades. These wall systems are dated to the period between AD 760 and 830, an era that “also witnessed the gradual cessation of public architecture and dated monuments... the destruction of some epicenters, [and] the abandonment or radical depopulation of centers” (Demarest et al. 1997:231). Thus the Petexbatun project, by concentrating on defensive fortifications comprised mostly of wall systems, documented a process of “rapid political devolution” and fragmentation accompanied by the proliferation of warfare and fortifications.

Although a far-reaching project on the scale of the Petexbatun Defensive Systems Subproject has not yet been organized for the northern Maya lowlands, Dahlin’s (2000) brief overview of ten walled northern lowland sites provides the most comprehensive comparative analysis of walls in this region to date. Dahlin identifies three types of walled sites: barricaded sites, fortified towns, and “symbolic markers at central places”

(Dahlin 2000:294). I will return to this distinction in the next section of this paper. In addition to identifying the walls at the sites of Uxmal and possibly Ek Balam as primarily “symbolic markers of their respective inner sanctums and the military might of their inhabitants,” Dahlin makes a distinction between “wars of annihilation” and less destructive warfare practices based on key features of the site walls (Dahlin 2000).

In the last decade, two additional treatments of site perimeter walls have followed this trend of recognizing alternative potential primary functions of wall features. Ringle et al. (2004:510) argued that the walls of Ek Balam may have been designed as “marks of civic prestige, intended to segregate and restrict access to that space associated with the highest administrative and ritual activities” in addition to providing a measure of defense for the site center. This interpretation was based on several “puzzling defensive considerations” regarding the Ek Balam wall, including the lack of a water supply within the wall and the apparent advantages its position would offer to attackers (Ringle et al. 2004:510).

Finally, Silverstein et al. (2009) published a reinterpretation of the Great Earthwork at Tikal. Intensive mapping of the Great Earthwork has shown that while the segments of the earthwork to the north, west, and east of the site center do run in directions consistent with a circular or rectangular perimeter around the site, as hypothesized by Puleston and Callender (1967), they are not connected, and the bajos between the segments could be easily crossed by an invading force. Moreover, there is no wall, berm, or ditch/embankment to the south of the site center; the earthwork does not form a single perimeter around the site. In many places “the earthwork runs along slopes rather than up on the crests [of natural landscape rises], thereby sacrificing much

of [its] potential tactical advantage” (Silverstein et al. 2009:47). Additionally, in some areas the embankment is less than two meters high, and the ditch is so narrow as to be “easily leapt by an attacker;” in other spots the walls are shallow and sloped, rather than vertical (Silverstein et al. 2009:48). These factors, combined with a more detailed understanding of karst limestone and soil drainage patterns, have led Silverstein and colleagues to hypothesize that the Tikal earthwork was in fact a water management feature. They conclude that the ditch/embankment system most likely “functioned as a limestone filtration trench designed to intercept the flow of subsurface water as it travels downslope” and to channel the water into bajos and catchment basins where it could be stored (Silverstein et al. 2009:51).

From this discussion of the history of wall research in the Maya area, it is clear that although the defensive hypothesis has been the most widely recognized interpretation of wall features, additional functions for these walls are increasingly being acknowledged. Many site walls may indeed have been built primarily for defense. Nonetheless, identifying the key features of defensive and non-defensive walls is essential to understanding these constructions. I emphasize that the following three hypotheses do not represent clear-cut and unambiguous wall types. Walls may have multiple functions, and there is some degree of overlap between these categories. Site walls by definition share basic morphological and functional traits, including the fact that they create physical boundaries or barriers on the landscape. The three hypotheses outlined below represent only three possibilities for the *primary* function of wall systems, intended to bring to light patterns in the use of space and activities related to the separation of one area from another.

The Defensive Hypothesis

As demonstrated above, the defensive aspect is the most commonly described function of site walls in the Northern Lowlands. Of the eleven Northern Lowland sites with walls surrounding all or part of the site center, a defensive interpretation has been postulated for ten: Aké, Cuca, Chacchob, Chunchucmil, Dzonot Aké, Ek Balam, Mayapán, Muna, Uxmal, and Yaxuná (Dahlin 2000; Demarest 2004:121; Kurjack and Andrews 1976:323; Ringle et al. 2004:507-509; Suhler et al. 2004:471-473; Webster 1978). The existence of large-scale warfare among the ancient Maya has been thoroughly documented through iconographic evidence as well as excavation; there is no question that militarism was both a threat to and an investment undertaken by Maya elites, especially in the Late and Terminal Classic eras (Dahlin 2000; Ringle 2009). It is not my intention to dispute the interpretations of the walls of the sites listed above as defensive features, but it is necessary to define the features of walls that support the defensive interpretation. To do so, however, requires a broader understanding of the practices of warfare and fortification.

With the possible exceptions of the Postclassic center of Mayapán and the Classic city of Tikal (presuming that the Great Earthwork does form a boundary feature), perimeter walls in the Maya area do not enclose substantial areas of the residential and agricultural hinterlands of sites. As Hassig (1988:109) argues, the “fields, stores, [and] smaller unfortified dependencies” of centers were left undefended, “and without these the city was lost anyway” if an attack occurred. These support networks were crucial to

cities' continued existence. With this in mind, the question arises of why centers bothered to fortify themselves in the first place. One obvious answer is simply that they desired to protect their support populations; beyond this, however, a perspective that analyzes sites in their larger regional contexts is necessary. Dahlin (2000) makes a distinction between "fortified towns" and "barricaded sites" among the walled sites of the northern lowlands. I believe that this distinction is crucial to understanding fortification in the Maya area.

Walls surrounding fortified towns are more formal in style, and represent greater investments in time and labor than barricades. Northern lowland sites with walls of this type include Cuca and Muna, as described by Kurjack and Andrews (1976), as well as Chacchob, which Webster (1980:835) argues was actually "founded as a fortified center." The site of Ek Balam may also fall in this category, although Dahlin (2000) and Ringle et al. (2004:510) offer a "more nuanced interpretation" of the Ek Balam wall, discussed in more detail below.

The walls at these fortified towns are built with formal masonry techniques, which may include vertical, plastered façades, the use of dressed facing stones, and the integration of formal gateways into the original construction (Dahlin 2000:291-292). In many places they are designed to "take strategic advantage of local topographic variations to enhance [their] effective height," and the walls may incorporate stylistic elements of the site's major architectural features, or serve also to delineate the site's central plaza (Webster 1978:378). In the case of Cuca, a second wall encloses the central portion of the site, surrounding the largest ceremonial structures (Kurjack and Andrews 1976:321). Additionally, portions of the walls at some fortified towns were built atop

previous *sacbe* or road constructions, supporting Kurjack and Andrews' (1976:323) argument that these walls may represent outgrowths of earlier boundary markers . Additional defensive features reported in association with walls at fortified towns include concentric rings of fortifications with baffled gateways, and the use of narrow "killing alleys" through which invaders would have to pass (Demarest et al. 1997: 231; Ringle et al. 2004).

Dahlin (2000:294) notes that "only a few sites...out of literally hundreds of sites on the northern plans and Puuc regions have perimeter walls." This observation raises the question of why these sites, and not others, were fortified. There are several possible explanations. First, these towns may have invested in fortification as a means of asserting their dominance over potential enemies as well as their own populations, a concept I will return to below. Second, fortified towns may be small sites that competed against one another for favor from regional centers, or for control over local resources. A third possibility is that these towns may have been part of buffer zones for larger regional powers. According to Keegan (1993), when centralized authority is strong, polities tend to fortify sites away from their cores. This hypothesis is in strong agreement with Connell and Silverstein's (2006) interpretation of frontier conflict at Dos Pilas as well as other Maya sites in the Belize River valley. Examining these towns as they related to other sites nearby, both large and small, would be a productive avenue for future research into the question of why these sites chose to invest in perimeter walls.

In contrast to the wall systems at fortified towns, barricade walls are low constructions, typically around 1.5 meters high, that were hastily built, often using dry-laid masonry techniques and scavenged materials. These barricades represent "last ditch

efforts” at defending sites from invading forces (Dahlin 2000:294). Where they are recovered intact, barricades may signify that the defenders were overrun; the barricades would likely have been dismantled if the defense was successful (Dahlin 2000:296).

The site walls at Ake and Chunchucmil in the northern lowlands are examples of the barricade type of wall. These walls are ovoid or irregularly rounded in plan, and designed to enclose earlier constructions, in some cases passing within meters of structures or incorporating the structures into the walls (Dahlin 2000; Kurjack and Andrews 1976:322). It is possible that some of these barricades may have been topped with wooden palisades, as Demarest et al. (1997) describe for several sites in the Petexbatun region. Other archaeological indicators of barricades include ad hoc reutilization of stones and other materials scavenged from nearby structures; a lack of associated features such as “benches, stairs, [or] gates;” and a lack of apparent concern for aesthetics or permanence (i.e. no plaster facing or other stabilizing materials) (Dahlin 2000:286-287).

In addition to the Ake and Chunchucmil barricades, Dahlin identifies walls at the sites of Dzonot Ake and possibly Muna as barricades (Dahlin 2000:290-294). He also describes the walls surrounding the site of Yaxuná as barricade-type constructions, an interpretation with which Freidel (2007:345-347) and Suhler et al. (2004:471-473) agree. Barricade-type walls undeniably represent defensive constructions, as their construction style and locations indicate that they were not part of the construction plan of the centers where they were found, but that instead they were rapidly built in response to threats of attack.

Apart from rare finds of mass graves, the barricade type of wall may be the clearest indicator of warfare in the archaeological record. Rather than representing the potential of attack or the representation of power, barricades represent actual occurrences of conflict. According to Dahlin (2000), barricades may indicate that the residents of the barricaded sites experienced “catastrophic annihilation,” as opposed to less destructive (although still violent) wars of “conquest and subjugation.” Sites with barricades also show other signs of invasion, battle, and siege, including extensive burning at the time of abandonment, ritual termination, and rapid depopulation due to abandonment or annihilation (Dahlin 2000:294-296). Of the four barricaded sites described by Dahlin, the destruction of both Chunchucmil and Yaxuná is dated to the Terminal Classic period (Dahlin 2000:290-296). A Late Classic date is likely for the fall of Dzonot Ake, and Kurjack and Andrews identify occupation at Aké as ending during the “Pure Florescent” period (AD 800-1000), although more detailed information is necessary in order to fully understand the chronology of these sites (Dahlin 2000:290; Kurjack and Andrews 1976:322). It is possible that barricaded sites are more common during the Late and Terminal Classic due to a shift in the practice of warfare, wherein earlier forms of combat that were limited by convention gave way to all-out destruction (cf. Webster 1993).

The Water Management Hypothesis

A second theory for the primary purpose of site walls involves their use in water management. This hypothesis is not nearly as commonly invoked as the defensive hypothesis, and it merits discussion here in part because this possible function for site

walls has largely been ignored in the northern lowlands. It is possible that water management played a larger part in the planning and construction of site walls than previously recognized.

Because of the seasonal nature of rainfall patterns throughout the Maya area, water was a crucial resource, especially during the hot dry seasons. Kunen (2006), Lucero (2006), and Scarborough (1998) have identified access to or control over this limited resource as one possible way in which Mesoamerican elites could gain, legitimize and maintain their position. Elite control over water could never be complete, because every household likely collected rainfall, and catchment features such as *aguadas* and *bajos* are found throughout the rural Maya hinterlands. However, artificial catchment features built near large centers helped sustain larger populations, especially if they provided a constant source of clean water through the dry season. These features would increase rural farmers' dependence on the central authority, providing "the means for leaders to access the surplus of farmers" (Lucero 2006:124). This type of mutually dependent relationship was formalized and justified by incorporating water rituals and imagery into the body of ritual activity controlled and performed by elites (Kunen 2006:101-115; Lucero 2006:126).

The most obvious water management features utilized by the ancient Maya are large catchment basins, *aguadas*, and *bajos*, where water was stored. In the Yucatán, fresh water is also found in the numerous *rejoyadas* and *cenotes* or sinkholes that dot the landscape. In northwestern Belize, Kunen (2006:109) has identified numerous other artificial features used to divert and collect water, including "dry slope terraces, foot-slope terraces, box terraces, fieldwalls, walkways, *pozas* (small water tanks), and barrier

walls that appear to have diverted water out of small streams for agricultural purposes.” Additionally, *chultunes*, underground cisterns, are well known as storage tanks for water as well as perishable goods, and formal channel systems have been documented at several large Maya sites including Palenque and Copán (Lucero 2006:124-125; McAnany 1990; Scarborough 2006:230-231). At Tikal, where the dry season stretches from December to April, sloped plazas associated with drainage ditches leading into “empty quarries turned reservoirs” are found throughout the monumental site center (Silverstein et al. 2009:49). Such drained plaza systems reflect the transition from simple concave bajo microwatershed systems to the more complex “convex watershed” drainage and collection systems utilized by Maya elites beginning in the Classic period (Scarborough 1998, 2006:229-230).

Availability of water was a major concern for Maya elites, especially in areas lacking reliable year-round water sources. Thus it is perhaps not surprising that water management features, including walls and drainage systems, should be integrated into the design strategies of large centers. One important example of this type of feature, as discussed above, is the Great Earthwork at the site of Tikal.

The Tikal earthwork is still far from fully understood, and Silverstein et al. do not rule out the possibility that it “could have served as some sort of territorial demarcation in the north and west,” or that the water management features of the earthwork could have been integrated into the construction “after defensive or boundary functions of the earthwork had become obsolete” (Silverstein et al. 2009:55). Such statements underscore the necessity of viewing walls as dynamic constructions, with dual or multiple purposes. In light of this new information, it is necessary to consider the possibility of water

management functions as important aspects of walls at other sites throughout the Maya area, especially where walls are integrated into convex watershed-type architectural complexes or catchment systems.

The Social Space Hypothesis

The final hypothesis for the major function of site walls involves the delineation of social space. Much has been made of the formal layout of Maya sites concerning spatial symbolism and the meaning of architectural form (Ashmore 1991). Ashmore (1991) has argued that many public architectural features at Maya sites are designed as microcosms of the cosmic order, citing elements such as quadripartite organization focused on the cardinal directions, twin-pyramid complexes, and multiple visual levels or layers that mirror the stratification of the heavens. The site plans and architecture of Chichén Itzá and other Northern Lowlands sites do reflect some of these cosmological symbols, including some emphasis on the cardinal directions and the incorporation of numerous religious symbols into their iconography and construction. More importantly, their architecture certainly contains “multiple and redundant symbols of authority” including the “imposing mass, distinct architectural forms [...] and representational adornment alluding to authority” that mark a location as a seat of political, economic, and/or cosmological power (Ashmore 1991:199-200).

By “[underlining] social boundaries [and creating] categories of ‘insider’ and ‘outsider,’” walls may represent symbols of authority (Arkush and Stanish 2005:6). Especially where they are integrated into complexes of monumental architecture, walls

can be seen as “part of a general construction trend formalizing the relationship between center and periphery” (Ringle et al. 2004:510). Site walls create a formal boundary, which may strengthen the perception of architectural centers as powerful or sacred, and separate from the outside world. As Ringle et al. (2004:510) argue, walls may “have been designed to present the image of a powerful center, a type of construction permitted only the most powerful of regional centers.” Additionally, site walls may have performed a psychological function, increasing the impressiveness of already formidable monumental architecture by “obscur[ing] the impressive expanse of the main plaza until passage of the final barrier,” usually a formal gateway or entry structure (Ringle et al. 2004:510).

As mentioned above, Ringle et al. (2004) offer the social space delineation hypothesis as an alternative interpretation of the site walls at Ek Balam, a site 51 kilometers to the northwest of Chichén Itzá. In support of this hypothesis, Ringle et al. (2004:509) note that the walls do not create a single defensible perimeter around the site center. There is no source or storage area for water sufficient to sustain a defending force within the enclosed area, and structures nearby would actually offer advantages to attacking forces. Also, the walls were built with fine masonry, covered with plaster, and painted, in contrast to hastily built, low, obviously defensive barricades such as that described for Chunchucmil (Dahlin 2000; Ringle et al. 2004:508). However, the Ek Balam walls do have features commonly identified as defensive, such as baffled gateways, concentric rings, and associations with militaristic iconographic themes (Ringle et al. 506-509). While Ringle et al. (2004:510) state that the walls may have

performed a defensive function, they argue that it is an “open question” whether the site walls of Ek Balam were originally built as defensive barriers.

Dahlin (2000) agrees with the primarily social or psychological interpretation of the Ek Balam walls, and proposes that the site wall at Uxmal served essentially the same function. He identifies both of these sites as central places within their respective territories, arguing for their symbolic function, and noting especially the “easy access” to enclosed areas at Uxmal (Dahlin 2000:293-294). Dahlin is firm, however, in stating that the walls at both Ek Balam and Uxmal served a defensive function as their secondary (or possibly primary) purpose.

A final possibility to consider here is that these site walls were intended to be defensible, but also to be so intimidating that they never had to be defended. The psychological/ social function of walls may indeed be an auxiliary role of all defensive walls. As Arkush and Stanish (2005:6) state, “fortification walls send powerful messages: of fierceness, numbers, and impregnability to outsiders and of solidarity and fear and possibly the need for leadership to insiders.” In other words, sites such as Ek Balam may build defensive-type walls in order to assert their hegemony over prospective enemies as well as their own population.

To identify a site perimeter wall as a structure primarily intended to demarcate sacred or elite space, I propose three categories of criteria. First, any wall features that imply a defensive function, such as ditches along its outside, extreme size, or fortified or baffled entrances, should be absent or should represent a minimal investment in labor, materials, and other resources. Walls that appear to be designed with defense in mind might be built for purposes more ideological than functional; in such cases the

archaeologist may be able to assess whether “defensive” features represent a major investment beyond what would be necessary to convey such ideological messages. Second, the construction of the wall itself should be stylistically similar to that of other structures at the site that are believed to have ritual or social significance. For example, if a site’s temples or palaces are built using particular formal architectural techniques, a wall denoting a ceremonial enclosure is likely to share the same architectural style. In addition, walls may be integrated into the stylistic program of a site center through adornment, including plaster facing and the use of iconic imagery that reinforces the sacred or powerful nature of the area within the wall. Finally, consideration should be given to the structures or area that the wall encloses. Although many site perimeter walls enclose most or all of sites’ architectural cores, patterns in the use of space may be visible through comparison of the structures within and outside of the walls. For example, does the wall contain only major temples and palaces, or does it create a seemingly arbitrary boundary between structures of similar size and function? Does the wall mark off a specific architectural complex within the site core?

WALLS AND WARFARE AT CHICHÉN ITZÁ

A large portion of the site center of Chichén Itzá sits atop a massive artificial platform, the Great Platform or *Gran Nivelación* (Figure 1.2). Many of most impressive and famous structures of the site are built on this platform, including the Castillo, the Great Ballcourt, the Temple of the Warriors, and the Group of the Thousand Columns. This platform sits at between approximately 0.5 and 5 meters above the irregular natural bedrock surface, and a wall runs along most of the length of its edges. In this section, I discuss the Great Platform wall, including its various entranceways and associated structures. One of these entrance structures (Structure 2C12 or the Puerta Occidental) was located between the two sections of the wall excavated during the 2009 season; in this section I also discuss similarities of this structure to other entrance features at Chichén Itzá and several other Maya sites. I include a discussion of the other wall features found at the site, and I analyze several of the water management features associated with the site center. I conclude this section with a brief discussion of depictions of walls and warfare in the art of Chichén Itzá.

The Great Platform wall is approximately 2060 meters long, and Pérez Ruiz (2004) reports that in most areas it is between 0.6 and 0.7 meters thick, and 1.5 to 2 meters tall. Other than the areas I discuss in this paper, and the areas where the wall forms outer walls of structures such as in the Group of the Thousand Columns, the wall has not been excavated. The wall is broken by several entryways and access points that allow movement onto and off of the Great Platform; Pérez Ruiz identifies thirteen distinct entries including several formal gates such as those leading to Sacbes 1, 49, 10, 5, and 6,

as well as smaller breaks in the wall such as those that lead to Sacbes 2 and 58 and the opening between the Temple of the Big Tables and the patio gallery structure 2D6 (2004).

The area around the northern portal leading to Sacbe 1 and the Sacred Cenote was the site of excavations by the Proyecto Chichén Itzá team under Peter Schmidt in 1993-1994 (Schmidt 2007:152). Excavation reports for this area are not available to me at this time, but the consolidation of the wall shows that it was built in the core-veneer style typical of Chichén Itzá and was rather thin, approximately 60 cm in thickness. The wall has been reconstructed to a height of approximately 1.5 meters, and sits atop the talud that forms the edge of the Great Platform. The talud in this area reaches a height of more than three meters. Several drains are visible in the consolidation, which functioned to channel water off of the Great Platform. No formal gateway is visible in the consolidation, but the wall continues some distance down both edges of Sacbe 1. It has been reported that the Sacbe 1 walls were surmounted by serpent-themed decoration, reflecting the sacred nature of the area and symbolically transforming the sacbe into a *coatepantli* or snake-road (Ringle 2004:190). The wall consolidation also includes a staircase leading from the lower area off of the platform to where the platform articulates with the beginning of the sacbe. These features all reflect symbolic, rather than defensive, aspects of the wall construction in this area.

Of the 13 Great Platform entrance points, at least four are associated with small structures of unclear function (Pérez Ruiz 2004:5-14). One of these, the small colonnaded structure to the west of the entrance to Sacbe 1 (Structure 2D13), communicates to the outside of the wall or the “exterior corridor,” a flat area between the

outer face of the wall and the sloped edge of the platform (Pérez Ruiz 2004:5-6). The other small structures associated with the wall openings have openings that communicate to the Great Platform inside the wall. These structures have been interpreted as “surveillance structure[s]” or houses for guards, although neither Pérez Ruiz (2004) nor Ruz Lhuillier (1948) offer evidence or explanations to support these interpretations. Another possibility is that these rooms served as shrines for those passing into or out of the site center. A small structure also associated with the entrance to Sacbe 1 (Structure 2D12) has been interpreted as a “possible altar” (Pérez Ruiz 2004). Additionally, Structure 3D34 near the access to Sacbe 10 and Structure 3D33, which is associated with the entrance to Sacbe 58, both contain benches that run along their back walls. Benches in the Maya area are often interpreted as evidence of a residential function for structures, but they are also found associated with ceremonial shrines (Harrison and Andrews 2004).

In addition to discussing the structures associated with the Great Platform wall openings, one of the best potential sources of information regarding the function of the wall is to analyze the gateways themselves. Of the 13 access points onto the Great Platform, the gate leading to Sacbe 1 and the cenote in the north is the widest at eight meters across. However, part of the entrance was blocked at some time after the original construction of the wall by a small masonry wall addition, which reduced the width of the entryway by approximately half. According to Pérez Ruiz (2004), this wall was built with reused stones that were originally part of a different structure. The second largest of the points of access onto the Great Platform is the gate that leads to Sacbe 6, the main path of entry into the Chichén Itzá site center from the east. This formal point of entrance consists of two large rectangular “masonry bodies” that essentially form a corridor

through which people would have to pass in order to gain access to the platform (Pérez Ruiz 2004). The original height of these structures is unclear; however, if they were tall enough to prevent access to the interior of the wall, or surmounted by palisades made of perishable materials, such structures would have considerable defensive potential.

Several of the other entrances onto the Great Platform show signs of either a present or anticipated need for defense. The wall openings corresponding to Sacbes 2, 74, and 58 were all partially blocked off. The openings from Sacbes 2 and 74 were partially baffled with C-shaped walls, and the gate leading to Sacbe 58 was blocked by a row of columns (Pérez Ruiz 2004). By restricting the flow of people through these entrances, these features increase the defensibility of the Great Platform wall; however, it is unclear whether these features were part of the original design strategy of the wall or if they were added at some point after the original wall construction.

Unfortunately, the gateway that once existed between the two excavated sections of the Great Platform wall described here, Structure 2C12 or the Puerta Occidental, was completely dismantled in the late 1940s to facilitate construction of the old Mérida-Chichén Itzá highway. Alberto Ruz Lhuillier excavated the Puerta Occidental in an emergency salvage operation in 1948, and his report contains the only remaining information about this important site feature (Figure 1.8). Ruz Lhuillier describes the structure as containing two vaulted passageways, with a small room between them. The entrance to the room faced the Gran Nivelación. Ruz Lhuillier (1948:3) gives its exterior dimensions as 8.20 by 3.85 meters; interior dimensions were approximately 5 by 2.5 meters. Each corbelled vault arch was 2.95 meters wide (Ruz Lhuillier 1948:3). Ruz interprets the room between the arches in structure 2C12 as a house or station for guards,

and mentions that the “various entryways [to the Great Platform could be] appropriately guarded and defended in case it became necessary to secure the access points from outside” (Ruz Lhuillier 1948:6, translation by author). A statue of a “dog or feline” in a “sitting posture” was recovered by Ruz just to the east of the room; this statue may represent an association with a “protective divinity” of some kind (Ruz Lhuillier 1948:4-5, translation by author).

Ruz Lhuillier describes the Puerta Occidental structure to have been plastered and painted red, rather than the black typically associated with the western direction in Mayan symbolism, and he hypothesizes that the gateways leading onto the Great Platform were likely associated with each of the cardinal directions (Ruz Lhuillier 1948:4-5). Two other openings in the wall that conform to this quadripartite site plan have been recorded—one leading to the Sacred Cenote in the north, and one leading to the Osario group, the Caracol, the Monjas complex, and other structures in the south (Figure 1.2). However, the 13 entrances to the Gran Nivelación described above, including the numerous portals on the eastern side, show that the latest construction phase of the Chichén site center does not reflect a quadripartite site plan, despite some design emphasis on the cardinal directions.

The arched gateway of structure 2C12 appears to be quite similar to the arch at the entrance to the Initial Series Group, an architectural complex that lies several kilometers to the south of the Monjas complex. This massive arch provides the main entrance to the Initial Series complex, which contains several ceremonial structures including temples, ceremonial platforms, a patio gallery structure, and a palace complex. The arch or “portal vault,” Structure 5C35, sits at the northwest corner of the artificial

platform that the Initial Series Group is built upon (Schmidt 2007:179). The arch is enormous, standing over five meters tall, and its opening is approximately three meters wide, but neither it nor the “rather low and not very impressive wall” that surrounds most of the Group of the Initial Series add significant defensibility to the complex (Schmidt 2007:179). The arch portal is not baffled or restricted in any way, and the low wall is broken in several areas, allowing access to the platform in at least seven places (Schmidt 2007:180). There is no evidence that the Initial Series Group arch, the Puerta Occidental, or any of the other entrances to the Great Platform were closed by doors or gates made of wood or other materials, as might be expected if these features were intended to serve as defensive barriers.

The Structure 2C12 and Initial Series Group arches also show a marked similarity to the large arched gateway features at the sites of Uxmal, Labná, Oxkintok, and Kabah in the Puuc region (Kubler 1993:241). Kubler notes that archways of this kind may appear “on axis” with important ritual constructions such as the ballcourt at Uxmal (1993:241). Both where they are integrated into larger architectural complexes and where they are free-standing, arches of this kind undoubtedly act as symbols of sites’ power to those who pass through them, “demonstrating the site planners’ mastery of the psychological and propagandistic aspects of monumental architecture” (Schmidt 2007:155).

In addition to the Great Platform wall and the Initial Series Group wall, several other wall features are present throughout the Chichén Itzá architectural core. Several groups within the site center, including the Osario Group and the Casa Colorada complex, are defined to lesser or greater extents by their own wall enclosures (Schmidt

2007: 154-155). Schmidt argues that most of these wall systems were “probably at the beginning more symbolic than effectively defensive,” because of their size and incomplete circumscription of the architectural groups (Schmidt 2007: 155). Walls are found at several secondary groups of structures outside the site center; such walls typically surround groups that contain ceremonial or sacred architecture, but not residential groups, although low *albarradas* defining residential areas or fields are common (Beniamino Volta, personal communication 2009). These *albarradas* are built of unworked stacked stones, in contrast to the rectangular cut stones used in the more formal walls that surround ceremonial complexes.

At least one major wall feature at Chichén Itzá does not enclose an architectural group. This wall begins near the southwest corner of the Great Platform and extends south-by-southwest to the House of the Deer in the Casa Colorado complex, creating a barrier to the west of the Osario complex. Pérez Ruiz (2004) identifies the wall as a defensive structure, but it is also possible that this wall was intended to present a single, unified vista to those approaching from the west via Sacbes 27 and 28, instead of a view of the separate architectural complexes in this area. The southwest corner of the Great Platform and the northern terminus of this wall feature have been obscured by the path that leads from the site visitor’s center to the Great Platform, but older maps show that the wall feature did not form a continuous western barrier by articulating with the Great Platform and its wall (Figure 1.2) (Ruppert 1952; *contra* Pérez Ruiz 2004). Several other freestanding wall features appear on various maps of the site, but further mapping and investigation is necessary in order to understand the function of these features (Ruppert 1952; Schmidt 2007).

I mention above that water management may have been a very important aspect of leadership among Maya rulers. At Chichén Itzá, where rainfall averages 500 to 1200 millimeters a year, natural water sources at a depth of 22 to 25 meters below the surface supplied a large amount of the necessary water to the site's inhabitants (González et al. 2004). Nonetheless, González et al. (2004) argue that the rulers of Chichén used numerous water management strategies in order to protect themselves and their subjects against the risk of extended dry seasons and droughts. Many buildings at the site had water collection and storage features incorporated into their roofs, or features that served to channel water into chultunes (underground cisterns) or rejoyas (natural landscape depressions) (González et al. 2004). Additionally, in some of the site's plazas, floods were prevented by the use of features that allowed water to percolate into the soil. González et al. (2004) describe an "elaborate draining canal" totaling over 64 meters in length that functioned to collect water from the Group of the Thousand Columns plaza and nearby structure roofs and channel it toward a large rejoya nearby. Figure 1.2 shows the locations of several large rejoyas around the Great Platform. Thus it is clear that water management was a concern for the elites of Chichén Itzá, and that they put considerable effort into incorporating water control features into their architecture. González et al. go so far as to argue that much of Chichén's hegemonic power "was probably largely due to the control they exerted on water," although this hypothesis requires further investigation before it can be proven.

Iconographic Evidence of Walls and Warfare at Chichén

Warfare, warriors, battles, and death are common themes in a large portion of the art from all areas of the site. The military themes at the Temple of the Warriors and many other structures throughout Chichén Itzá have been well documented; it is outside the scope of this paper to discuss all of these findings. One important detail, however, may offer insight to the present discussion. Murals in both the Upper Temple of the Jaguars and the Monjas pyramid depict battle scenes taking place at settlements that are surrounded by walls (Figures 1.4-1.7)(Bolles 1977:196-203; Ringle 2009:19-21).

In the Monjas pyramid, a mural in Room 22 shows warriors with feathered headdresses and round shields, brandishing spears and standing behind a wall (Figure 1.4). The wall is only shown as reaching the height of their hips, but Bolles (1977:210) notes that “the general design [of this mural] usually showed figures much larger in scale than the buildings, so that this particular wall was probably not in scale.” These figures seem to be defending a large stepped pyramid or temple, the roof of which has been set on fire. The wall appears to surround this pyramidal structure and is colored red, and it is “lined off to represent stone jointing...five courses high, with the vertical joints broken” (Bolles 1977:210). Bolles (1977:211) describes a second wall surrounding the pyramid more closely, but this feature is not visible in his illustrations, so I do not discuss it further here. On the outside of the red wall, a procession of individuals wearing jaguar headdresses and large earplugs faces away from the wall, while other individuals sit on the ground; Bolles mentions that over thirty figures in total are featured in the mural.

Two of the murals in the interior room of the Upper Temple of the Jaguars feature battle scenes taking place at what appear to be settlements protected by walls. In the southeast mural, what seem to be two segments of a red wall stand in front of a large

number of thatched buildings (Figure 1.5). Ringle (2009:25) asserts that this mural represents a walled settlement, although Coggins (1984:159) claims that the red bands may represent canoes. In the mural that covers the northern section of the west wall, eight “masonry, thatched-roof houses” stand behind a semicircular wall, which is painted red like the one in the Monjas pyramid (Figure 1.6) (Coggins 1984:162). The attackers in this battle scene are painted blue, and they are depicted engaging in combat and leading away prisoners (Coggins 1984:163).

A third mural from the Upper Temple of the Jaguars, on the southern wall, depicts what appear to be siege towers (Figure 1.7). Three towers, which appear to be made of wooden scaffolding, support warriors who are attacking “what might be the profile of a defensive wall abutting the pyramid under attack” (Ringle et al. 2004:507). This pyramid is represented abstractly by a thin angled and stepped outline. The towers are depicted as having multiple levels, and captains, signified by feathered serpents, stand on the top levels. The tallest tower is shown to have four levels (Coggins 1984:165). As Ringle (2009:23) points out, this mural represents “the only image of this sort of technology” known in the Maya area.

Coggins (1984) has described these murals as parts of a sequence wherein chapters of a particular conquest are depicted as taking place at various times of day (i.e. “before dawn” and “afternoon”). More recently, Ringle (2004:25) has argued that they represent different episodes of conquest taking place “in localities whose differences were closely observed.” Friedel (2007:364-365) agrees, arguing that these murals suggest that “Chichén Itzá attacked walled and fortified places at Yaxuná,” or perhaps Ek Balam, as well as other sites in the northern lowlands. For the purposes of this

discussion, the most important features of these murals are the tactics and strategies of battle that they portray.

From these mural paintings, it is clear that some walls known to the people of Chichén Itzá did serve a defensive function. The locations depicted in the murals are still a matter of debate, but it is clear that in at least some instances, walls were used to protect settlements or ritual structures from attack, and that walls thus played some role in the strategies and tactics of warfare used by these people. As Ringle et al. (2004:507) point out, none of the walls depicted in these murals support palisades made of perishable materials, but they may be painted or stuccoed. The siege towers in the Southern Upper Temple of the Jaguars mural are particularly intriguing. Unlike siege towers known from medieval Europe, these towers were not put into place with the use of wheels, a technology unknown to the ancient Maya. It is possible that these towers simply represent attackers making ad hoc use of construction scaffolding or other perishable structures, which have been reported from Maya sites. Additionally, Hassig (1988:299) argues that they may have been “fire towers,” designed to increase the possible distance that fire-tipped atlatls could be thrown at buildings. If they represent either fire towers or true siege towers, the towers must have been constructed in place by the attacking army. Such construction would be indicative of several very important factors regarding the nature of warfare among the Maya. First, this would indicate that the defenses of the besieged city could not be breached using standard storm tactics. Second, the attacking army must have either taken the time and resources to gather materials at the site of the siege, or transported the various pieces of the towers with them from their place of origin. Thus, either the siege lasted long enough for the attackers to carry out this labor, or the

strategy of attack was planned well in advance. Either of these options represents a considerable investment of labor and effort, indicating the economic power and organizational capability of the attacking army.

As a final note, while these murals provide many interesting details regarding the practice of war as it was known to the inhabitants of Chichén Itzá, the murals should not be assumed to be accurate depictions of real events. As Keegan (1993:151) argues, “we ought...to treat with extreme reserve all representations of siegecraft and siege engines,” because “warfare in art always calls forth from the artist the representation of the potential and the sensational, rather than that of documentary realities.” In other words, artistic representations of warfare, including the murals discussed here, should be used along with other lines of archaeological evidence in order to create a comprehensive understanding of warfare as it was practiced by the ancient Maya as well as other archaic states.

METHODS

In the following sections, I present the results of Proyecto Chichén Itzá 2009 Operation AB. Op. AB consisted of excavations of a portion of the wall that runs around a large part of the site center. The wall forms the edge of the Gran Nivelación, the platform on which a large portion of the site's center is built. The portion of the wall excavated during the 2009 field season begins just to the south of the southwestern corner of the Great Ballcourt and extends southward 94 meters (Figure 1.3). This stretch of the wall is broken approximately 40 meters south of the Ballcourt by a modern access road that leads into the site, which is flanked on both sides by the recently consolidated remains of an ancient "gateway" or entrance to the platform. The primary goals of this operation were to describe the architectural features of the wall and to establish the construction sequence of the Gran Nivelación platform in this area. This section of the wall was also chosen for excavation in order to catalogue and preserve its remaining intact architectural features before they became even more damaged as a result of heavy foot traffic in this area.

The methodology employed for the excavation of Op. AB included establishing a 2 x 2 meter grid, shot into the master grid by total station. A lot system was utilized to separate cultural materials such that visually distinct matrices defined collection lots within each 2 x 2 meter unit. The 38 x 18 meter grid for the portion of the wall to the north of the Puerta Occidental was oriented directly North-South and had the following master grid coordinates for its northwest corner: E:5787.248, N:6092.835, Z:-1.329 (Figure 1.9). Each two-meter east-west trench or *cala* was assigned a number progressing northward from the reconstructed portion of the Puerta Occidental, with 18 trenches total

for the northern half of the wall. Units were assigned an alphanumeric designation based on their cala number and east-west letter row, with row A furthest to the west and J marking the western extent of the grid. The northern grid was limited on its southern side by the main access road into the site, and on its northern side by the northern access road that passes immediately to the south of the Great Ballcourt.

Each cala was excavated in 2 x 2 meter units, beginning with the units at the foot of the overburden slope on both the western and eastern sides, and working inward toward the highest point of the wall. Excavation methodology included the removal of soil by hand trowels, and all excavated material was screened through ¼” screens. Units were cleared of vegetation, topsoil, and unworked fill stones, and plan views of each unit were drawn with all cut stones left in situ. After drawing, stones that could not be placed in their original locations were cleared, laid in rows, and counted to provide an estimate for the minimum original height of the wall. Where original locations of facing stones were visible, the construction was consolidated, and excess soil matrix was removed to provide an accurate representation of original construction features. Cultural materials were collected and catalogued for each lot.

A second 2 x 2 meter grid was utilized in the excavation of the section of the wall to the south of the southern access road, again shot into the master grid by total station (Figure 1.10). This grid was oriented directly North-South and its northern edge was precisely ten meters south of the southern edge of the northern grid. The grid was 48 x 24 meters in size, and its northwest corner had the following master grid coordinates: E:5775.227, N:6044.803. Trenches were assigned numbers progressing southward beginning at Cala 21, however, Calas 21 through 27 contained only the southern

reconstructed portion of the wall, the Puerta Occidental, and several *sacbeob* leading to the Gran Nivelación. For this reason, excavations in the southern stretch of the wall began in Cala 28. Units were assigned letters such that A through F corresponded with units designated A through F in the northern grid. Units to the west of A were designated with letters U through Z. This part of the wall had as its southern boundary the access road leading into the site from the main visitor entrance. Excavation was conducted in much the same manner as in the northern section of the wall, using the same lot and material screening system. Calas 28 through 39 were excavated, drawn, and consolidated, but time constraints precluded excavation of calas 40 through 44.

LA MURALLA DE CHICHÉN: EXCAVATION AND ANALYSIS

The major construction features of the wall were all built in the core-veneer style typical of monumental construction at Chichén Itzá, with rectangular, cut facing stones held in place by a core of unworked fill or cobble stones. Essentially, the wall consists of a thin, double-faced wall construction that is buttressed on its western side by a thick addition. The wall is built directly atop the Great Platform, the edges of which are defined by a sloped talud wall that runs a good deal of the length of the wall. All construction features are recorded in Table 1.1.

Construction Features in the Northern Excavation Area

Feature AB1

Feature AB1 was the designation given to the talud feature found on the western side of the wall in the northern excavation area (Figure 1.11, Figure 1.13, Figure 1.18). We encountered Feature AB1 in trenches 1 through 5, and it consists of two courses of stones that slant eastward. This feature runs parallel to the wall itself, and essentially forms a retaining wall for the Gran Nivelación platform. The maximum height of Feature AB1 is 80 cm, with its upper edge parallel to or below the lowest edge of Feature AB5. Feature AB1 was built atop small leveling fill in its southernmost areas, and placed directly on bedrock where the bedrock rose in the northern part of Cala 5.

Feature AB2

The wall itself was given the designation Feature AB2 (Figure 1.11, Figure 1.14, Figure 1.18, Figure 1.19, Figure 1.20). This feature consists of both the western and eastern faces of the original wall construction, and averages a thickness of 55 to 60 cm. The eastern face of Feature AB2 forms the face of the wall visible to the interior of the Gran Nivelación platform. The western face is not visible as it directly abuts the fill of Feature AB5. We first encountered Feature AB2 in Cala 1, and it is present in a continuous line through the entire northern excavation area. In most areas, Feature AB2 could be reconstructed to a height of two or three courses, with a maximum height of 1.25 meters. The presence of numerous additional facing stones indicates that Feature AB2 could originally have reached a height of 3 meters. Several drainage features were encountered in association with this feature, and numerous facing stones pertaining to Feature AB2 in Calas 3, 5, 6, 9, 13, 15, and 16 retain plaster fragments, indicating that much or all of the eastern surface of Feature AB2 was originally covered with stucco. Additionally, several stones from the western face of Feature AB2, encountered in situ during the excavation of the drainage Feature AB7 in Cala 8, retain their plaster surface as well. These stones may have been plastered only to lend strength to the wall in the area near the drainage, or they may indicate that the entire western face of Feature AB2 was initially covered in stucco.

Feature AB3

At the base of the talud Feature AB1 in Cala 1, the remains of a plaster floor were encountered and designated Feature AB3 (Figure 1.13, Figure 1.18). Layers of stucco

five to ten centimeters thick were visible from the southern end of Feature AB1 exposed in Cala 1, extending northward 80 cm and westward seven cm before grading into plaster dust and soil matrix. The shape of Feature AB3 indicated that the plaster likely continued onto the face of Feature AB1 in ancient times, but no plaster was recovered adhering to any of the stones of Feature AB1. Excavation revealed that the plaster floor sat atop a thin layer of leveling fill, which in turn sat above A horizon soil.

Feature AB4

We encountered a second plaster floor at the base of the eastern face of Feature AB2. This floor was designated Feature AB4, and was present in Calas 3 and 5 (Figure 1.19). The shape of Feature AB4 where it was found in the corner between the plaza floor and Feature AB2 indicated that the plaster likely originally continued onto the face of Feature AB2, similarly to Feature AB3 as described above. Intact stucco and large fragments were absent from the areas immediately to the east of Feature AB2 in the rest of the northern excavation area, but large amounts of plaster dust found in Calas 8, 9, 13, 14, and 16 indicate that this feature may have been present in these areas in ancient times.

Feature AB5

Parallel to Feature AB2 and abutting it to the western side is a second wall, Feature AB5 (Figure 1.11, Figure 1.13, Figure 1.18, Figure 1.19, Figure 1.20). Feature AB5 consists of a row of facing stones backed with unworked fill, and its average width is 130 cm. The face of Feature AB5 forms the visible western face of the wall, the side facing away from the Gran Nivelación platform. Feature AB5 could be reconstructed to

a height of two courses in all areas, and was intact in some areas to a height of 3 courses. It extends the length of the northern excavation area, reaching a maximum height of 1.35 meters, although the numerous facing stones that were present but could not be placed in their original locations indicate that the original height of Feature AB5 could have been over 3 meters. Feature AB5 was constructed atop the Gran Nivelación platform in the same manner as Feature AB2.

Perhaps the most interesting characteristic of Feature AB5 is that it incorporated a large number of facing stones with carved decorative elements into its façade (Figure 1.13, Figures 1.22-1.35). Twenty-one carved stones could be placed in their original locations in the wall, along with two reutilized *metates* or grinding stones that were employed as facing stones in the Feature AB5 façade. An additional 30 carved facing stones were among those whose original locations were unclear. The carved pieces showed similar iconographic elements, but none were found to articulate with one another, and no overall design strategy was apparent. The seemingly random placement of these pieces within the wall indicates that their artistic elements were not of primary importance to the builders of Feature AB5. While none of the facing stones of AB5 show evidence of having been plastered, several of the carved stones retain traces of their original paint or pigment: yellow, red, and blue pigments are visible.

Feature AB6

A small scatter of marine shell and ceramic sherds belonging to an olla vessel, Feature AB6, was found at the base of Feature AB2 in unit 5E (Figure 1.11). Two types

of marine shell were represented, and the scatter was encountered immediately above the plaster floor, Feature AB4.

Features AB7, AB8, and AB11

Feature AB7, Feature AB8, and Feature AB11 were the designations given to the three drainage features encountered in the northern excavation area (Figure 1.11, Figure 1.13, Figure 1.14). Features AB7 and AB11, present in Calas 8 and 18, respectively, pass in an east-west direction through both Features AB2 and AB5. Both Features AB7 and AB11 were constructed by placing semi-rectangular worked stones in parallel lines to form a channel perpendicular to the line of the walls. The channels were then topped with thin capstones before the wall fill was added above. These drains serve to channel rainwater off the surface of the Gran Nivelación platform. Feature AB8, found in Cala 15, was constructed in the same manner, but passes only through Feature AB2. It does not continue through Feature AB5, and its western opening was entirely blocked by the fill of Feature AB5. The proximity of Feature AB8 to Feature AB11 may have made the former redundant and therefore unnecessary.

Features AB9 and AB10

The line of the talud, Feature AB1, is greatly obscured in Calas 6 and 7 by a large hole or sascabera that was created in modern times by the use of dynamite, as evidenced by a visible drill-hole on one edge, presumably as a quarry for building material for the nearby road. It is possible that the construction elements of Feature AB1 in Calas 6 and 7 were moved at the time of the dynamiting, or that the natural bedrock rise in this area

precluded its construction in the first place. Continuing northward, the line of Feature AB1 is not present, but two additional features are present, Features AB9 and AB10 (Figure 1.13, Figure 1.20). Feature AB9 consists of small packed fill stones, and was encountered in Calas 9, 11, and 12 to the west of Feature AB5. This fill may indicate that the talud wall existed in this area at one point. If this is the case, it is likely that the facing stones were removed before the collapse of Feature AB5. It is also possible that this fill performed a retaining or leveling function and was not faced with stones.

In cala 13, a very small section of what appeared to be the talud wall was encountered. This feature, Feature AB10, consists of a badly damaged course of five facing stones, with two additional stones indicating a possible second course. These stones were notably smaller than those present in the talud Feature AB1. Part of the small fill retaining wall, Feature AB9, was also encountered in Cala 13 to the south of Feature AB10, but due to the bad state of preservation in this area, it is unclear whether it forms the fill of Feature AB10 or is a distinct feature.

Feature AB19

The northernmost section of Cala 18 was excavated with the goal of finding the articulation of Feature AB5 with the portion of the wall that extends westward nearby. No corner was found; however, a feature that appeared to be another wall was revealed, Feature AB19 (Figure 1.11). This feature consists of stacked unworked stones and small packed fill. The workmen insisted that it was an ancient wall, but it is more probably simply fill used to level the area during the construction of the access road that runs immediately to the north, between the excavation area and the Great Ballcourt. Feature

AB19 runs perpendicular to the line of Feature AB5, and is in contact with AB5; however, the two constructions are not integrated or articulated in any complex way. It is likely that Feature AB5 continues northward beyond the limits of our excavation grid before either forming a corner and turning westward or articulating with the Ballcourt.

Construction Features in the Southern Excavation Area

Feature AB12

Feature AB12 was the designation given to the talud wall in the southern excavation area, corresponding to Feature AB1 in the north (Figure 1.12, Figure 1.15). This feature was first encountered in Cala 28, and continues southward through Cala 37. It is likely that Feature AB12 continues southward, but time constraints prevented complete excavation of this feature to the south of Cala 37. Feature AB12 could be reconstructed to a height of four courses in the area between the southern reconstructed portion of the wall and the staircase, Feature AB13. To the south of Feature AB13, Feature AB12 is present with only its first two courses intact, and a third course visible in some areas. This feature is much taller than the talud Feature AB1 on the northern side of the wall, but its upper edge still most likely ran parallel to or below the base of the wall itself. The height of the talud wall reflects changes in the topography of the bedrock and soils upon which it was built; the upper edge (the Gran Nivelación platform surface) remains at a more or less constant level. The intact portion of Feature AB12 reaches a maximum height of 1.5 meters, with a potential maximum height of 1.8 to 2 meters.

In areas where the upper courses of Feature AB12 were visible in fall patterns, they were found above a considerable (55 cm from the base of the talud) amount of accumulated soil, suggesting a long interval of time between the end of curation of the talud and the collapse of these stones.

Feature AB13

A staircase, Feature AB13, was visible on the surface in Calas 30 and 31 (Figure 1.12, Figure 1.15). This feature, which ran east-west over the wall, was initially believed to have been hastily constructed in ancient times, much like Stair A at the site of Yaxuná (Suhler et al. 2004:472-473). Upon closer investigation it was determined that the staircase was improvised in the modern era as a means for pedestrians to pass more easily over the wall. The construction of this feature greatly obscured the lines of Features AB12 and AB14, which passed underneath it. Feature AB13 was constructed of reutilized large cut stones, most likely taken from the immediate vicinity, over a layer of accumulated soil. We left this feature intact beyond a brief clearing of its surface, but it has since been removed by the team that consolidated the other wall features.

Feature AB14

The thick western face of the wall was designated Feature AB14 in the southern excavation area (Figure 1.12, Figure 1.15, Figure 1.21). This feature is the counterpart to Feature AB5 in the northern area. Like Feature AB5, it runs parallel to both the thin double-faced wall and the talud, and averages 130 cm in thickness including its facing stones and fill. It is present beginning in Cala 28 and extending southward through Cala

39, but it could only be reconstructed to a maximum height of two courses. The presence of numerous additional facing stones collapsed to the west of this feature suggest that it may have reached a height of 1.5 to 3 meters, but the original locations of these stones were impossible to determine.

This feature shows similarity to Feature AB5 in that it also contains two reutilized metates, one of which was entirely exhausted, and at least one sculptural fragment. Like the carved stones in Feature AB5, these stones were scavenged and used as facing stones. Additionally, the face of Feature AB14 lacks any evidence of plaster on its surface.

Feature AB15

Feature AB15 was the designation given to the thin, double-faced eastern wall in the southern excavation area, the counterpart to Feature AB2 (Figure 1.12, Figure 1.16, Figure 1.21). While this feature could only be reconstructed to a height of two courses, or three courses in some areas, the lowest course was found in a very good state of preservation in most areas. Feature AB15 reaches a maximum height of .9 meters. The maximum possible original height of this feature could not be determined, as very few additional facing stones were found. It is likely that many such stones were removed from the area in the modern era, as a squatter settlement including a school existed in the immediate vicinity during the mid-twentieth century. Many of the facing stones pertaining to Feature AB15 retain traces of their original plaster, and plaster fragments were found that articulated with the plaster floor that extends eastward (Feature AB21). Like Feature AB2, Feature AB15 has an average width of 55 to 60 cm.

Features AB16, AB17, AB18, AB22, AB23, and AB24

Six drainage features were encountered in the southern excavation area, all following the same pattern of construction described for Features AB7 and AB11 in the north (Figure 1.15, Figure 1.16). Of these six drains, Feature AB16 in Cala 29, Feature AB18 in Cala 32, Feature AB22 in Cala 36, and Feature AB23 in Cala 39 run beneath both Features AB15 and AB14. Drain AB24, in Cala 37, passes only through Feature AB15 and does not continue westward through Feature AB14. It is possible that its proximity to Feature AB22 made Feature AB24 redundant and therefore unnecessary. Both Features AB22 and AB24 are lined with plaster. Drain AB17 in Cala 30 passes through Feature AB15, but both the fill and the face of Feature AB14 were too badly damaged in this area for me to state with absolute certainty that Feature AB17 originally continued through to the western side of the wall. The higher concentration of drainages in the southern excavation area (six drains along a 25 meter stretch, as compared to three drains along 36 meters in the north) suggests that the Great Platform may have been designed to channel water in this direction.

Feature AB20

A plaster floor was encountered beneath the collapsed first course of Feature AB14 in Calas 36 and 37. This floor, Feature AB20, is intact beneath the line of Feature AB14 and continues westward roughly ten centimeters before grading into plaster dust and soil matrix. No traces of plaster are visible on the face of Feature AB14, and no plaster lip indicating that Feature AB14 was plastered is present. On the contrary, the floor is extremely smooth below the Feature AB14 construction. In following drain

Feature AB22 westward, it was observed that the plaster inside the drain connects with the plaster of Feature AB20. Feature AB20 is preserved in excellent condition in Cala 37, and the fill of Feature AB14 was removed in this area to view this feature and the western face of Feature AB15 more clearly. It was clear that Feature AB20 was integrated into the Feature AB15 construction. The plaster forms a smooth corner and lips up onto the first course of stones of Feature AB15. Again in Cala 37, Feature AB20 passes under the construction of Feature AB14 without articulating with Feature AB14 in any way.

Feature AB21

Another plaster floor, Feature AB21, was encountered on the west side of Feature AB15 in Cala 38. Like Feature AB20, Feature AB21 reaches and lips up onto the face of Feature AB15. This floor is well preserved in the area immediately adjacent to AB15, but quickly grades into plaster dust and soil ten centimeters to the east of Feature AB15.

Test Pits

Test pits were placed on the eastern and western sides of the wall to assist in determining the construction chronology of the Great Platform in this area as well as of the wall itself.

Test pit in unit 1B

A test pit placed immediately to the west of Feature AB1 in unit 1B showed that the plaster floor, Feature AB3, was placed above a layer of small leveling fill, which in turn sits directly above a layer of A horizon soil (Figure 1.13, Figure 1.18). The A horizon continues to a depth of 40cm below the level of AB3, at which point the soil changes to the B horizon, characterized by very hard, fine grained red *kancab*. Additional occupational periods or construction features are not present. Thus Feature AB1 and its associated plaster floor Feature AB3 represent the first constructions in this area.

Test pit in unit 12I

Unit 12I was chosen for the site of the eastern test pit (Figure 1.17). The goal of this test pit was to view any construction features below the final construction phase of the Great Platform. The first lot to be excavated consists of a small layer of O horizon soil overlaying a layer of small, densely packed cobble fill. At 25 cm below the surface, the matrix changes to large cobble and boulder dry fill. Between the dry fill are pockets of air and small amounts of A horizon soil. At a depth of 150 cm, the large boulder fill ends and the matrix changes to hard, dark red *kancab* soil. This test pit was terminated at a depth of 179 cm when it was established that no further cultural features were present. It is clear that the platform in this area was built in a single construction episode, as opposed to enlarged or raised in a series of construction phases, because earlier construction phases were not present below the final platform architecture.

Cultural materials

Cultural material finds throughout both the northern and southern excavation areas followed a distinct pattern of higher deposition on the western or “outside” side of the wall, and lower deposition on the eastern or Great Platform side. Ceramic sherd deposition was also highly concentrated nearest the Puerta Occidental. It is likely that many of the artifacts recovered were initially used as construction fill for the wall and the Puerta Occidental structure, but it is also possible that some of these artifacts were casually discarded in this area. Some artifacts may also have been deposited on the off-platform side of the wall after being washed from the Great Platform surface. Counts for both lithic and ceramic finds are recorded by lot in Table 1.2.

Ceramic types recovered included Fine Orange, Peto Cream, and slate wares, including Dzitas Slate and Piste Striated. That is to say, ceramic materials from the Terminal Classic and Early Postclassic periods were represented. A total of 7574 sherds were recovered, an average of 59 sherds per two by two meter excavation unit. No complete vessels were recovered, but a single intact ceramic *malacate* or spindle whorl was found in unit 29Y (Figure 1.38). Because no artifacts were recovered from primary contexts, a detailed chronology of the wall construction based on ceramic seriation is not possible. However, the presence of Postclassic pottery types clearly indicates that activity in this area continued after the peak period of occupation at the site.

A total of 80 chipped-stone artifacts were recovered during the excavation of the wall. Lithic materials included 17 obsidian prismatic blade fragments and one obsidian bipolar core. One limestone percussion blade was also recovered. The remainder of the assemblage (62 pieces; 77.5%) was chert. The chert assemblage contains 12 bifacial

thinning flakes, along with nine bifaces or bifacial fragments, including three hafted points. I have classified the hafted points as either tanged or thick variety side-notched points following Sheets' (1992) typology (Figure 1.39). The rest of the chert assemblage consists of casual percussion flakes. No flakes with cortex covering more than 50 percent of their dorsal surface were recovered, indicating that early-stage lithic reduction activities most likely did not take place in this area.

In their discussion of lithic assemblages in the "Chert-Free Zone" of the northern Yucatán, Hearth and Fedick (2009) use a chert-to-ceramic ratio to compare the relative frequencies of lithic raw materials at various sites. At sites where lithic materials are abundant, such as in the Peten region or the Guatemalan highlands, ratios are reported between 0.9:1 and 2:1 (chert:ceramic) (Hearth & Fedick 2009:144). In contrast, Hearth and Fedick report a chert-to-ceramic ratio of 0.002:1 for the site of T'isil in the chert-free zone. Operation AB, the wall excavation, yields a chert-to-ceramic ratio of 0.007:1, reflecting the relative scarcity of chert at Chichén Itzá (the addition of the obsidian pieces recovered in Op. AB brings this ratio to 0.009:1). It is clear that patterns of lithic use at Chichén Itzá were influenced by the lack of locally available lithic raw materials.

DISCUSSION

The portion of the Great Platform wall discussed here represents only part of this massive construction, which altogether totals over 2000 meters in length (Perez Ruiz 2004:4). Although analysis of this wall segment cannot provide a complete picture of all aspects of the wall, it can certainly serve as a basis for understanding many of the wall's important features. This section of the wall provides a good sample of the Great Platform wall for two reasons. First, Operation AB excavated almost the entire length of the wall between the Great Ballcourt and the southwestern corner of the platform. The sample described here thus represents a substantial segment of the total wall. Second, the excavated section of the wall shows considerable uniformity along its entire length, and analogues to the primary construction features of the excavated portion are visible in unexcavated areas of the wall on both the southern and northern edges of the Great Platform. In this section, I offer my interpretations of the wall in light of the three hypotheses for the primary function of site perimeter walls outlined above, and the archaeological correlates of each.

In describing and interpreting the wall construction, one major fact is very clear: the wall was built in at least two stages. The first phase included the construction of the platform and the thin eastern wall, AB2/AB15. The plaster facing and floors found in numerous areas of the wall show that the wall and platform were, if not built at the same time, at least in use simultaneously, as they were plastered (or re-plastered) in one event. Features AB2/AB15, AB1/AB12, and the platform itself were part of this original construction. At some later time, the thicker western wall, AB5/AB14 was added. On

the basis of clear differences in construction style, I discuss these two feature sets as representative of two phases in the wall's history.

Phase A

The earlier phase of the wall's construction, indicated by the thin eastern wall, the talud, and the platform itself, primarily represents the establishment of a boundary between the sacred or elite center of the site and the outside world. It is highly unlikely that this original construction was intended to be a defensive feature; rather, the wall created a symbolic barrier, enhancing the formal and awe-inspiring effect of the monumental architecture contained within it.

Perhaps the most important trait indicating that the wall was not originally planned as a defensive structure is the thickness of the wall. Defensive barriers at sites such as Dzonot Ake, Cuca, Ake, and Chacchob are typically between 2 and 5 meters thick (Dahlin 2000:289-292). Wider walls allow defenders to position themselves atop the wall, a strategic advantage against attacking forces. In contrast, AB2/AB15 is uniformly .55-.6 meters wide, possibly wide enough for defenders to stand on but certainly not wide enough for them to move around freely. Additionally, the thinness of the wall, while still presenting a considerable barrier to intruders, makes it more susceptible to instability than a wall four times its thickness. It is not likely that the additional cost in labor and raw material required to build the wall thicker in the first place would have been a major concern, as only greater amounts of rubble fill would

have been required. However, it is clear that the wall was made thin intentionally and that this additional investment was not deemed necessary.

Also, the Phase A construction left a wide, flat perimeter between the outer face of the wall and the edge of the talud. This “exterior corridor” was approximately 5 meters wide in the excavated areas, and would have been easily accessible from the ground level in areas where the talud was less than a meter or two in height (Perez Ruiz 2004:5). The talud is in fact quite low (<1 m) along a large stretch of the wall—accessing the exterior corridor in this area would allow attackers to move along it toward breaches in the wall, effectively negating any defensive potential of the talud. While the height of the wall itself means that access to this area may not have provided much of an advantage to attackers, the exterior corridor certainly would not have increased the defensive potential of the wall. Thus the Phase A construction represents both a minimal investment in and a minimal concern with defensibility.

Additionally, features associated with walls built to guard against potential attackers are mostly absent from the Great Platform wall. No fully baffled gateways or “killing alleys” are present, and although some areas of the wall incorporate features such as benches (i.e. the structures associated with several of the entranceways), these do not provide defensible positions along a significant portion of the wall.

The nine drainage features integrated into the Phase A construction indicate that water management was a definite concern in the original design strategy of the wall. Because of the poor state of preservation of the final plaster surface of the Great Platform, the slope of the platform’s final floor is unknown. It is certain, however, that the platform surface was intentionally sloped toward the edges in order to prevent

flooding and to channel rainwater off the platform. The drains become more concentrated moving southward toward the southwest corner of the platform, suggesting the possibility that water was channeled more intensely in this direction. In this sense, the Great Platform appears to function as a convex watershed. However, although several rejoyas are visible in other areas near the Great Platform, no water collection features are known in this area. It is possible that one or more chultunes or wells have been covered over by the modern site entranceway and visitors center, or that rainwater runoff was simply allowed to percolate back into the underground water system. If the latter is the case, this may imply that plaza water management was more concerned with preventing flooding during heavy rains or storms than with capturing and storing water for consumption or irrigation. If the primary objective of the water control features was to simply eliminate water from the platform surface, rather than to channel it to a specific location, the wall would have impeded this movement. Thus, while water management was clearly a factor in the design of the Great Platform wall, it is unlikely that the wall was built primarily for that purpose.

Because defensive potential and water management were not likely the primary purpose for the construction of the Great Platform wall, it is probable that the wall was built principally to aid in defining the monumental core of Chichén Itzá as sacred or elite space. In addition to being built in the core-veneer masonry style of many other ceremonial and elite structures at Chichén, the majority or entirety of the Phase A construction was covered with plaster, indicating that it was integrated into the overall design strategy of the Great Platform. This highly formal construction technique may

have served to enhance the impressiveness of the wall itself, which in turn increased the grandeur and powerful appearance of the site center.

A brief glance at the structures enclosed by the Great Platform wall is sufficient to illustrate that they were monumental constructions with ritual or cosmological significance. No known residential structures are found within the wall, and almost all of the structures on the Great Platform are decorated with images that reinforce concepts of elite political legitimacy. The wall forms a boundary between this sacred space and the world outside; except for the structures found in the other monumental complexes of this enormous site, structures outside of the Great Platform wall are orders of magnitude smaller and less ornate than those within it. The original wall construction articulated with structure 2C12, the double archway described by Ruz Lhuillier (1948). This gateway was undoubtedly a symbolic structure, as evidenced by its reported large size and decoration (Ruz Lhuillier 1948:3-4). Together with the wall itself, this limited accessway served both a symbolic and a practical function; it allowed the inhabitants of Chichén Itzá to observe and authorize all movement into or out of the site center in this area.

Phase B

Although it is unlikely that the original wall construction was intended as a defensive structure, it is possible that the additions to the wall visible in the later construction phase were intended to enhance the defensive potential of the wall. Functionally, the western addition triples the thickness of the wall. It is possible that the thinness of the original wall made it unstable over time, and AB5/AB14 was added on the

western side simply to stabilize a weak construction. It is also possible that the increased thickness of the wall with the addition of AB5/AB14 reflects an anticipated need for a wall that could better withstand an attack. Moreover, the thicker wall would allow defenders to position themselves along the top in case of an attack. It is unclear whether the construction of the Phase B addition allowed the Phase A wall to function as a parapet, but the increased stability of the wall would certainly have been an advantage to defenders. It is possible that the Phase B addition might have been intended to provide support for wooden palisades of the type that Demarest et al. (1997) describe for defensive walls in the Petexbatun region; however, no postholes or other evidence to support this possibility were identified in the Operation AB excavation.

The most striking aspect of the AB5/AB14 addition is its seemingly hasty construction. While it is built in core-veneer style, in contrast to hastily built rubble or stacked-stone barricades described at other sites, the workmanship of this feature is of notably poorer quality than the Phase A construction. Feature AB5/AB14 incorporates many stones apparently scavenged from other structures into its façade, including 64 sculptured pieces and four metates. It is obvious from their random locations within the wall that the iconographic messages contained within the sculpture stones were no longer important to the builders of this feature. This ad hoc use of material from nearby structures recalls Dahlin's (2000) description of the Chunchucmil barricade. Although the use of stones scavenged from nearby structures may imply that the AB5/AB14 addition was added to the Great Platform wall after these structures had fallen into disrepair, dismantling of structures during major periods of occupation was not uncommon among the Maya or at the site of Chichén Itzá. Therefore, the reutilization of

facing stones in the Phase B wall addition does not imply that this construction phase postdated the major occupation period of this site.

One very important piece of information about this phase in the wall's history is that the surface of the Phase B construction was not plastered. This fact alone represents a departure from previous building conventions, and implies that the *function* of this construction, rather than the appearance, was of paramount importance. The Phase B addition still represents a large investment of labor and material, but visual impressiveness was evidently of less concern.

Of the nine drainage features encountered in the excavated stretch of the wall, seven definitely continued through the AB5/AB14 construction. One drain was definitely closed off by the fill of Feature AB5, and the poorly preserved condition of Feature AB14 prevented the final drain from being identified within this feature. The blocked-off drain, Feature AB8, most likely was simply unnecessary. That the seven other drains were integrated into the Phase B addition indicates that water management was still a concern at the time Features AB5 and AB14 were built. Nevertheless, the fact that these drains were left open seems to suggest that access to water during a prolonged siege was not a major concern (*contra* Ringle et al. 2004:509).

It is possible that the Phase B addition to the wall in this area represents the presence of an increased level of threat of conflict at Chichén Itzá. Several of its features, most notably its hasty construction, the reuse of scavenged materials, and apparent lack of concern with aesthetics, are in line with expectations for a blockade hurriedly constructed in response to the threat of attack. If this feature could be shown to be concurrent with other additions that closed off or limited access to the Great Platform,

such as the narrowing of the entranceway at the beginning of Sacbe 1 and the C-shaped parapets limiting access from Sacbes 2 and 74, it would be clear that defensibility became a major concern during the later days of occupation of the site (Pérez Ruiz 2004:7-13). Unfortunately, these structures are difficult to date absolutely, because primary contexts are uncommon. In any event, these structures all served to enhance the defensibility of the wall system and thereby the site itself, whether or not this was their intended purpose.

CONCLUSIONS

The results of Proyecto Chichén Itzá Operation AB collected in 2009 show that it is unlikely that the wall delimiting the Great Platform was originally intended as a defensive fortification; rather, the wall was most likely originally a primarily symbolic construction. However, it is possible that due to changes in regional politics and the practice of warfare, defense of this site became a concern during its latter phases of occupation. The Chichén wall is unique among the walls of northern lowland Maya sites in that its two construction phases seem to reflect two very different primary concerns. In its earlier form, the Great Platform wall most closely resembles the wall at Uxmal, which encloses and defines that site's ceremonial center but has numerous gaps and wide entranceways, and most likely was not constructed as a defensive fortification (Dahlin 2000:293). The Phase B addition to the Chichén platform wall, however, has numerous elements in common with hastily built fortifications of the barricade type, and in this way most closely resembles the acropolis fortification of nearby Yaxuná, where an ad hoc wall was speedily constructed around part of the site's center in a "last-ditch effort" at defense (Friedel 2007; Suhler et al. 2004). Yet at Chichén, unlike at Yaxuná, little additional evidence exists to support the interpretation of the Phase B addition as a barricade. No major burn events or ritual terminations scar significant portions of the landscape, and no sudden, wholesale abandonment of the site is observable in the archaeological record. It is clear that further investigation into the factors that contributed to the site's decline is needed.

The three primary hypotheses for the functions of site walls outlined above provide a solid basis for the investigation of wall systems. At the same time, it would be

a mistake to imply that the Chichén wall, or any other wall system, served only a single function, which remained the same over time. Instead, the multiple and simultaneous functionality of these walls must be taken into consideration, as well as the modifications of the wall systems, which are reflective of changes in present or anticipated needs and concerns. Careful investigation of wall systems can provide insight into these issues, which in turn may reflect ancient peoples' social and political beliefs and practices.

In particular, thorough analysis of defensive fortifications can supply archaeologists with a wealth of information regarding the practice of warfare in ancient societies. In the Maya area specifically, a shift in the nature of fortifications may indicate movement away from political centralization and elite-controlled warfare that was limited by mutually held conventions, into an era “dominated by endemic internecine warfare” (Silverstein et al. 2009:45-47; Webster 1993). It is possible that site fortifications actually played an active part in redefining the conduct of warfare in the Maya area; it has been noted that “fortification may have had the potential to alter regional political landscapes dramatically” in archaic societies (Allen and Arkush 2006:7). In any event, the role of defensive and non-defensive site walls is an avenue of significant promise for archaeologists wishing to investigate political interactions, particularly during times of duress and social change. It is clear that wall systems, as a component of warfare and political interaction, can be reflective of major social transformations.

TABLES AND FIGURES

Table 1.1. Operation AB architectural features.

Feature number	Description/ Location
AB1	Talud wall, western face, west of wall, muralla norte
AB2	Thin eastern wall (both faces), muralla norte
AB3	Plaster floor, base of AB1
AB4	Plaster floor, base of AB2, eastern side
AB5	Western buttress wall, muralla norte
AB6	Sherd and shell scatter, east side of AB2 (unit 5E)
AB7	Drain (units 8E, 8F)
AB8	Drain (units 15H, 15G)
AB9	Fill retaining wall N. of sascabera
AB10	Partial talud wall, west of AB5 (units 13F, 14F)
AB11	Drain (units 17G, 17H)
AB12	Talud wall, western face, muralla sur
AB13	Staircase, muralla sur
AB14	Western buttress wall, muralla sur
AB15	Thin eastern wall (both faces), muralla sur
AB16	Drain (unit 29A)
AB17	Drain (unit 30A)
AB18	Drain (units 32A, 32Z)
AB19	Possible northern wall, cala 18
AB20	Plaster floor, west of AB15
AB21	Plaster floor, east of AB15
AB22	Drain (unit 36Z)
AB23	Drain (unit 39Y)
AB24	Drain (unit 37Y)

Table 1.2. List of lots with ceramic & lithic count.

Lot	Unit	Ceramic Sherds	Lithics
AB1	1AI	86	
AB2	3BI	394	1
AB3	5BI	109	1
AB4	1BI	216	
AB5	7GI	42	10
AB6	3CI	223	2
AB7	5CI	83	1
AB8	1CI	110	
AB9	3DI	136	
AB10	7FI	55	1
AB11	3EI	37	
AB12	5DI	26	
AB13	5EI	96	2
AB14	8GI	30	4
AB15	5FI	201	2
AB16	8FI	46	
AB17	1EI	18	
AB18	8EI	18	
AB19	10GI	26	
AB20	0DI	25	2
AB21	10DI	62	
AB22	12HI	18	
AB23	10FI	35	
AB24	12GI	15	
AB25	1DI	13	
AB26	10EI	164	
AB27	12EI	190	
AB28	14HI	15	
AB29	12FI	32	
AB30	16HI	21	1
AB31	16GI	51	1
AB32	14GI	17	
AB33	14EI	62	
AB34	8DI	110	
AB35	13HI	35	1
AB36	9GI	16	5
AB37	14FI	57	3
AB38	9DI	33	1
AB39	13GI	26	
AB40	16EI	29	
AB41	9EI	85	
AB42	16FI	88	
AB43	13FI	0	
AB44	2BI	448	1
AB45	9FI	60	
AB46	6GI	71	12
AB47	13EI	117	
AB48	1B-II	319	1
AB49	15EI	7	
AB50	15FI	141	
AB51	6FI	99	2

Lot	Unit	Ceramic Sherds	Lithics
AB52	1B-III	56	1
AB53	4FI	24	5
AB54	11GI	12	
AB55	12I-I	6	
AB56	2EI	35	1
AB57	12I-II	20	
AB58	2DI	52	1
AB59	4EI	124	2
AB60	11EI	191	1
AB61	15HI	21	
AB62	17HI	32	
AB63	8EII	31	
AB64	4BI	187	
AB65	4CI	79	
AB66	17GI	80	3
AB67	17FI	130	1
AB68	15GI	53	
AB69	4DI	34	
AB70	6DI	82	1
AB71	7D/EI	117	
AB72	2CI	194	
AB73	6EI	88	
AB74	18FI	334	2
AB75	12I-III	1	
AB76	12I-IV	0	
AB77	28YI	265	
AB78	18GI	41	
AB79	28ZI	29	
AB80	30XI	12	
AB81	29YI	118	1
AB82	30YI	96	
AB83	29ZI	36	
AB84	31XI	0	
AB85	28AI	24	
AB86	30BI	11	
AB87	32AI	41	
AB88	30AI	44	
AB89	29BI	31	
AB90	31AI	42	
AB91	29AI	100	
AB92	32ZI	3	
AB93	31ZI	12	
AB94	32XI	80	1
AB95	30ZI	19	
AB96	35ZI	19	1
AB97	33AI	0	
AB98	32YI	6	
AB99	36ZI	0	
AB100	34AI	8	
AB101	33XI	94	
AB102	33ZI	20	

Table 1.2. List of lots with ceramic & lithic count, continued

Lot	Unit	Ceramic Sherds	Lithics
AB103	35YI	19	
AB104	34ZI	32	
AB105	35XI	32	
AB106	36YI	20	
AB107	33YI	20	
AB108	34XI	35	
AB109	34YI	78	1
AB110	36WI	68	
AB111	36XI	46	
AB112	37ZI	7	2
AB113	37YI	6	
AB114	37WI	75	
AB115	37XI	34	
AB116	38WI	76	
AB117	38ZI	23	
AB118	38YI	26	
AB119	38XI	17	
AB120	39YI	10	
AB121	39XI	23	1
AB122	36XII	29	
AB123	39VI	29	
AB124	39WI	34	1
AB125	37XII	0	
AB126	37YII	31	
AB127	35WI	76	
TOTALS:		8393	81

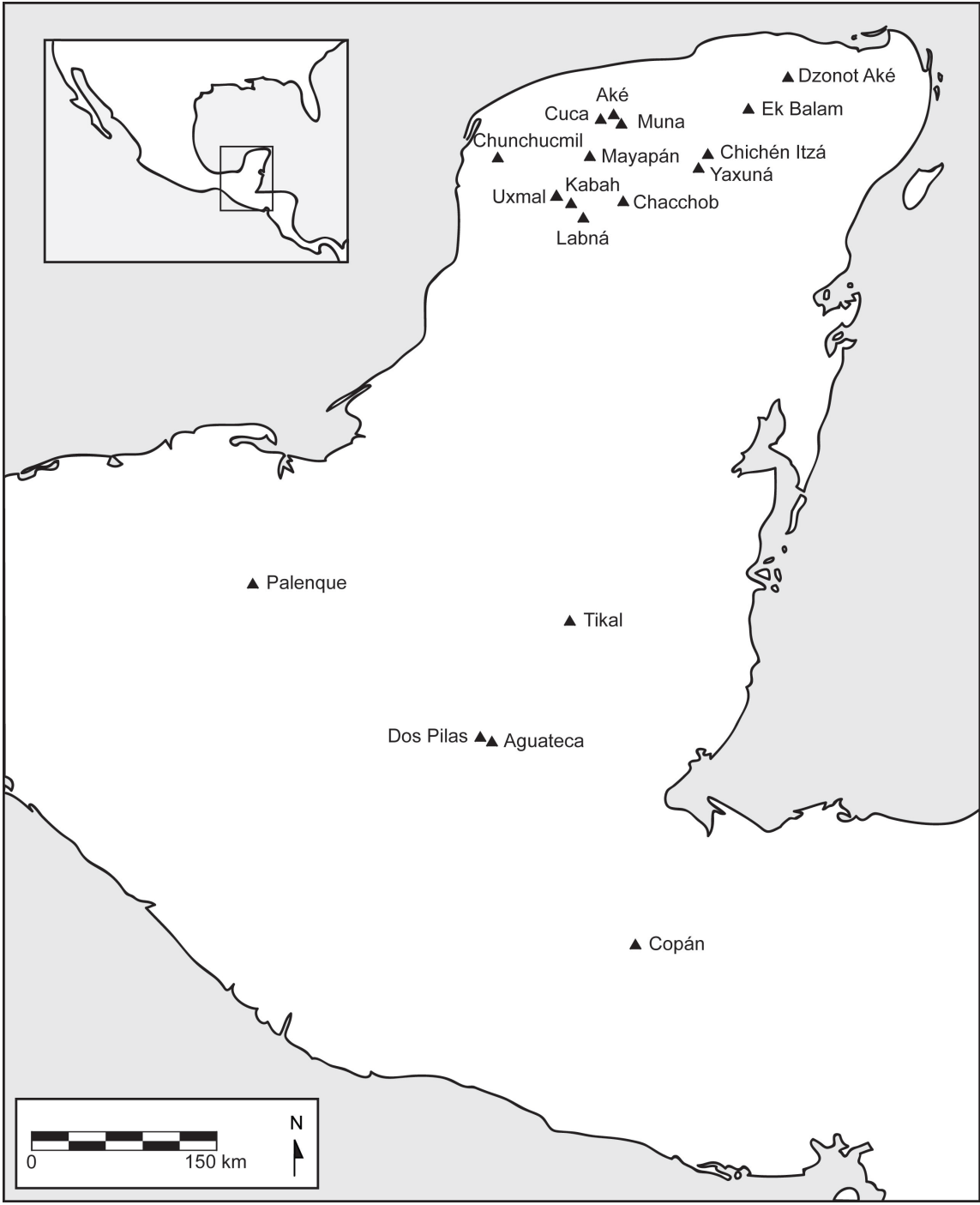


Figure 1.1: Map of sites mentioned in the text.

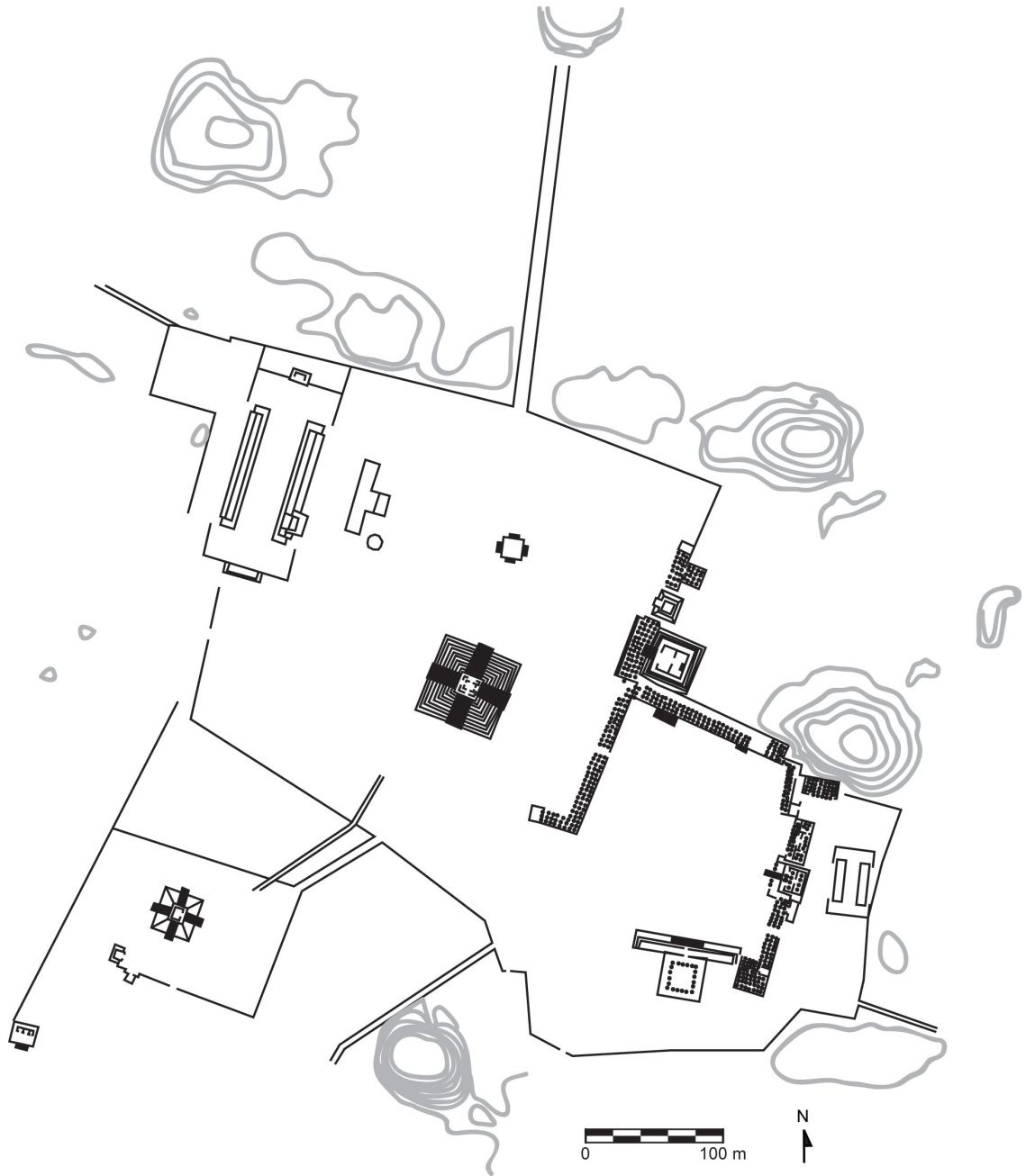


Figure 1.2: Topographical map of Chichén Itzá's Great Platform and surrounding area.

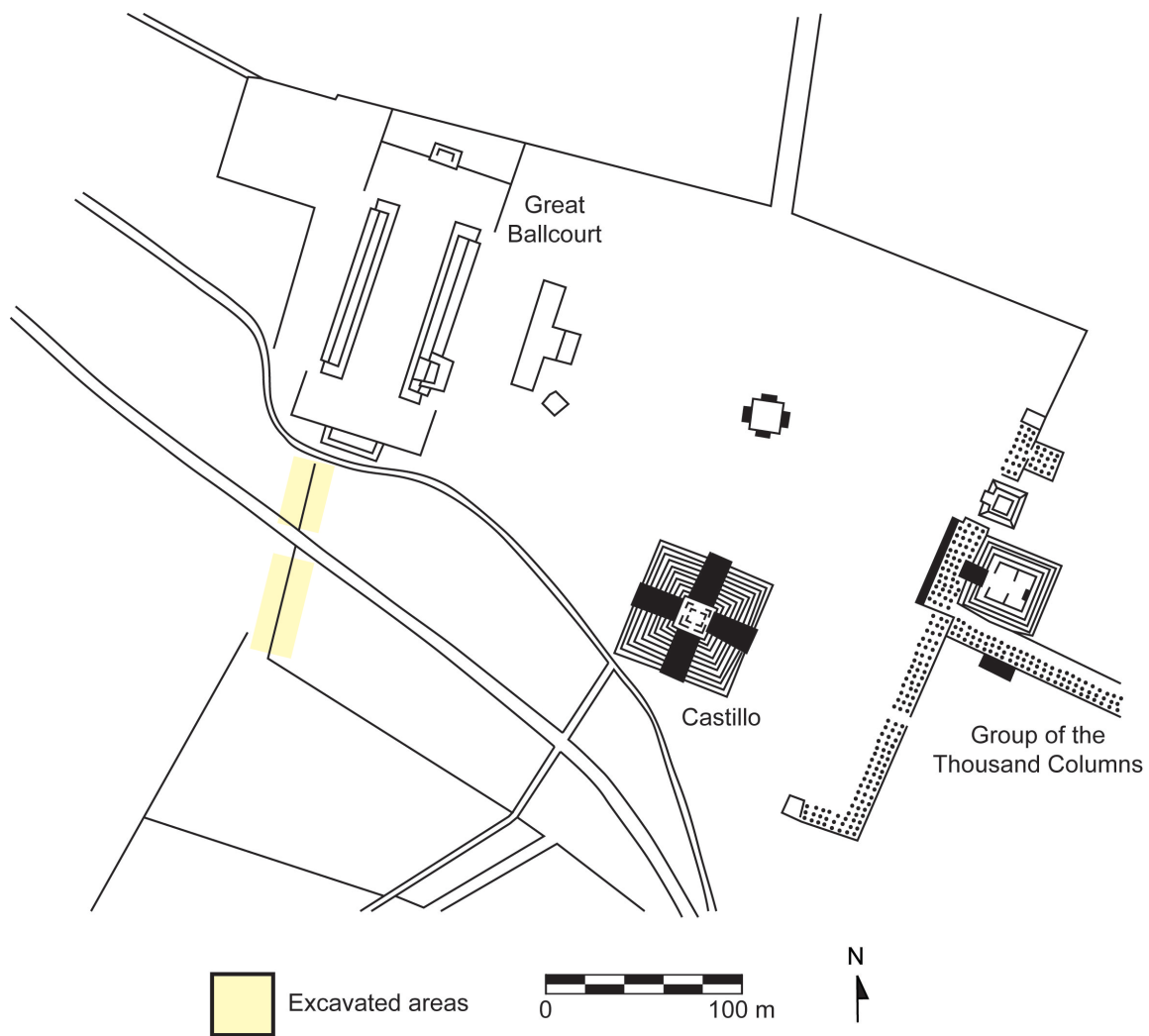


Figure 1.3: Map of Operation AB excavations.



Figure 1.4: Mural in Monjas pyramid, Room 22. After Charlot in Bolles 1977.



Figure 1.5: Mural in Upper Temple of the Jaguars, Southeast Panel.

After Breton in Coggins 1984.



Figure 1.6: Mural in Upper Temple of the Jaguars, Northwest Panel.

After Breton in Coggins 1984.



Figure 1.7: Mural in Upper Temple of the Jaguars, South Panel.

After Breton in Coggins 1984.

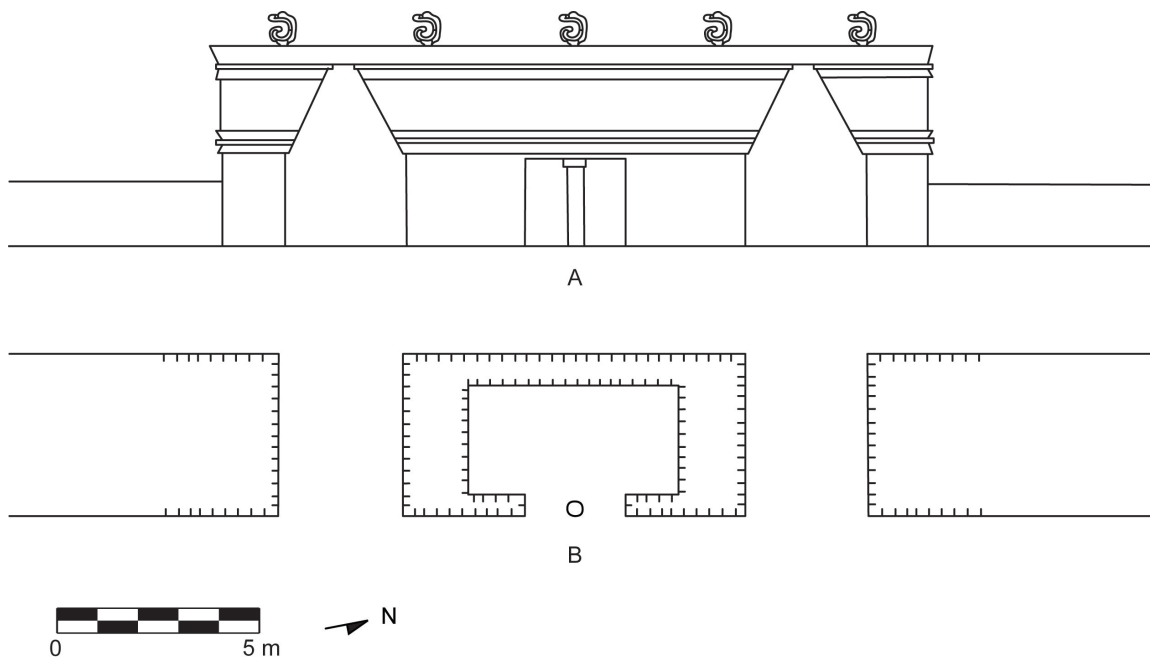


Figure 1.8: Puerta Occidental. A. Hypothetical reconstruction; B. Plan.

After Ruz Lhuillier 1948.

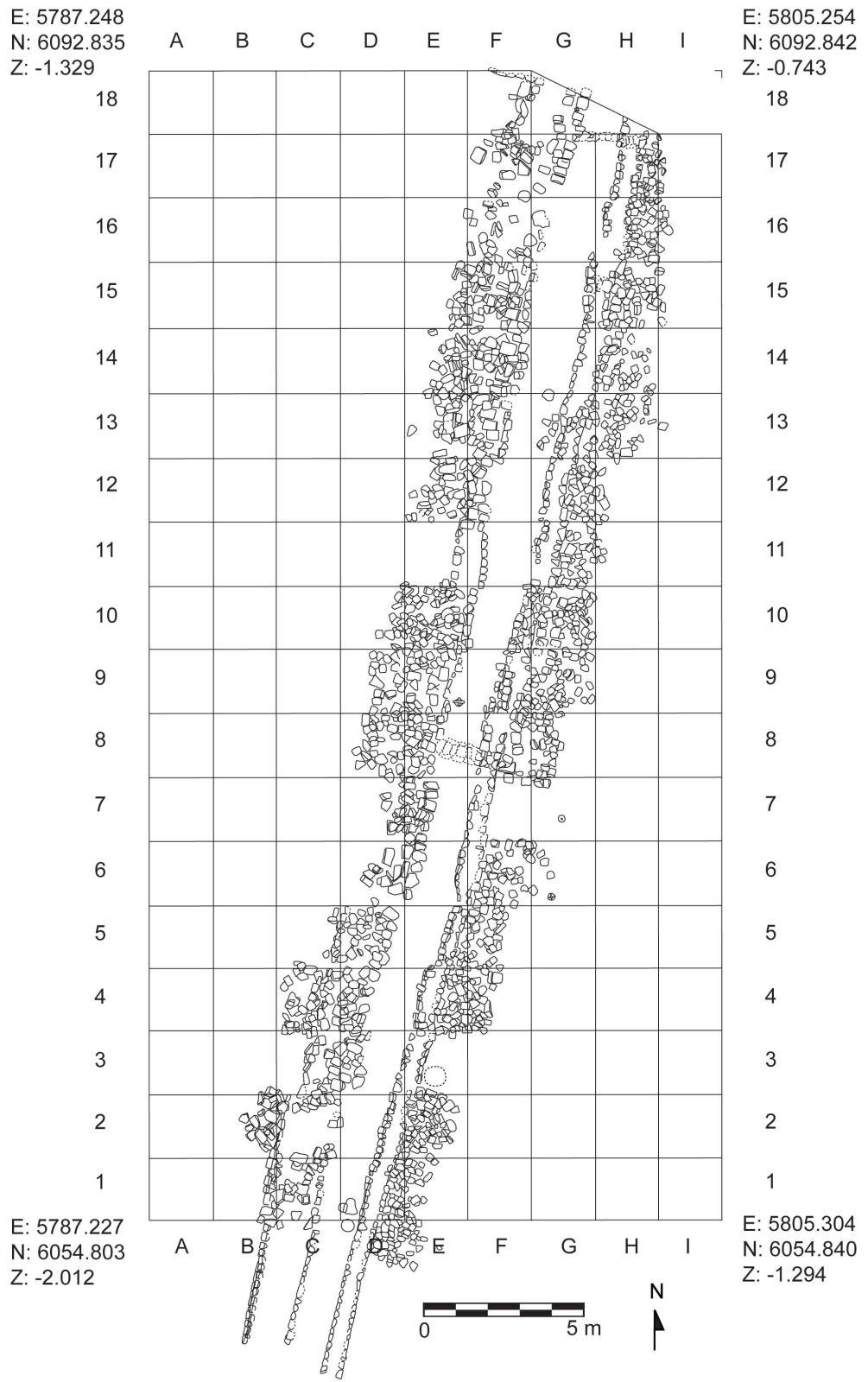


Figure 1.9: Plan of excavation units, northern excavation area.

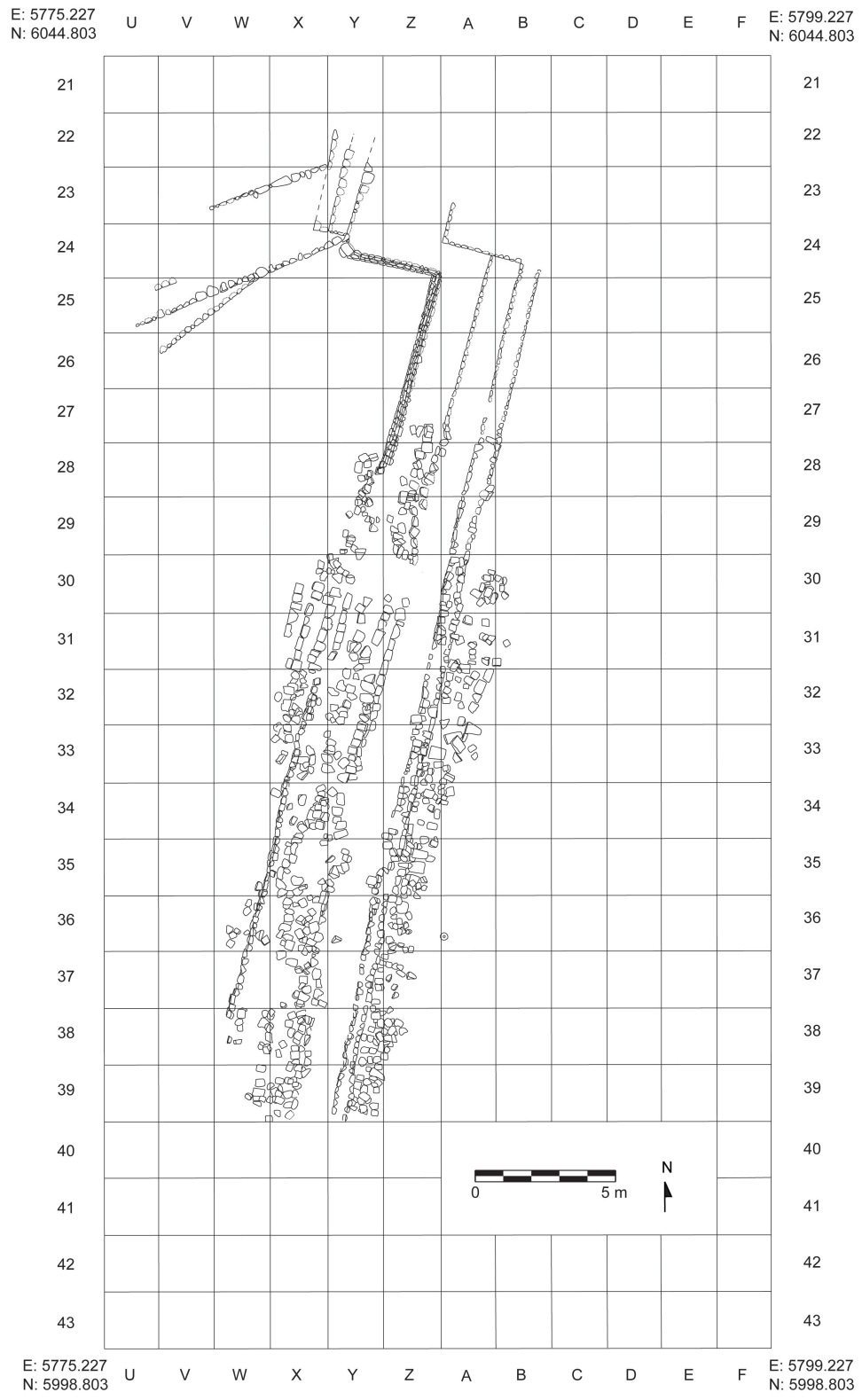


Figure 1.10: Plan of excavation units, southern excavation area.



Figure 1.11: Plan of architecture, northern excavation area.

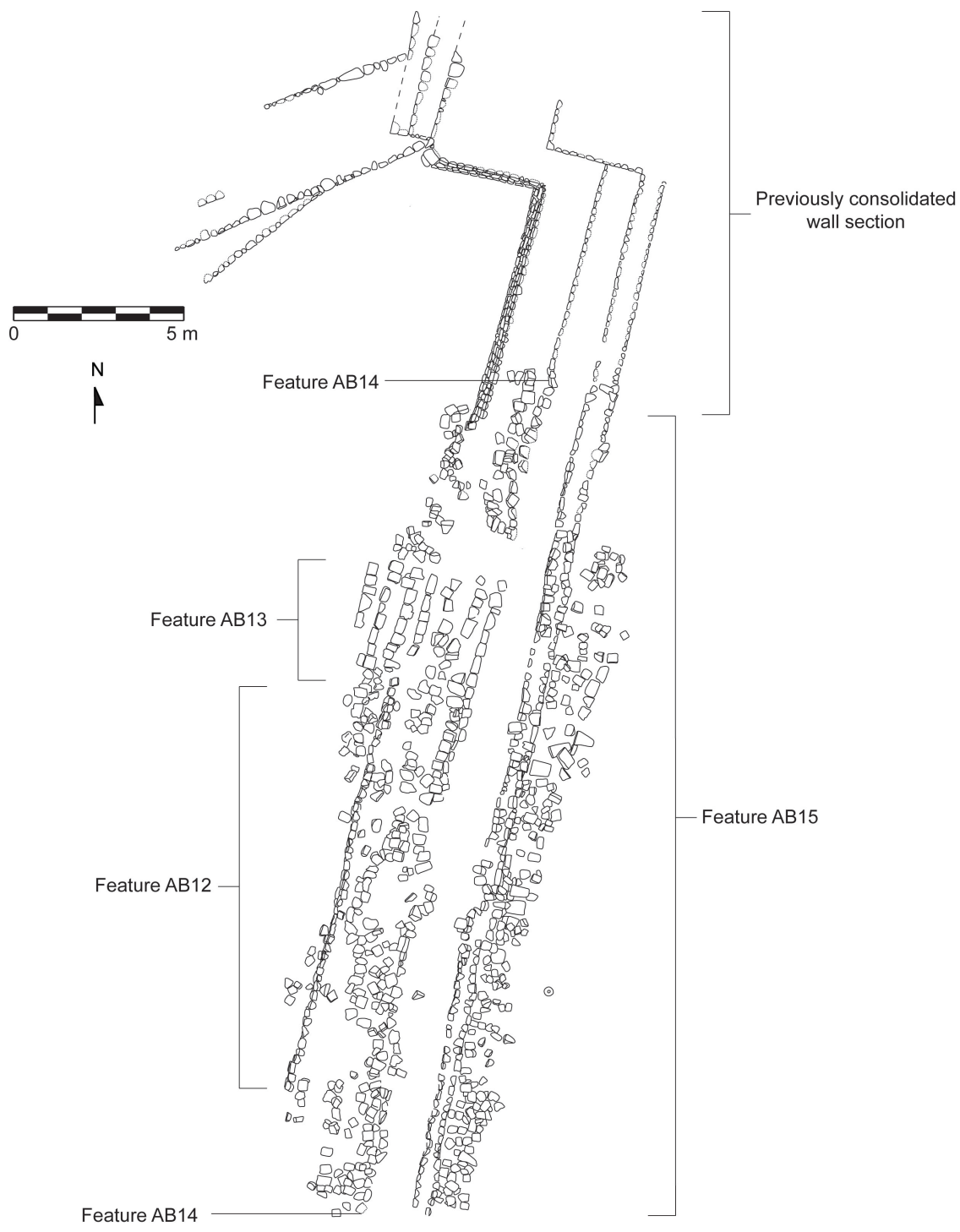


Figure 1.12: Plan of architecture, southern excavation area.

Figure 1.13: Profile, northern wall section, western side.

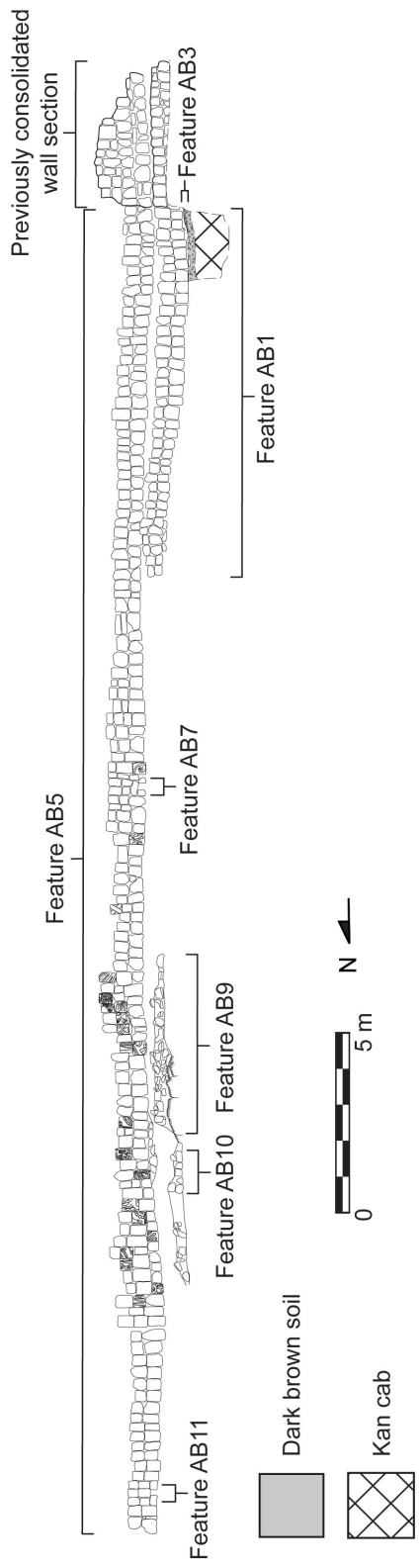


Figure 1.14: Profile, northern wall section, eastern side.

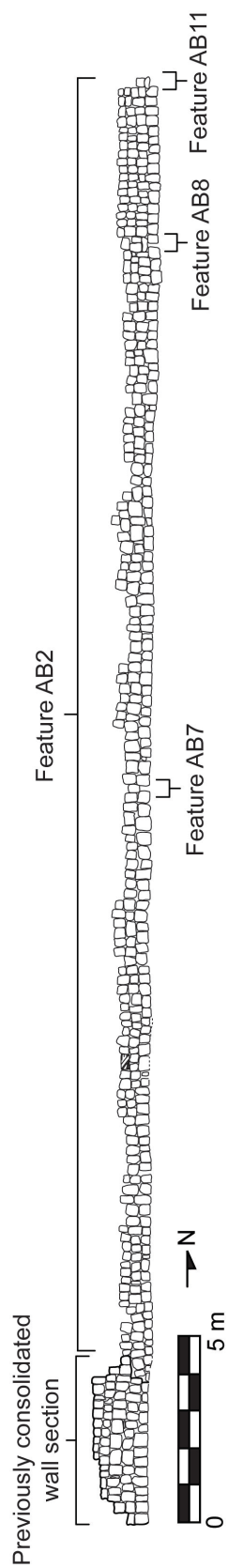


Figure 1.15: Profile, southern wall section, western side.

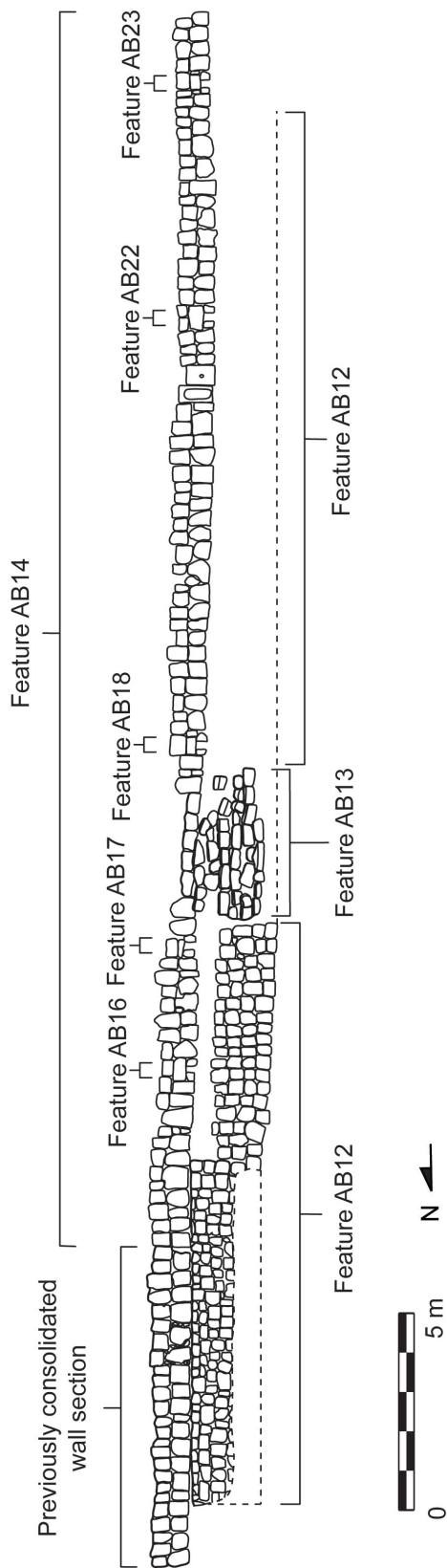
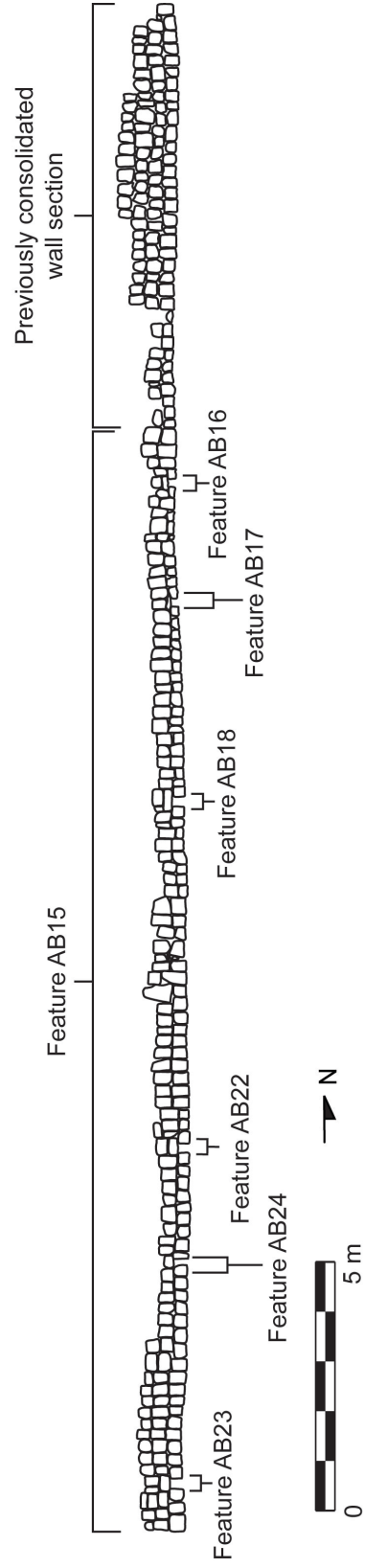


Figure 1.16: Profile, southern wall section, eastern side.



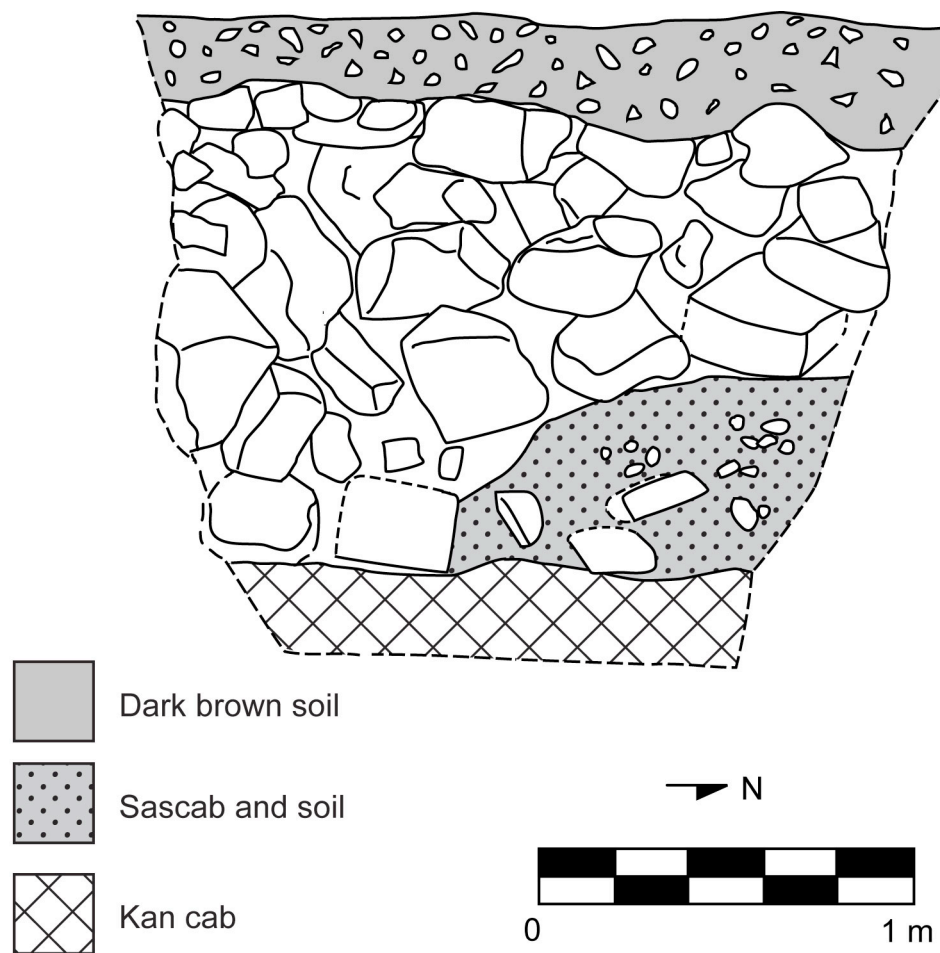


Figure 1.17: Profile, test pit in Unit 12I.

Figure 1.18: Cross-section, Cala 1, northern side.

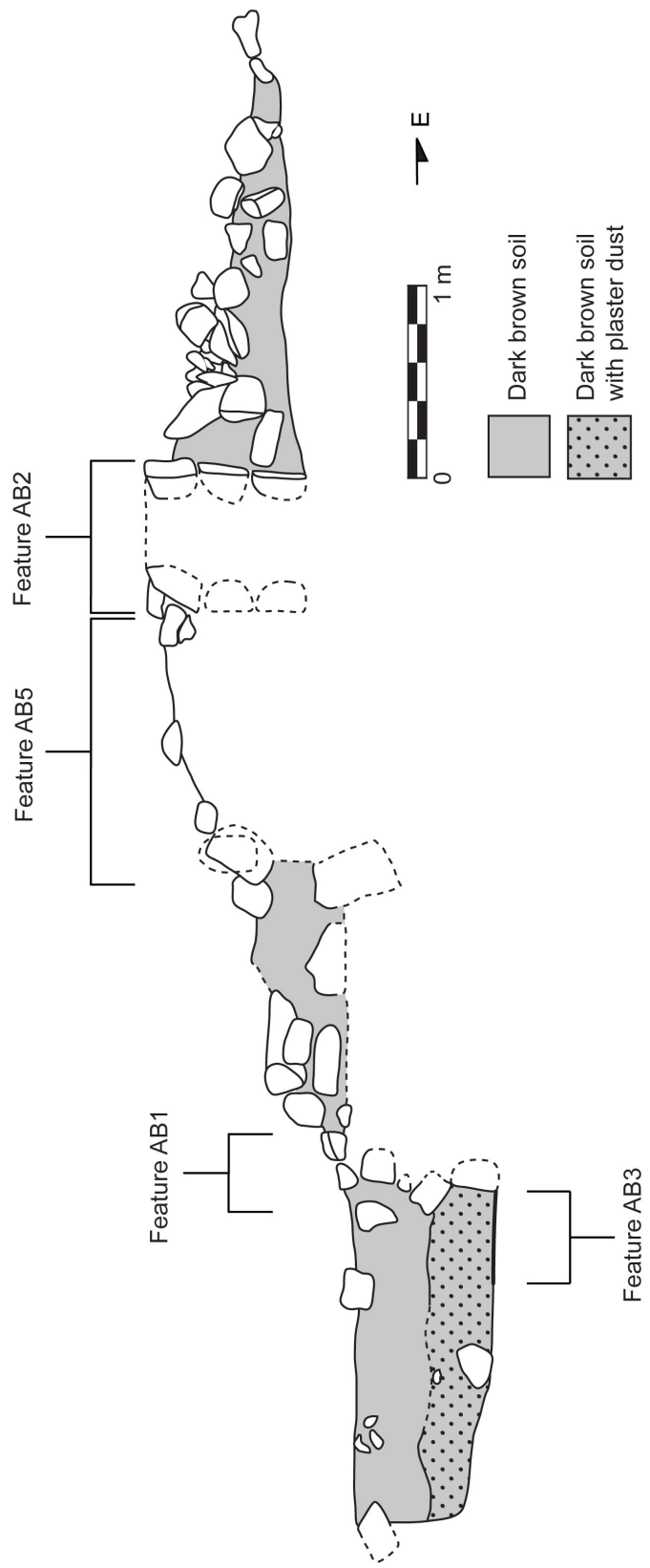


Figure 1.19: Cross-section, Cala 5, southern side.

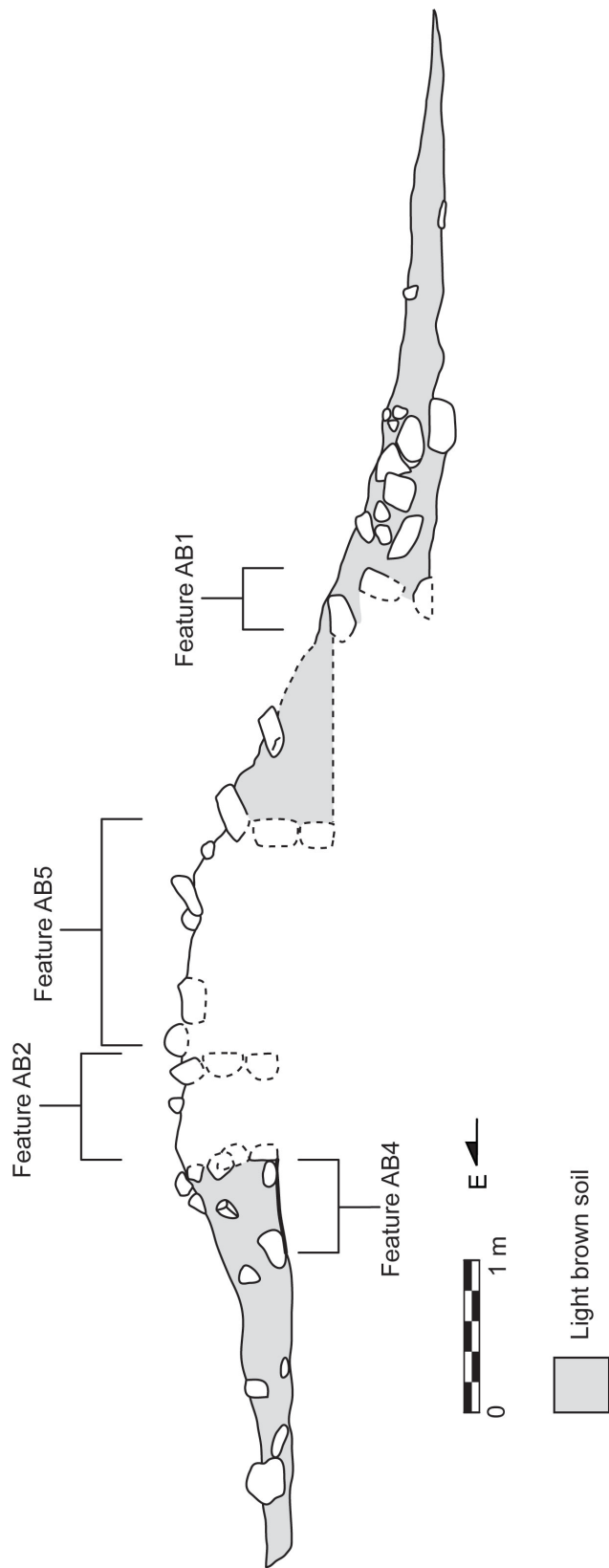


Figure 1.20: Cross-section, Cala 11, northern side, after excavation.

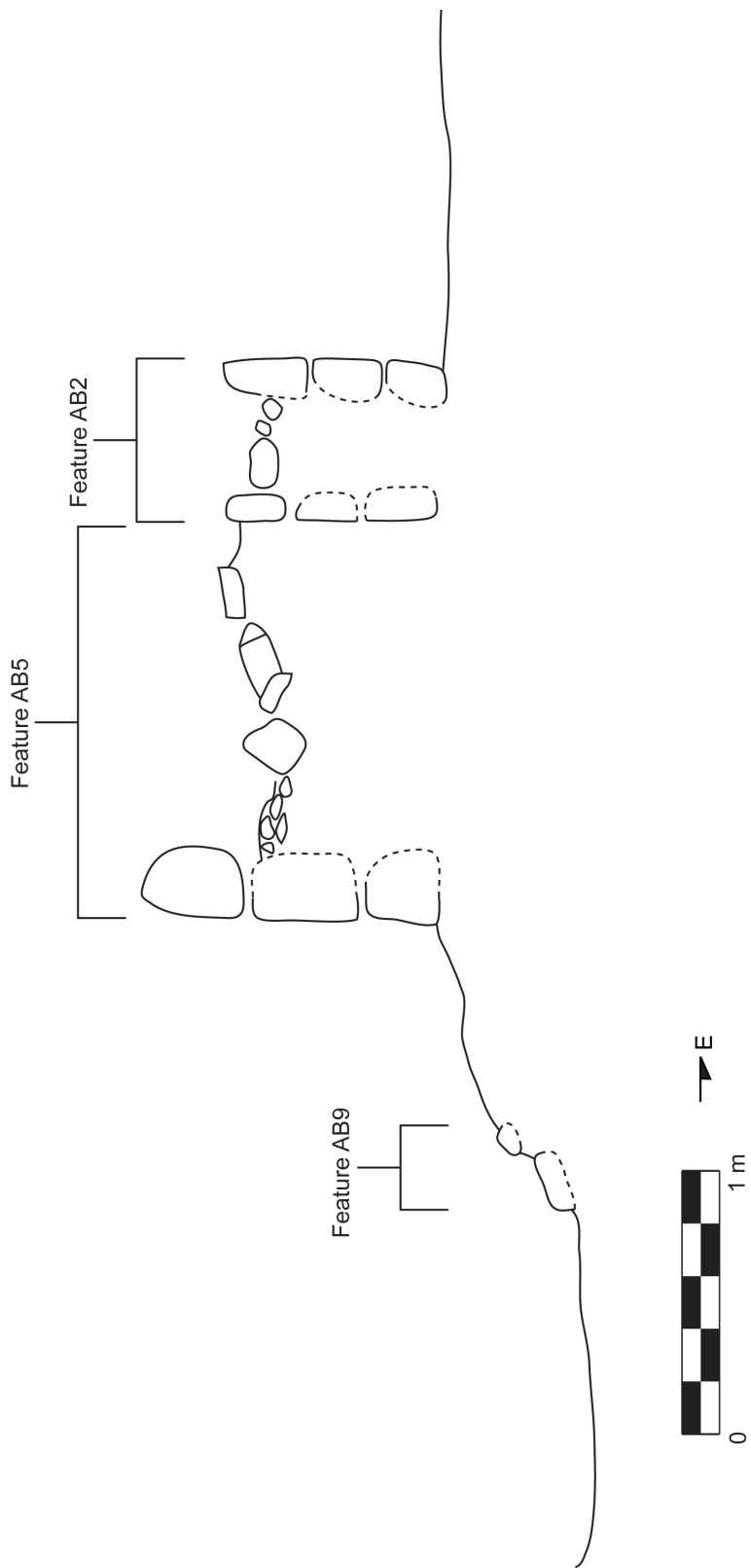
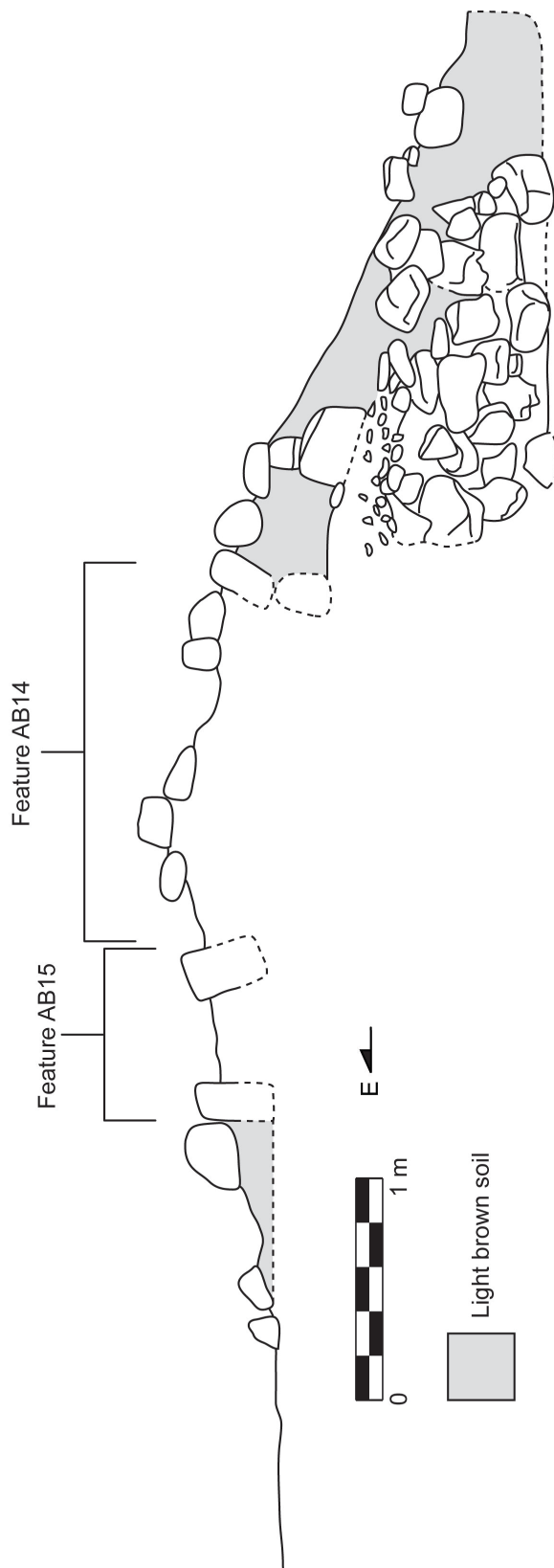


Figure 1.21: Cross-section, Cala 32, southern side.



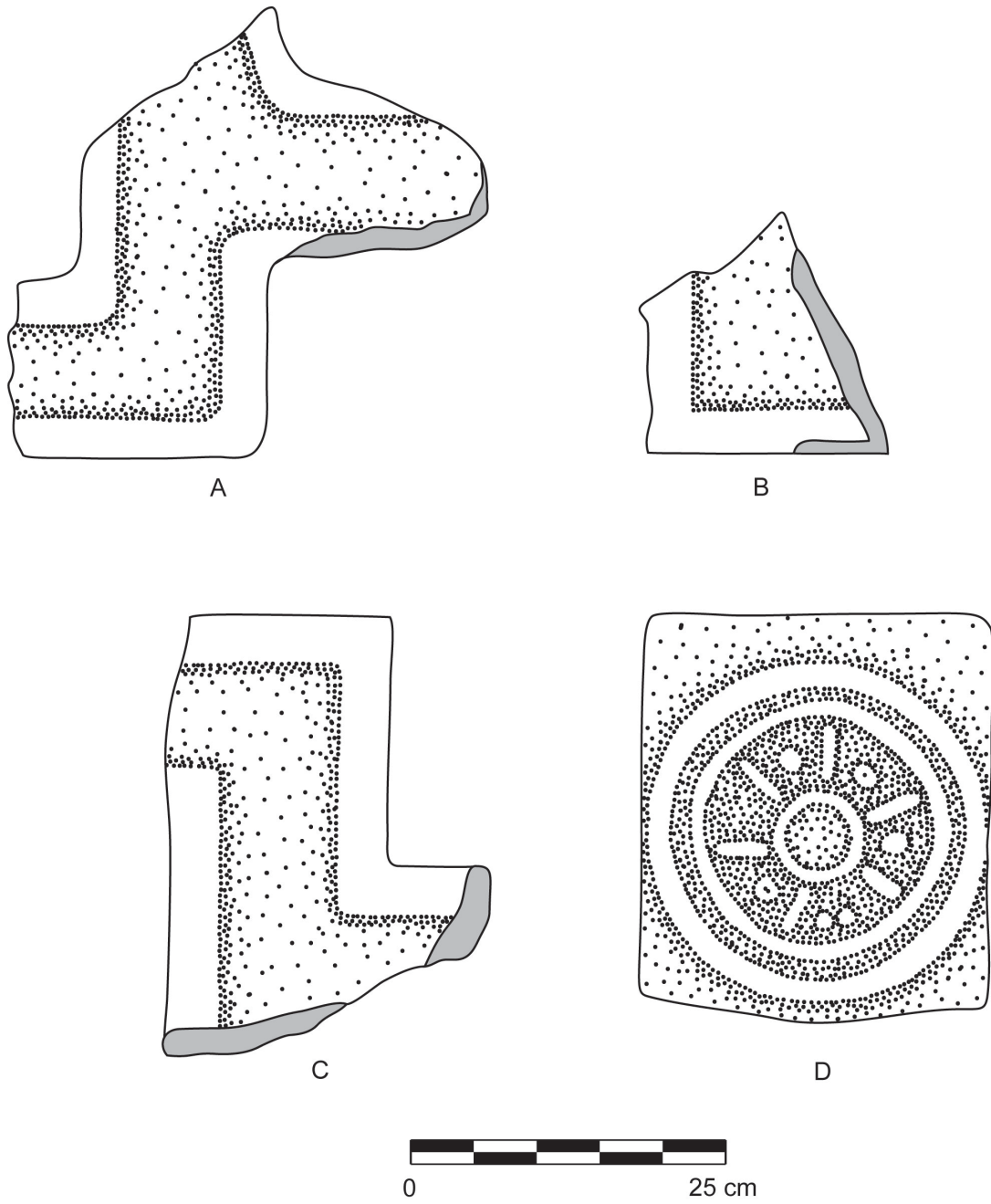


Figure 1.22: Sculpture. A. MN1; B. MN2; C. MN3; D. MN4.

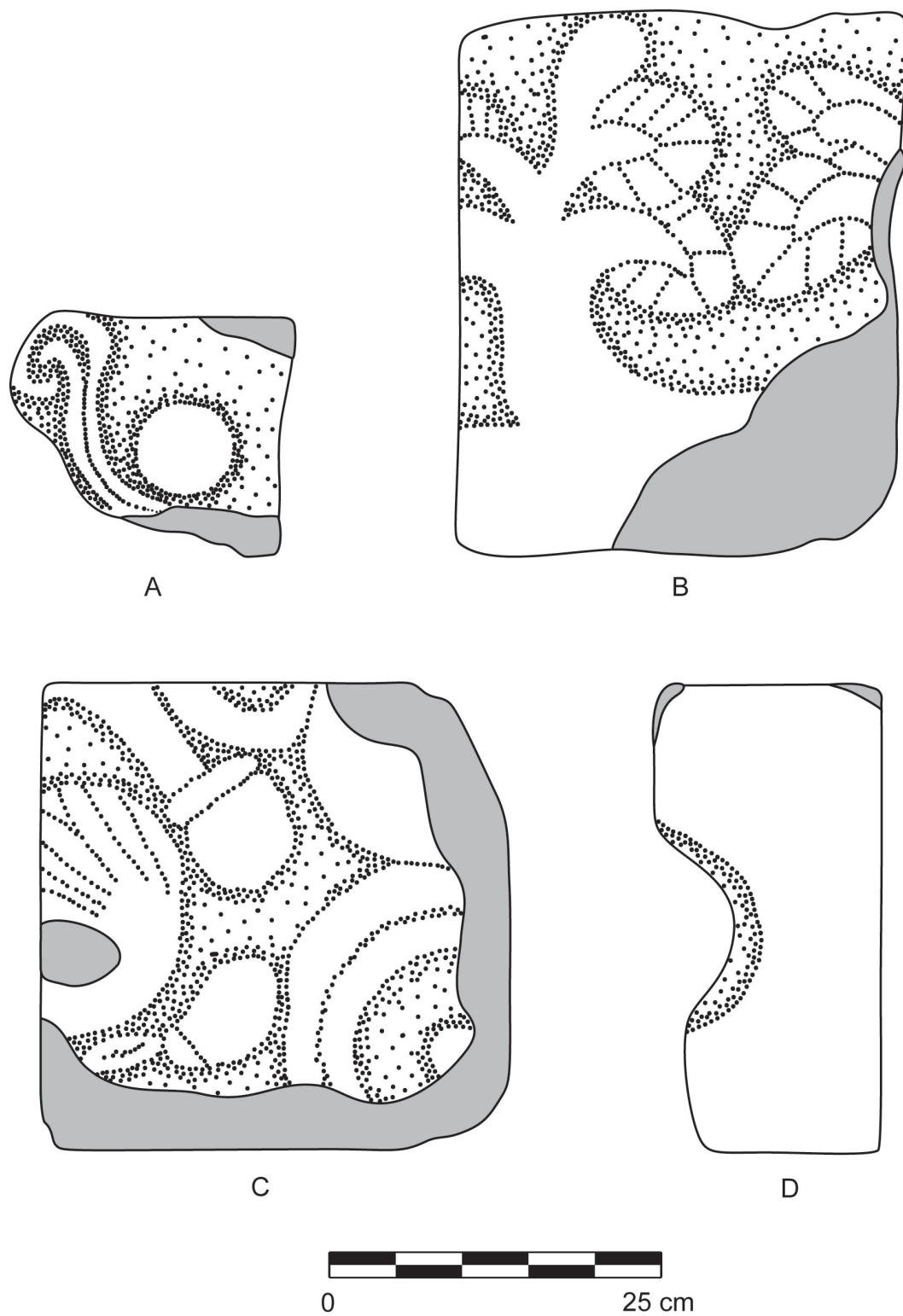


Figure 1.23: Sculpture. A. MN5; B. MN6; C. MN7; D. MN8.

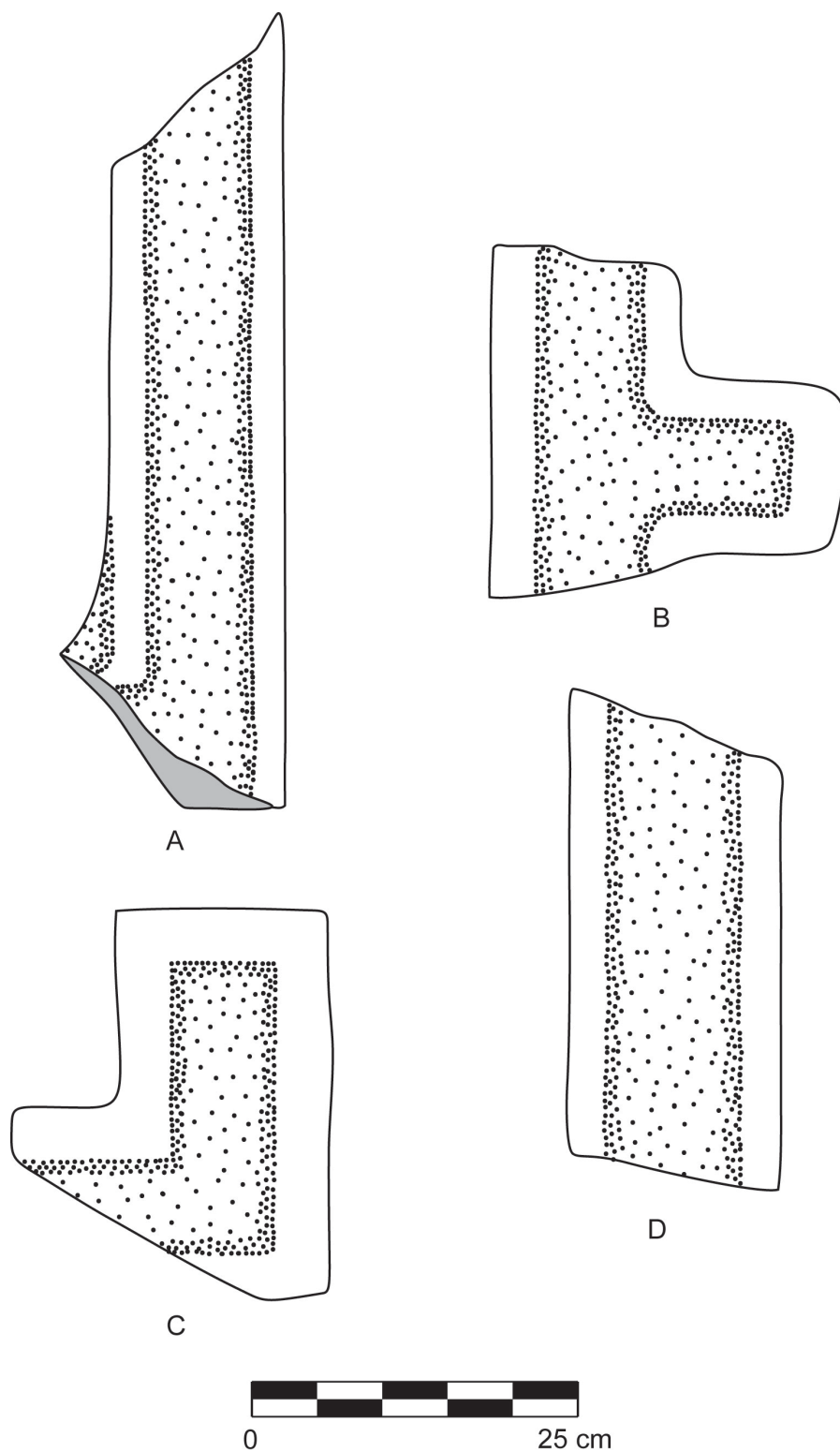


Figure 1.24: Sculpture. A. MN9; B. MN10; C. MN11; D. MN12.

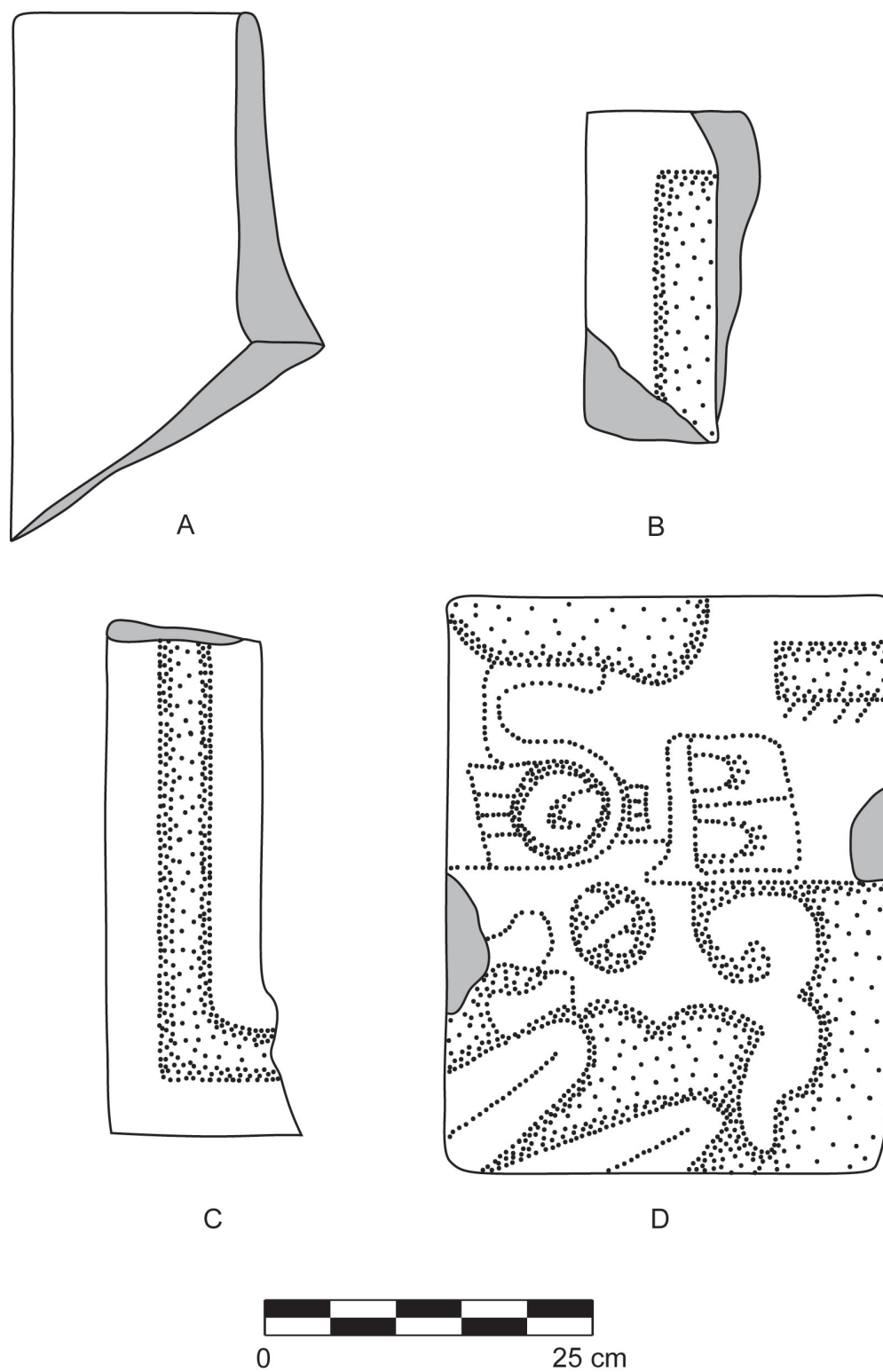


Figure 1.25: Sculpture. A. MN13; B. MN14; C. MN15; D. MN16.

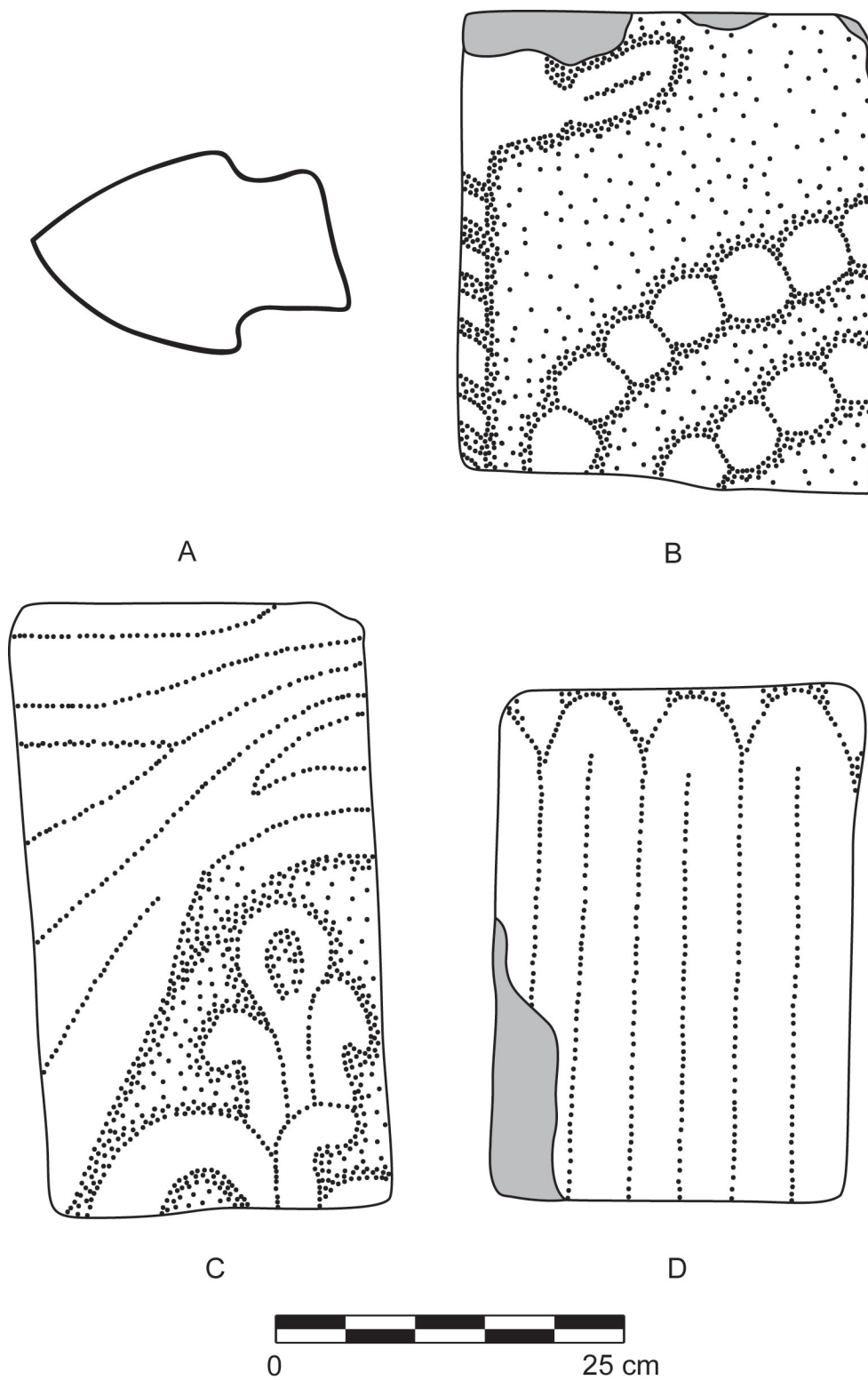


Figure 1.26: Sculpture. A. MN17; B. MN18; C. MN19; D. MN20.

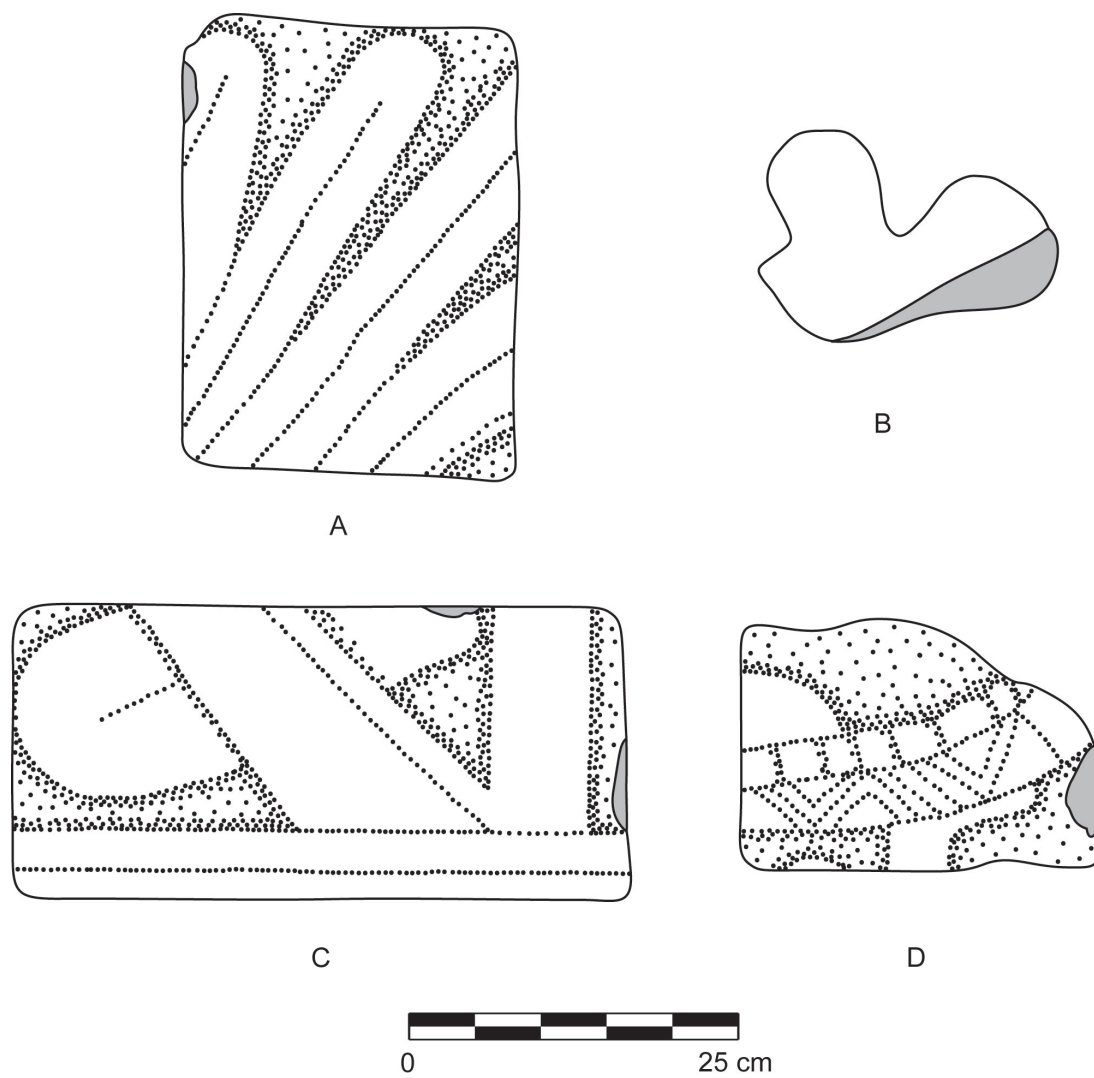


Figure 1.27: Sculpture. A. MN21; B. MN22; C. MN23; D. MN24.

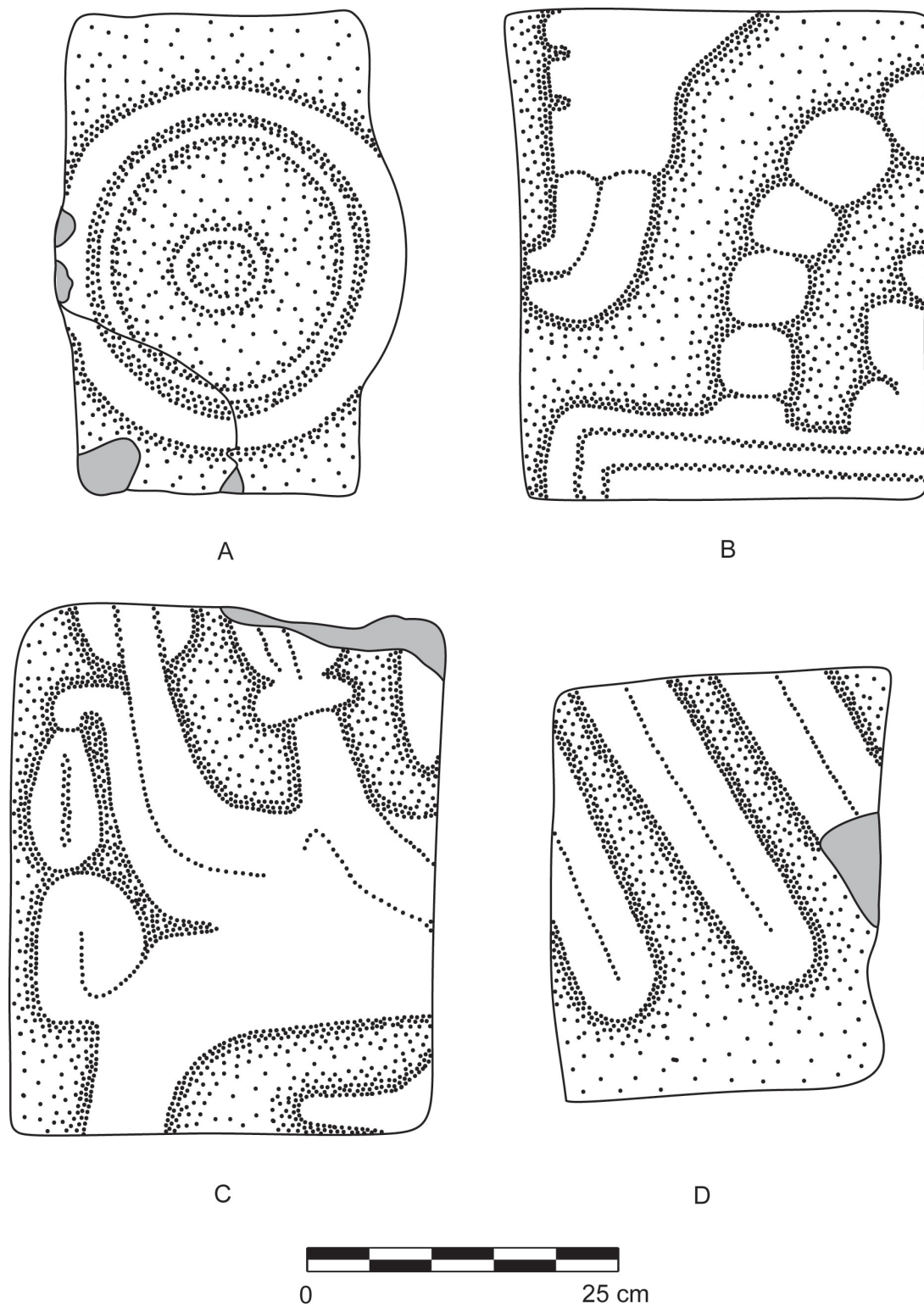


Figure 1.28: Sculpture. A. MN25; B. MN26; C. MN27; D. MN28.

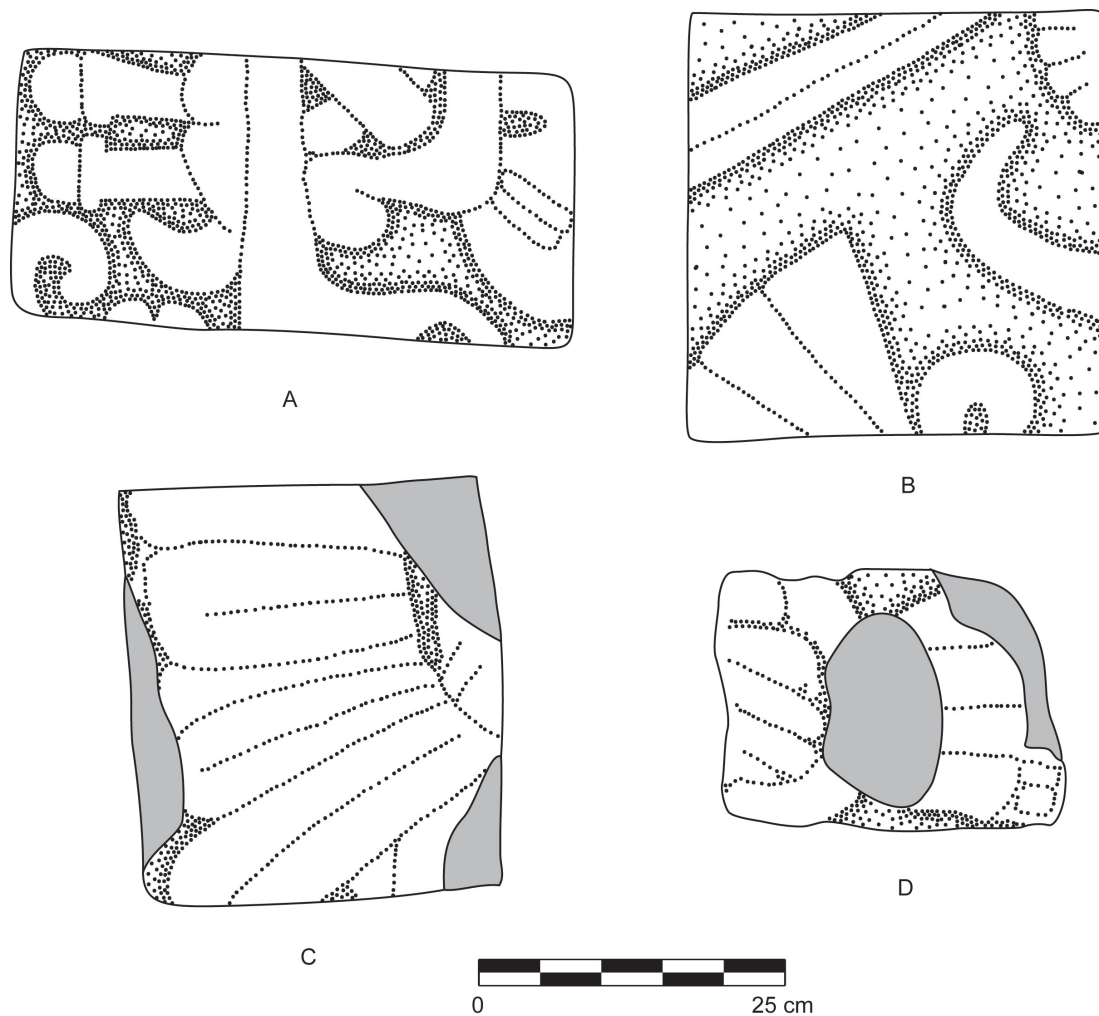


Figure 1.29: Sculpture. A. MN29; B. MN30; C. MN31; D. MN32.

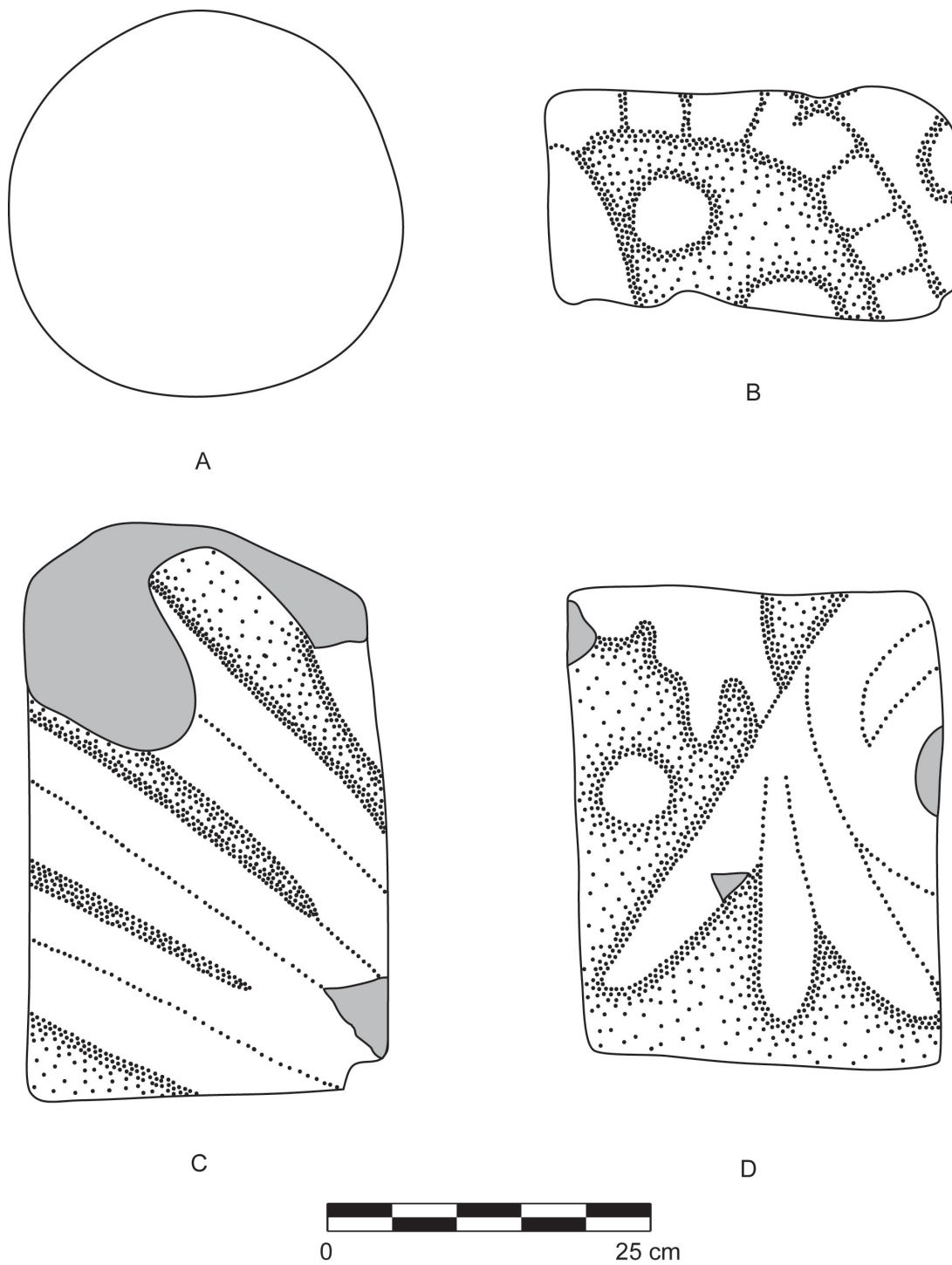


Figure 1.30: Sculpture. A. MN33; B. MN34; C. MN35; D. MN36.

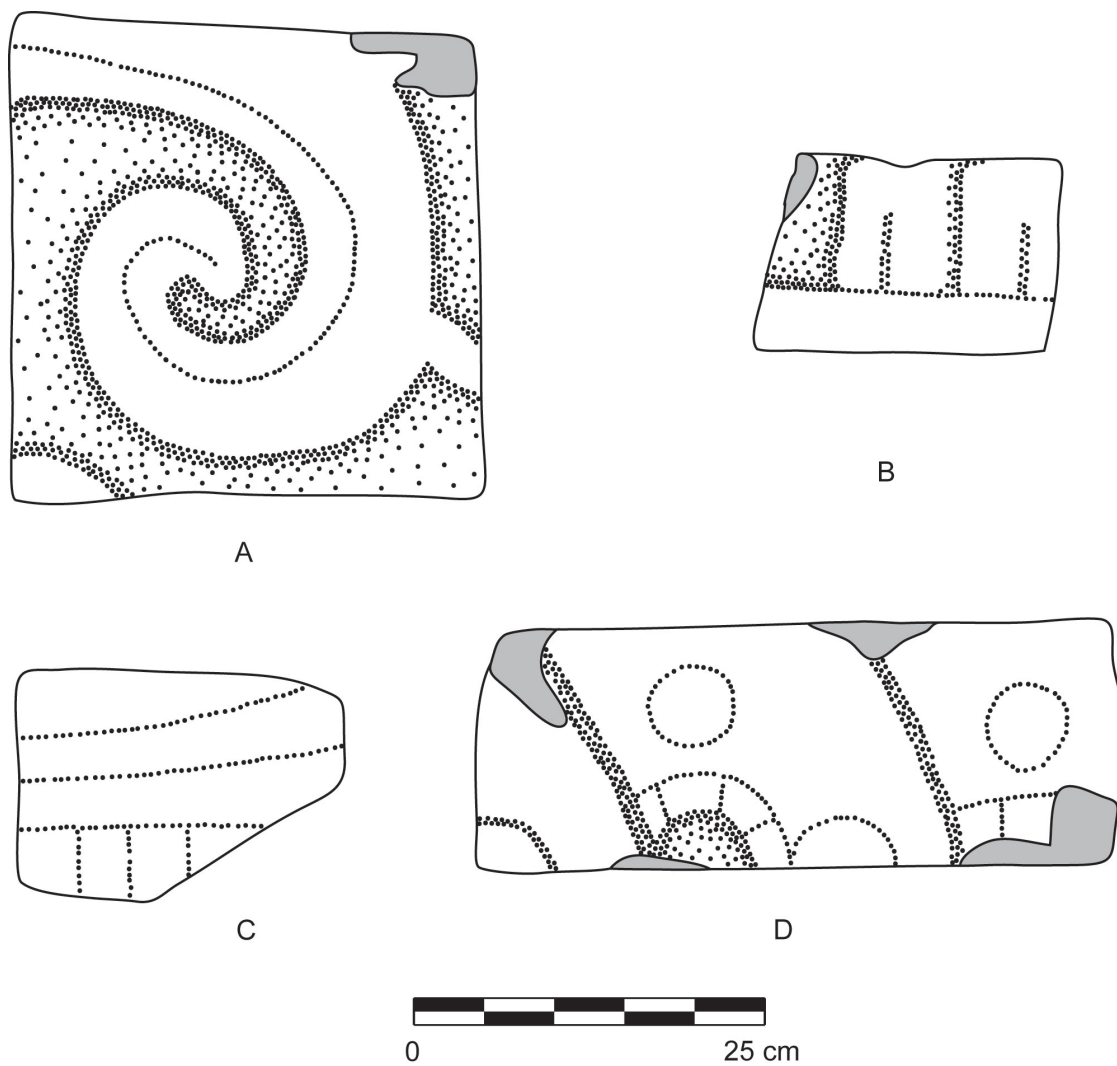


Figure 1.31: Sculpture. A. MN37; B. MN38; C. MN39; D. MN40.

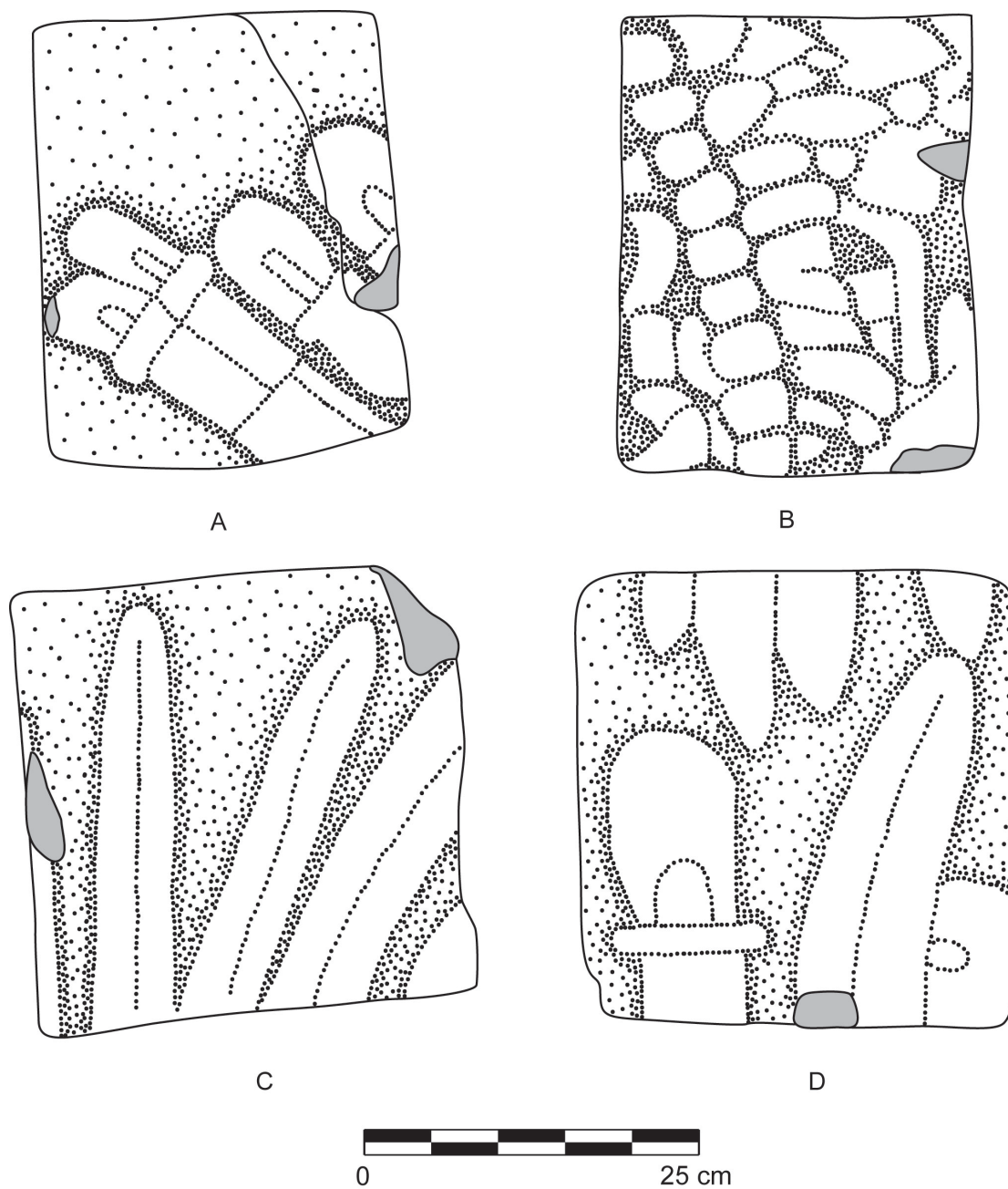


Figure 1.32: Sculpture. A. MN41; B. MN42; C. MN43; D. MN44.

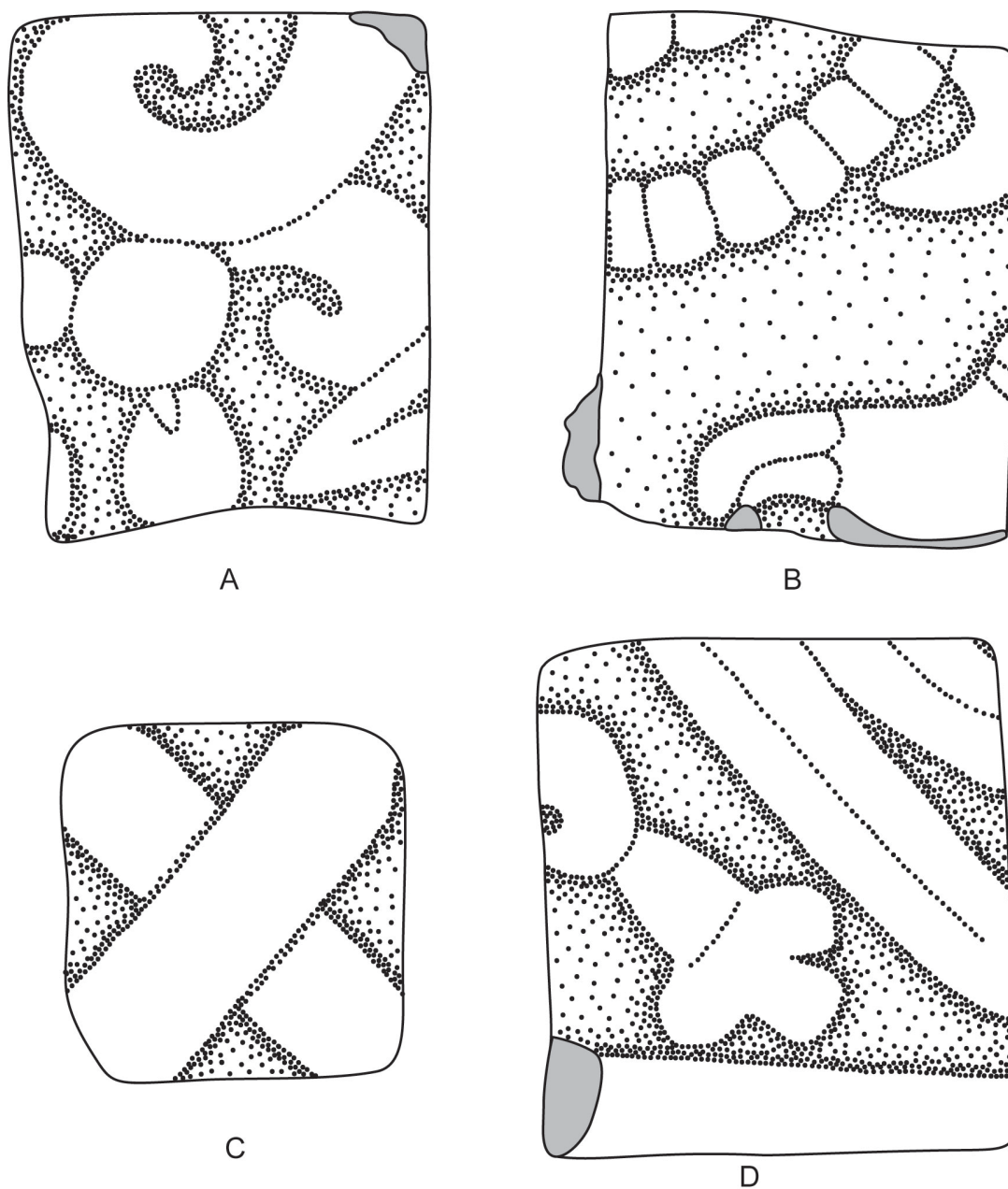


Figure 1.33: Sculpture. A. MN45; B. MN46; C. MN47; D. MN48.

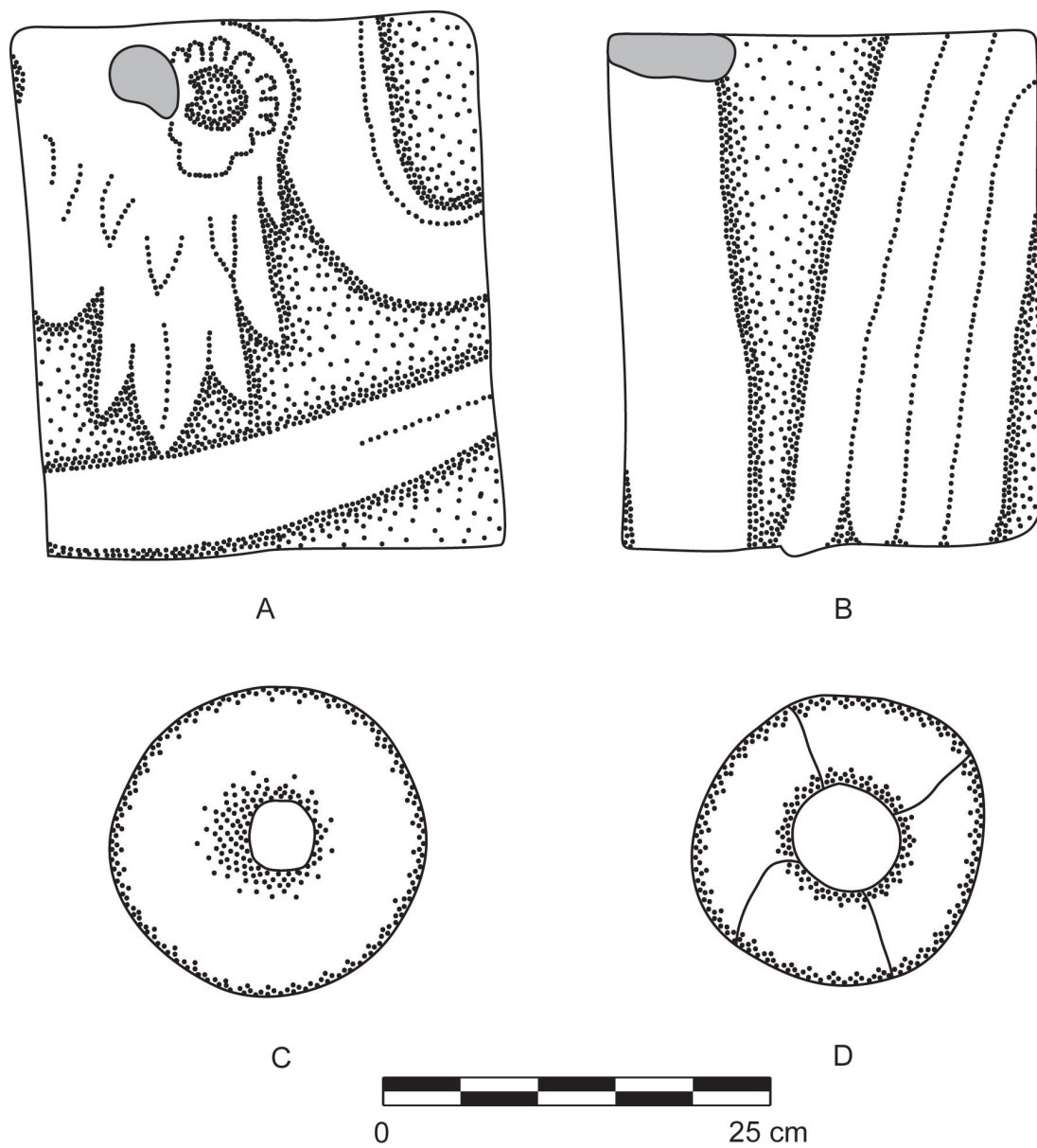


Figure 1.34: Sculpture. A. MN49; B. MN50; C. MN51; D. MN52.

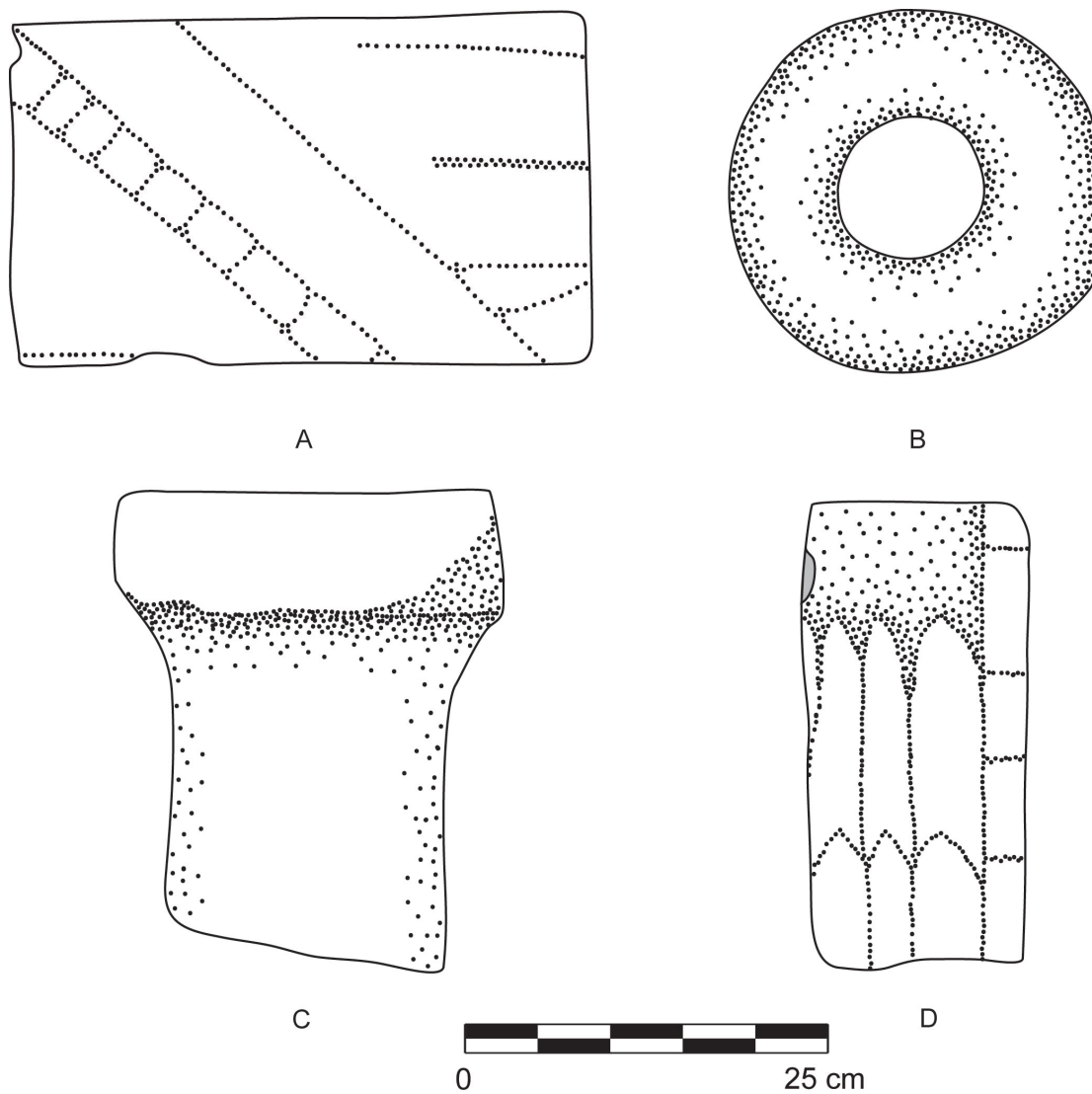


Figure 1.35: Sculpture. A. MN53; B. MS54; C. MS55; D. MS56.

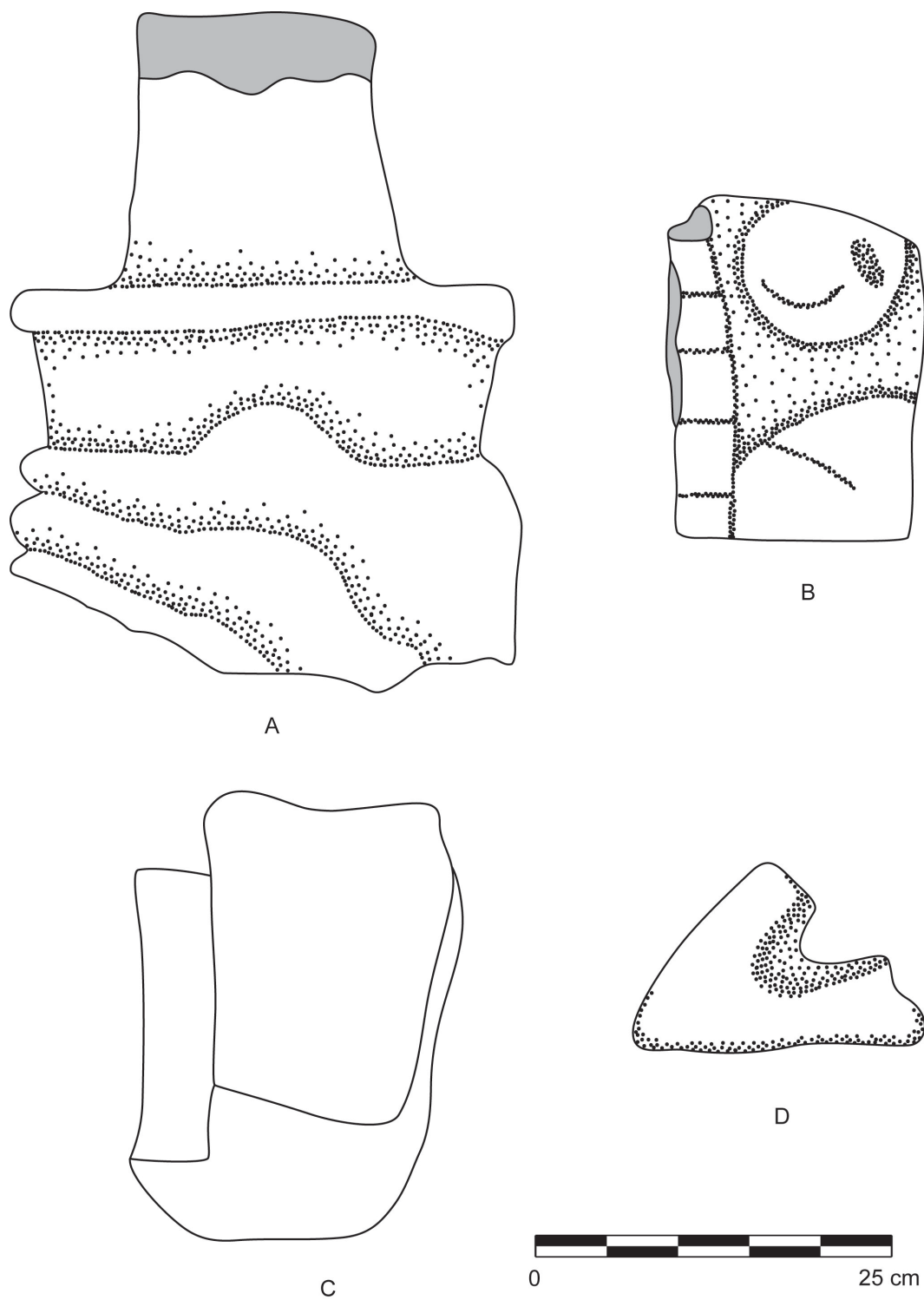


Figure 1.36: Sculpture. A. MS57; B. MS58; C. MS59; D. MS60.

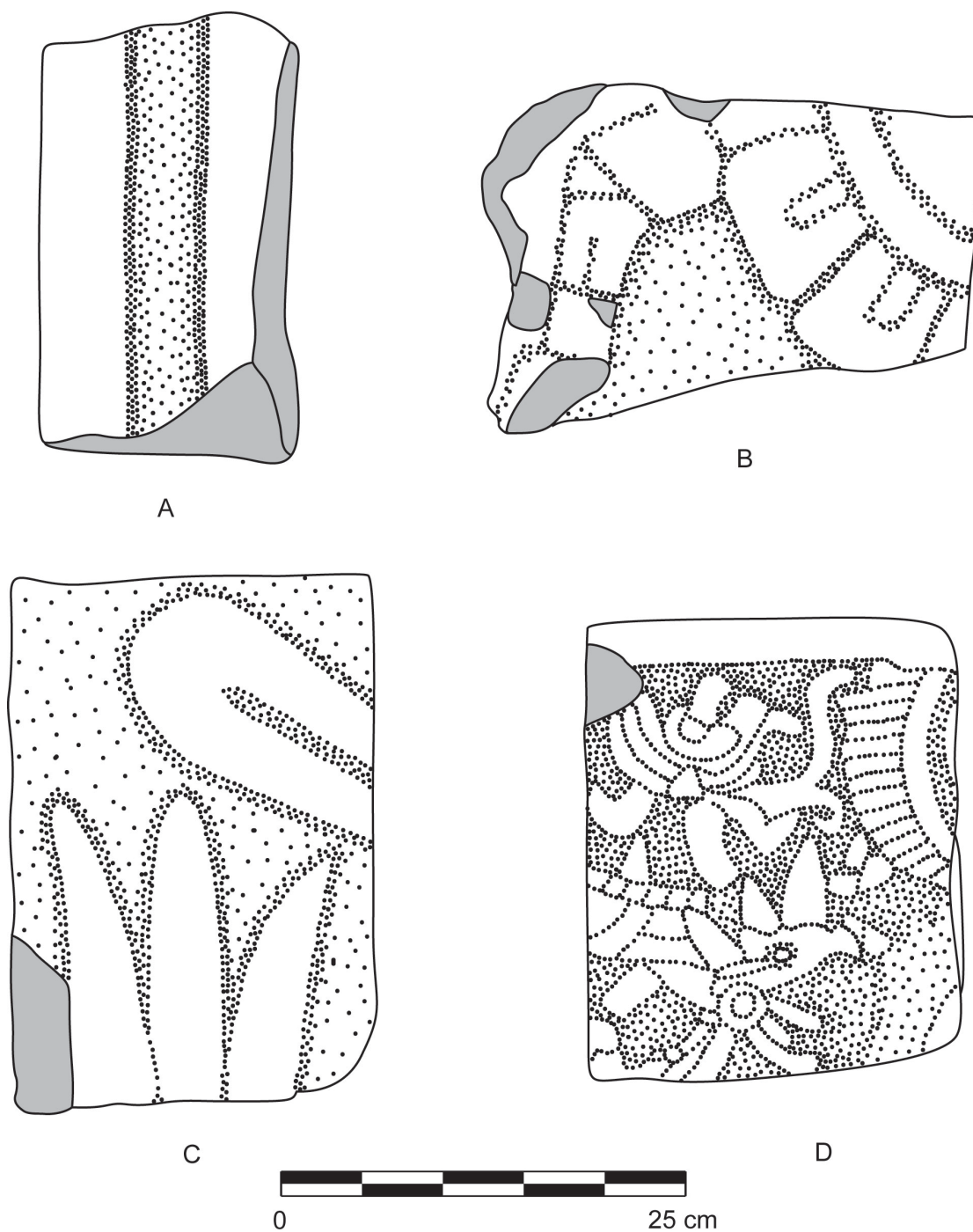


Figure 1.37: Sculpture. A. MS61; B. MS62; C. MS63; D. MS64.

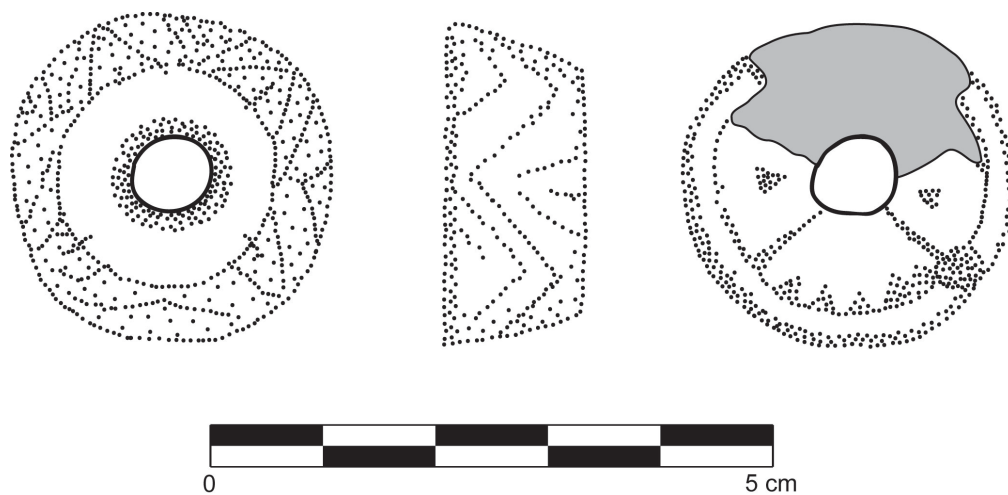


Figure 1.38: Spindle whorl.

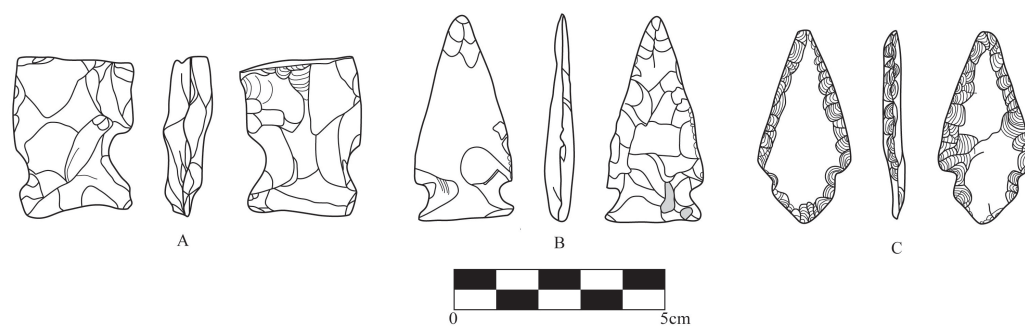


Figure 1.39: Hafted points. A, B: Thick Side-Notched variety. C: Tanged variety.

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