24 INVESTIGATING PROCESSIONAL ARCHITECTURE AT CHAN CHICH, BELIZE

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Sacbeob represents significant components of the built environment at ancient Maya cities. As such, constructing a sacbe required a sizeable labor force and significant time, and sacbeob are comparable, in those regards, to other monumental architecture, including plaza platforms, range buildings, and temple-pyramids. Like other elements of Maya cities, sacbeob likely had multiple functions—ranging from transportation, to political integration, to water management, to ritual—but some may have been constructed first and foremost for ritual purposes, designed to serve as stages for royal processions and public spectacles. This article reports the 2014 and 2015 excavations of the Chan Chich Archaeological Project that were designed to understand the age, form, and function of the Eastern and Western Causeways at the Maya site of Chan Chich and to look for evidence of ritual activities associated with processions along the causeways and at their termini. While our excavations did not locate conclusive proof of ritual activity along the causeways or at two associated structures at their termini, data from Courtyard D-1 point to a specialized ritual function for the group and its occupants. Given the proximity of the courtyard to the Eastern Causeway at Chan Chich, the finds are circumstantial evidence for processions along the causeways.

Introduction

Sacbeob represented significant components of the built environment at ancient Maya cities. As such, constructing a *sacbe* required a sizeable labor force and significant time, and *sacbeob* are comparable, in those regards, to other monumental architecture, including plaza platforms, range buildings, and temple-pyramids. Like other elements of Maya cities, *sacbeob* likely had multiple functions—ranging from transportation, to political integration, to water management, to ritual—but some may have been constructed first and foremost for ritual purposes, designed to serve as stages for royal processions and public spectacles (see Inomata 2006). This article reports the 2014 and 2015 excavations of the Chan Chich Archaeological Project (CCAP) that were designed to understand the age, form, and function of the Eastern and Western Causeways at the Maya site of Chan Chich and to look for evidence of ritual activities associated with processions along the causeways and at their terminus structures.

Maya Cities, Rulers, and Ritual

This topic, which is the focus of the senior author's thesis research, explores the intersection of ancient Maya urban planning, ritual, and the roles of rulers as performers in public spectacles. From depictions of kings on ceramics and murals, we know that a wide variety of buildings served as the backdrop for royal activities, from the interiors of palaces (which hosted visits, meetings, and rituals), to the steps of buildings (which served as stages for dances and adjudications), to ball courts (which held royal and even mythological ball games). Kingly attire often reflects the audience and setting in these various depictions. When rulers are shown inside buildings, they are dressed rather simply with modest headdresses. Other vessels and the murals at Bonampak depict rulers holding court on the steps or terraces of their royal palaces. In these settings, the ruler is often wearing more elaborate attire than in the interior scenes. Kingly attire, however, is most elaborate when kings perform public rituals outside of buildings. As Takeshi Inomata (2006) argues, the massive headdresses and elaborate backracks worn by kings were designed to be highly visible during mass spectacles. The most elaborate costumes of kings reflect not only a big stage, such as a plaza or the steps to a palace, but also a large audience.

Inomata (2006) argues that one function of public plazas was to accommodate large audiences that witnessed elaborate public spectacles in which the king served as both sponsor and performer. Rather than be confined to public plazas, many public rituals may have involved processions. For example, depictions of kings being carried on litters, bedecked with images of giants or animals, suggest that some mass spectacles involved processions in which the king was carried along a prescribed route in front of the spectators. In large cities, causeways could have functioned as ritual

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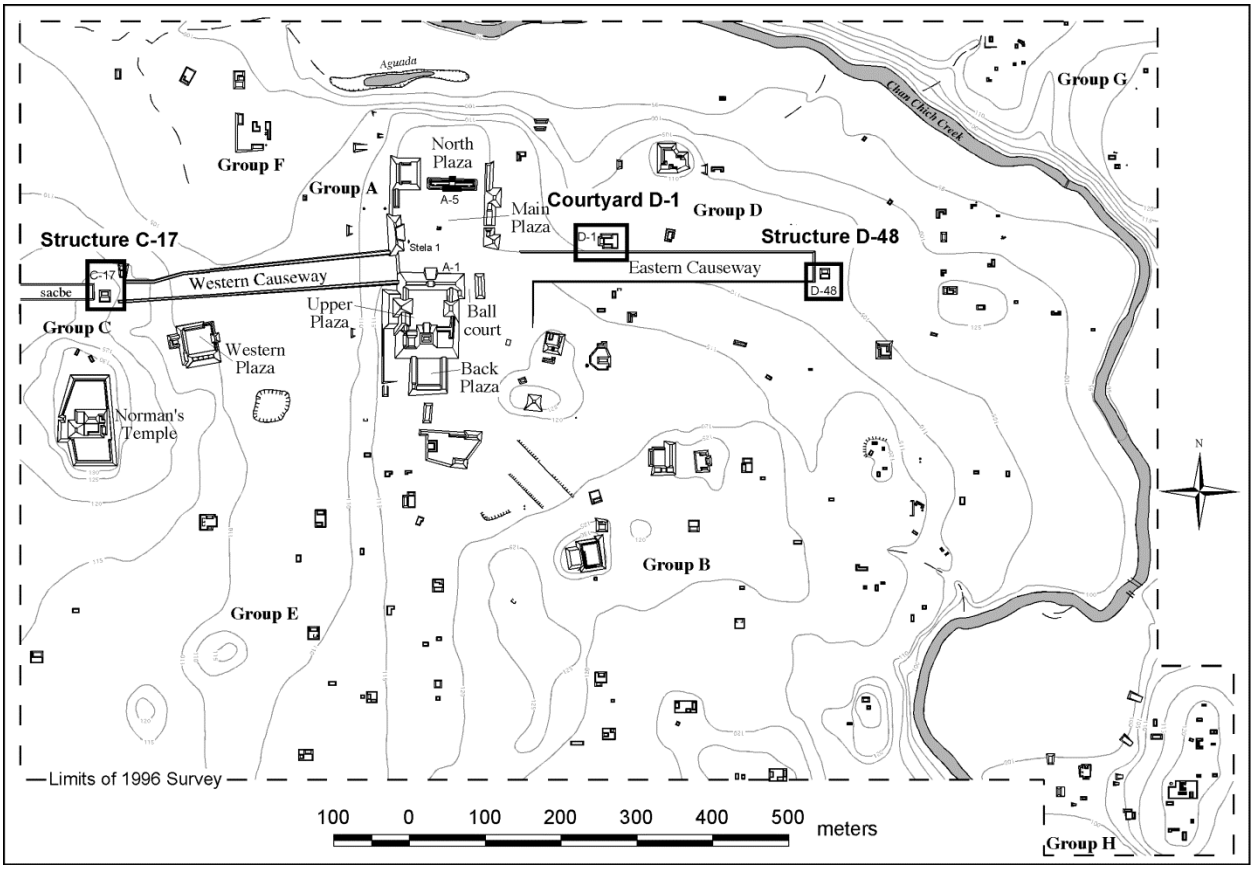

Figure 1. Map of the site core of Chan Chich showing the locations of 2014 and 2015 excavation areas associated with the processional architecture.

procession routes, and Inomata (2006) suggests that the very wide causeways at Tikal, which date to the Late Classic period, were built to allow more spectators to take part in public spectacles.

The murals at Bonampak depict a possible procession in which people wearing special costumes and carrying ritual paraphernalia walk in a single-file line. Among the participants are banner carriers, musicians, and dancers (Miller and Brittenham 2013). These spectacles and processions were important for community identity and "were probably the occasions on which people felt their ties with the ruler most strongly" (Inomata 2006:818).

While architecture is shown in art as the stage for ritual, proving archaeologically a ritual function for architecture is difficult, and most Maya structures probably were multi-functional. For example, plazas could be engineered to serve as water catchment features, temples doubled as funerary structures, and large range buildings may have had residential or administrative functions, but all could be incorporated into rituals and spectacles. Ball courts, with their distinctive architecture, are easily recognized elements of ritual architecture at cities. It is abundantly clear that kings took part in ceremonial ball games, which were witnessed by their subjects. It is not coincidental that most ball courts are located in or near the main plazas at sites. The ball game, however, was only one aspect of a ruler's ritual responsibilities to his or her subjects. From a functional perspective, then, Maya city planning likely took into consideration the need for city architecture to serve as a stage for performances from time to time. In this way it is possible to examine city plans for architectural elements that likely functioned together as the settings for rituals, spectacles, and processions.

The research at Chan Chich is based on the idea that public spectacles formed a significant aspect of ancient Maya society and affected city planning (Figure 1). From a functional perspective, Maya urban design should address the need for city architecture to serve as a stage for mass spectacles on certain occasions (Houk 2015). For the ancient Maya, the need for processions, mass spectacles, and elaborate rituals may have been the primary concern in the arrangement of certain urban design elements. In other words, seemingly disparate elements of a city's plan could all be components of its processional architecture, designed to function as the stage for rituals and mass spectacles. Interpreting architecture through this filter may explain otherwise inconsistent elements of a city's plan—why a building faces a certain direction, why a *sacbe* is a certain width, why a plaza is a certain size, and so on. Houk (2015:Table 10.6) identified five cities with likely processional architecture, including Chan Chich, and another five with possible processional architecture in a recent study of 14 cities in the eastern lowlands (Houk 2015:278–282, Table 10.6).

Processional Architecture at Chan Chich

Thomas Guderjan (1991) first mapped the site core of Chan Chich and recorded the Eastern Causeway—also known as the Harding Causeway. He described it as generally elevated 25 to 50 cm, approximately 30 m wide, and 385 m long (Guderjan 1991:44). Guderjan (1991:44) also noted that Courtyard D-1, which he recorded as Structure 37, "clearly had a function related to the Harding Causeway." Between the end of the causeway and Chan Chich Creek, Guderjan (1991:44) reported numerous house mounds and he speculated the causeway connected the site core to this zone of settlement. During the first season of the CCAP, Houk and colleagues (1996:22) remapped the Eastern Causeway and determined that it ended just west of Structure D-48. On the opposite side of the Main Plaza, they also discovered the Western Causeway, which they described as "composed of two parallel linear mounds defining a 40 m wide space between them." They noted that the causeway terminated at Structure C-17 and that an elevated *sacbe* appeared to begin west of the structure and extend westward, beyond the limits of the mapped portion of the site core (Houk et al. 1996:22).

The Eastern and Western Causeways enter the Main Plaza in front of Structure A-1, a massive structure with a broad stairway and central summit landing flanked by tandem-range buildings. Both of these causeways are about 40 m wide, much wider than they need to be if they only functioned as walking corridors. Attached to the eastern side of Structure A-1 is the site's ball court, which sits on the platform created by the Eastern Causeway. We hypothesize that these four elements, along with the Main Plaza itself, likely comprised the processional architecture at Chan Chich and served as the stage for a variety of performances involving processions along the causeways, spectacles on the stairs and landing of Structure A-1, and ball games. The large plaza would have provided space for thousands of people to witness the events. Furthermore, the two causeways terminate at structures with similar configurations—Structures C-17 and D-48, noted above. The two buildings face south, and each has a small patio platform extending to the south.

Methods and Research Questions

CCAP investigated the proposed processional architecture at Chan Chich in 2014 and 2015. Excavations targeted the two *sacbeob*, the two termini structures, and Courtyard D-1, a small courtyard adjacent to the Eastern Causeway. We used Angela Keller's (2006) work at Xunantunich as a guide. Her study suggests that with a bit of planning and luck it is possible to recover artifacts related to the functions of Maya causeways. Keller (2006) excavated "clearing units" along the edges of the two causeways at Xunantunich where she thought trash might accumulate. Importantly, she found sherds from ceramic drums along both causeways, but a concentration of them near Structure A-21 and the western end of Sacbe II. She also found sherds from censers in the same area, and concluded that "the rituals enacted on Structure A-21 were directly associated with musical performance along the causeways" (Keller 2006:452). She also found other types of

artifacts along the causeways including a chert eccentric, a pyrite mirror fragment, a marine shell pendant, a jade bead, portions of ceramic bowls, and obsidian blades. Some of this debris she interprets as bits of costumes lost during processions, but some she interprets as the remnants of rituals conducted along the procession route. Perhaps by stopping the procession along its route to perform some offering or ritual, the participants could engage an even larger number of spectators (Keller 2006). The specific questions posed by the research at Chan Chich were:

- What are the construction sequences for the two causeways (in other words, how many phases are represented, and what are their ages)?
- What is the architectural form of the parapets on the Western Causeway?
- What is the architectural form of the Eastern Causeway?
- Are there concentrations of artifacts along the margins of the causeways that might be related to ritual processions?
- How similar in size and form are Structures C-17 and D-48?
- Are there concentrations of artifacts on or near Structure C-17 and/or Structure D-48 that might be related to ritual behavior?
- What is the construction history of Courtyard D-1?
- Is Courtyard D-1 functionally related to the Eastern Causeway?

In general, the excavations followed the standard procedures used by the CCAP to investigate architecture and chronology (Houk and Zaro 2015). The project followed methods used by Keller (2006) to excavate clearing units. These units were placed along the edges of the *sacbeob*—off the edge of the Eastern Causeway's platform and against the interior base of the Western Causeway's parapets—to look for artifacts that might have been lost during processions and later swept aside. These units were generally 2 x 2 m in size, and crews only excavated through the topsoil to collect material above the final surface of the causeway or above the original ground surface adjacent to the causeway. To facilitate recovery of smaller artifacts, excavators screened the matrix from the clearing units through 1/4-inch mesh.

Sacbeob Investigations

Construction and Chronology

The 2014 excavations addressed the construction phases, age, and architectural form of the causeways. The Western Causeway is approximately 380 m long and 40 m wide. It has 1.40-m wide parapets, preserved to a height of 45 cm, that were constructed from cut limestone blocks, and had an elevated surface that raised the surface of the *sacbe* 30–45 cm above the original ground surface, at least near the Main Plaza (Booher and Nettleton 2014:94–95). The only other sites in Belize with parapet-lined causeways are El Pilar, Xunantunich, and Caracol (Houk 2015); La Honradez and San Bartolo, two larger sites to the west in Guatemala, also have causeways with parapets (Garrison 2007; Houk 2015). Ceramics from the rubble fill indicate the single-phase construction dates to the Late Classic period (Booher et al. 2015).

The Eastern Causeway is an elevated surface lacking parapets. It is 40 m wide and extends for 430 m before terminating near Structure D-48. Excavations in 2014 within 150 m of the Main Plaza determined the *sacbe*'s northern and southern faces were crudely built with unfaced stones stacked on top of one another to build a coarse platform face (Booher and Nettleton 2014:97). As was the case with the Western Causeway, excavations documented a single, Late Classic construction event for the Eastern Causeway. A test pit encountered irregular bedrock covered by 35–65 cm of rubble fill, but in places along the northern edge of the *sacbe* the surface is elevated approximately 1 m above the natural ground surface.

Clearing Units

The project excavated six clearing units along the Eastern Causeway and three along the Western Causeway (Figure 2). Ceramics from the units include Tepeu 2 and 3 types suggesting use of the *sacbeob* likely extended into the

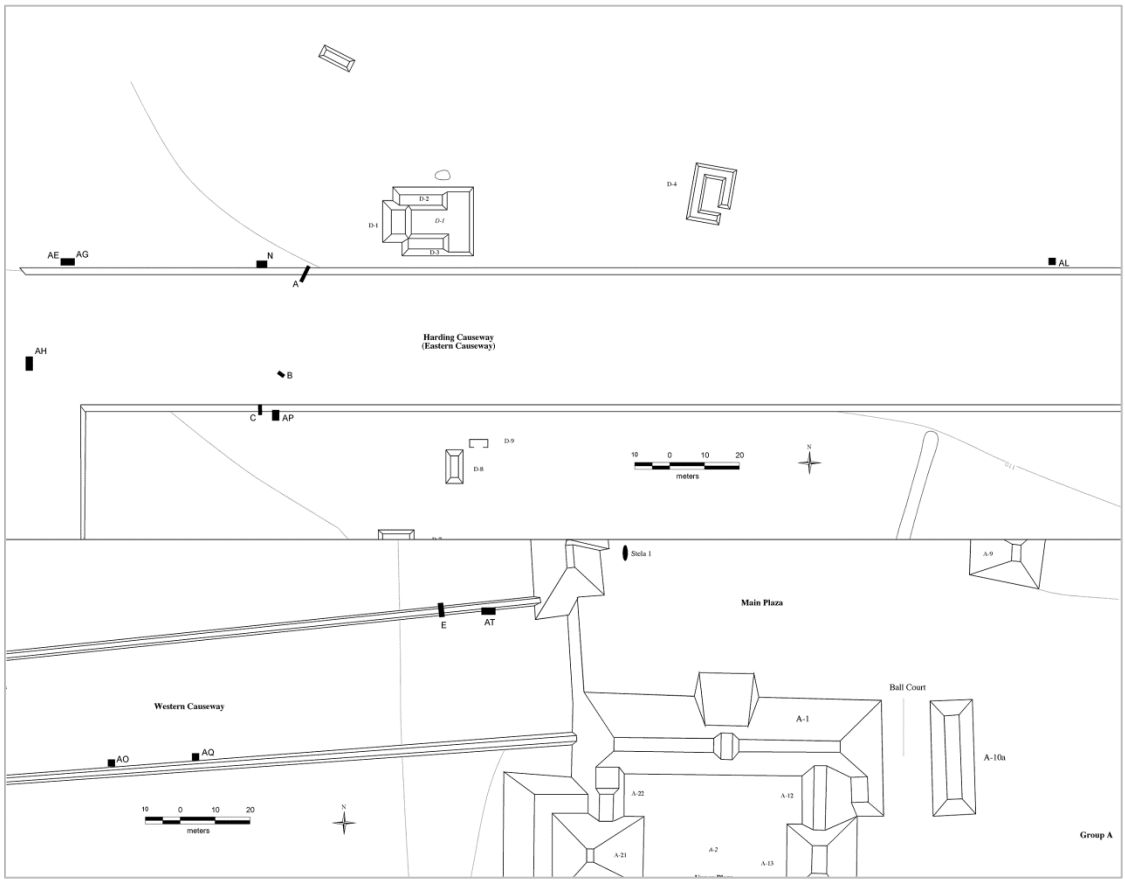

Figure 2. Locations of excavations along the Eastern (top) and Western (bottom) Causeways, including clearing units, chronology test pits, and architectural units.

Table 1. Artifacts Recovered from Above Final Patio Surface on Structure D-48.

Suboperation	Ceramic Sherds	Lithic Tools	Obsidian Fragments	Debitage	Ground Stone	Shell/Faunal
CC-14-AN	3232	32	2	460	7	1
CC-14-AP	992	6	3	224	3	0
CC-14-AS	1633	14	0	173	4	0

Terminal Classic period (Booher et al. 2015). In general, the clearing units produced low-to-moderate densities of ceramic sherds and lithic debitage. However, other than four obsidian blade fragments, two of which were recovered in 2014 along the Western Causeway's parapet, none of the artifacts fit into categories that Keller (2006) associated with ritual use of the causeways at Xunantunich. The clearing units at Chan Chich did not recover any drum fragments, censers, eccentrics, ground stone, or jade.

Sacbeob Termini

Structure D-48

Structure D-48 is located at the terminus of the Eastern Causeway and is approximately 450 m from the Main Plaza. The mound is approximately 16 m long, 9 m wide, and 1.5 m high, with a 20 cm high patio extending to the south. The patio platform measures approximately 5 by 8 m. Crews excavated seven suboperations on Structure D-48 in 2015 to

determine structure form, age, and function. Three of the units investigated the patio, and four targeted the summit and margins of the structure itself (Figure 3).

Excavations documented the summit floor of the structure and the northern and western faces of the structure's and patio's platform faces, as well as the interface between the patio and the structure. The final patio surface was completely deteriorated, with the subfloor fill being the only indication of where the surface had once been. The platform face of the patio structure is composed of two, poorly preserved, crudely constructed courses of faced stones. Associated with the platform face is the exterior surface on which the platform is sitting. Similar to the patio surface, the exterior surface was severely deteriorated with only sub-floor fill remaining. Excavations into the patio surface documented a single—presumably Late Classic—construction event, which elevated the patio 20 cm above bedrock (Booher et al. 2015).

Although crews recovered few artifacts from the summit of the structure, excavations recovered numerous artifacts from the patio, particularly from the two units along its western edge. The topsoil and underlying collapse debris directly below the topsoil of both suboperations yielded large numbers of artifacts as shown in Table 1. The artifacts that were collected were on top of the final patio surface and date to the Late and Terminal Classic periods; they included a thin leaf laurel biface, fragmented pieces of obsidian, mano and metate fragments, and a flat, circular piece of stone jewelry with a hole in the center (Booher et al. 2015).

Structure C-17

Structure C-17 measures approximately 12 m by 8 m and 3 m tall, taller than Structure D-48 (see Figure 3). As mapped in 1996, it has a low patio extending to the south. Three large trees located on the summit of Structure C-17 prohibited any excavations of the architecture of the building. Consequently, only one suboperation was opened at Structure C-17 in the middle of the patio; it was excavated to bedrock to obtain chronological information. Excavations of the patio structure revealed two construction episodes, although only the final, Late Classic phase is relevant to this discussion.

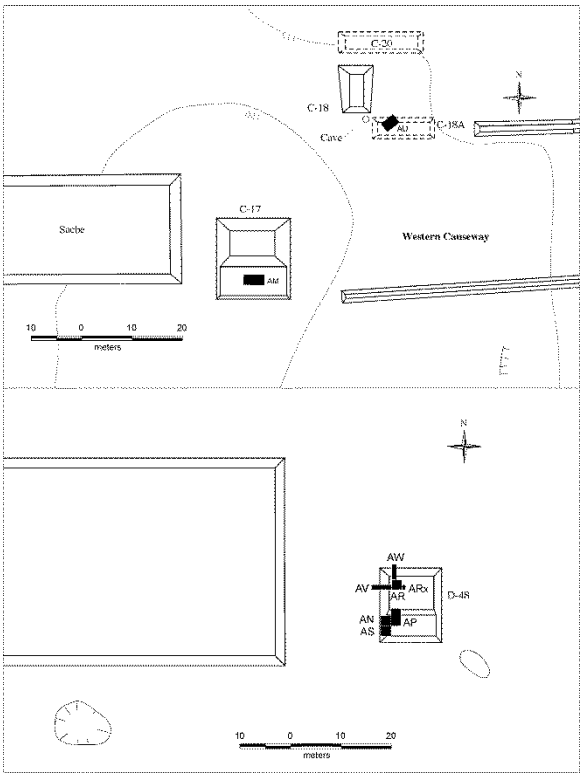

Figure 3. Maps of excavations units at Structure C-17 (top) and Structure D-48 (bottom).

The final phase construction of Structure C-17 revealed in our single excavation was a crudely constructed, one course high platform face, along with possibly the interface between the patio and Structure C-17. The associated final patio surface on which the platform face is sitting, was entirely eroded away with only sub-floor fill remaining. The excavators recovered a large number of artifacts from the collapse debris covering the patio surface, although the counts are considerably lower than were found at Structure D-48 (Table 2).

Discussion

While the two structures are located at the termini of the two causeways, the excavation data do not confirm that they are associated to the causeways functionally. At Xunantunich, Keller (2006) excavated Structure A-21 at the terminus of Sacbe II. Although larger than Structures C-17 and D-48 at Chan Chich, it shares site-planning similarities to the Chan Chich examples. Keller (2006:444) concluded that Structure A-21 was "the focus of ceremonial activity in the west area" likely involving

Table 2. Artifacts Recovered from Above Final Patio Surface on Structure C-17.

Suboperation	Ceramic Sherds	Lithic Tools	Obsidian Fragments	Debitage	Ground Stone	Shell/Faunal
CC-14-AM	976	5	5	183	2	2

processions along Sacbe II based on recovered censer and drum fragments. Unfortunately, while our excavations encountered large numbers of artifacts, the assemblages lack comparable indicators of ritual activity.

Courtyard D-1

Courtyard D-1 is a small courtyard located immediately north of the Eastern Causeway, approximately 170 m east of the Main Plaza. Guderjan (1991) originally proposed the group was functionally related to the *sacbe*. The courtyard consists of three small buildings, none taller than 1 m, that share a common platform. The largest building, Structure D-1, is orientated north to south while Structures D-2 and D-3 are orientated east to west. The three structures all face a common courtyard that is opened to the east. We were unable to excavate Structure D-2 due to a massive cedar tree, which grows from the summit of the building. CCAP excavated 19 suboperations at Courtyard D-1 over the course of two seasons (Figure 4). Unlike the clearing units and the termini structures, Courtyard D-1 yielded evidence of ritual activity.

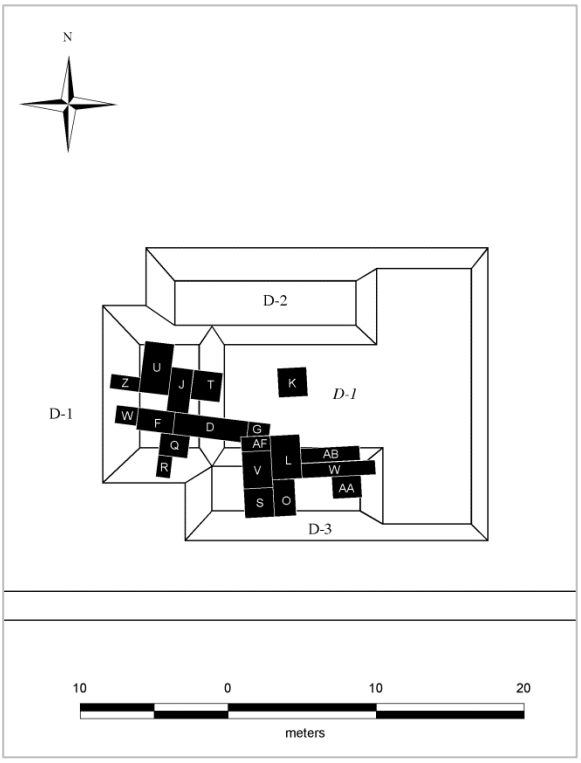

Figure 4. Map of excavation units at Courtyard D-1.

Chronology

A courtyard test pit documented three major construction phases spanning the Late Preclassic period through the Late Classic period. Although we did not excavate completely through Structures D-1 or D-3, our work revealed Late Preclassic antecedent architecture and multiple Late Classic renovations to the two structures with use continuing into the Terminal Classic period.

Figure 5. Mold-made spindle whorl from Burial CCB-14 (illustration by Brett A. Houk).

Structure D-1

The excavations at Structure D-1 determined the building likely had a vaulted entrance—based on the amount of collapse debris and the large number of vault stones encountered between the doorway jambs—that faced onto the courtyard; the rest of the superstructure was apparently composed of pole

Table 3. Artifacts Recovered from Lots CC-14-S-06 and –V-03.

Artifacts	Catalog-Spec. #	Quantity	Description
Ceramic sherds	CC1330	141	
Debitage	CC1279	61	
West-Indian chank	CC1312-01	1	Tip and 2/3 of shell's lip removed
Obsidian	CC1277-01	1	Blade
Human bone	NA	9	One humerus and one radius. Other seven bones fragmented
Metate	CC1278-01–04	24	Three metate basins
Fire cracked rock	CC1276	6	
Ceramic vessel (reconstructed)	CC1430-02	15	Dark red slipped serving plate
Ceramic vessel (partial)	CC1430-01	2	Eroded red-slipped exterior with incised decoration
Biface	CC1425-01	1	Biface
Metate	CC1425-01–08	8	Granite Basin form metate

and thatch. Excavations also exposed portions of a C-shaped bench, documented evidence of several renovations to the structure, and uncovered two burials within the bench. The final form of the structure dates to the Late Classic with use into the Terminal Classic period, with earlier, but unexplored, architecture dating to the Late Preclassic period (Booher et al. 2015).

Two lines of evidence point toward possible ritual activity associated with Structure D-1. First, excavations discovered the base of a Late Classic ceramic drum on the interior floor surface of Structure D-1 at the base of the bench. The second line of evidence is Burial CC-B14. Located in the southern end of the bench adjacent to the eastern wall of the building, this burial was remarkably preserved with approximately 75 percent of the skeletal remains present. The burial contained the remains of a single, adult female placed in a seated position with her arms crossed at her chest and her feet still articulated. The LC_1, LI_1 and RI_2 showed evidence of a B4 modification (Romero 1958), which Vera Teisler (2010:256) and Karl Mayer (1983:18) each identified as resembling the day name Ik' in the 260-day calendar. Mayer (1983) has proposed that the Ik'-shaped incisors were not intended as simple adornments but suggest a religious or esoteric significance. Several grave goods were also found in association with the individual, including a mold-made spindle whorl with a bird design (Figure 5), a shell bead, and a deer antler found directly behind the skull, which could indicate she was buried wearing a headdress. Spindle whorls found in association with burials, especially female burials, are not uncommon and may have been viewed as important tools for Maya women in the afterlife. The ceramics collected from the burial date to the Late Classic period. The combination of the B4 filing, the spindle whorl, and the location of the deer antler could suggest she was a ritual specialist, or at the very least an important spinner or craft specialist.

Structure D-3

The final architectural form of Structure D-3 had a superstructure composed of a perishable building with an exterior platform face separating the building from Structure D-1 and the courtyard surface. The interior comprised two rooms of unequal size, with the larger room primarily consisting of a bench.

A dense artifact deposit was found along the west exterior wall on the final exterior surface. The deposit spanned nearly the entire length of the west wall and consisted of numerous ceramic sherds from broken vessels, obsidian, and ground stone in an ashy matrix (Table 3). The most noteworthy artifacts collected were a West Indian chank (*Turbinella angulate*) shell and nine human long bone fragments (Figure 6). The West Indian chank shell had the tip taken off and smoothed and was missing its outer lip, and may have functioned as a trumpet given these modifications. Out of the nine pieces of human bone collected, two were

Figure 6. Photograph of the West Indian chank shell and human long bone fragment (indicated by arrow), along with sherds and burned ground stone fragments, in situ in the dense artifact deposit against the west wall of Structure D-3.

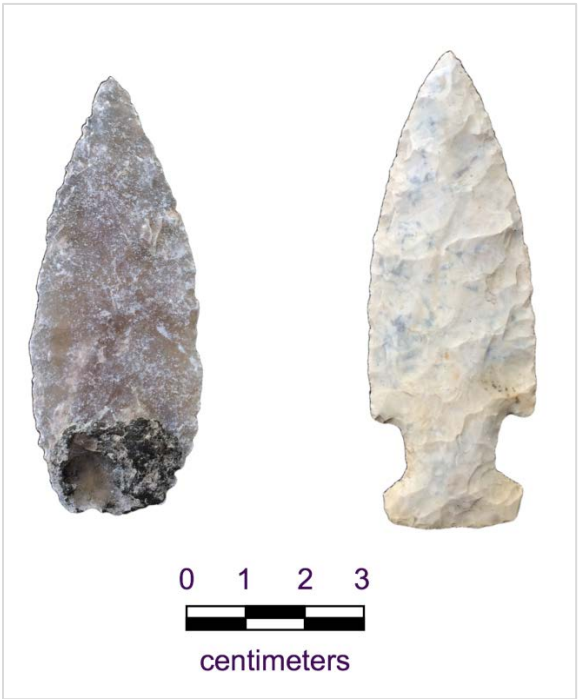

Figure 7. Thin biface with asphaltum on base from Lot CC-14-AB-03 (left) and side-notched spear point from Lot CC-14-L-02 (right).

identifiable as the distal end and shaft of a humerus, and a third was the shaft of a fibula. The remaining six bones are too shattered to accurately identify, but are fragmented long bones (Booher et al. 2015).

The matrix surrounding the artifact deposit was ashy and included pieces of fire-cracked limestone. The stones of the outer wall and several of the ground stone fragments showed evidence of burning, but many of the artifacts, including the chank and the human bone were not burned. The origin of the deposit is unknown; it could be a midden or it could be a terminal deposit related to the abandonment of the group.

Elsewhere in the excavations at Structure D-3, crews recovered two thin spear points (Figure 7), one with asphaltum hafting still on its base, three *Oliva* shell tinklers, and more than 100 spire-lopped *jute* (*Pachychilus glaphyrus*) shells. Many of these materials came from the western room or outside the structure near the southern wall. The eastern room had relatively few artifacts, and the walls and floor were heavily burned.

Discussion

The primary function of Courtyard D-1 was probably residential in nature during its early occupation, but is likely that the courtyard took on a different function during the Late Classic period with the construction of the Eastern Causeway. The West Indian chank shell, which may have been a trumpet, the ceramic drum base, the shell costume jewelry, and the two spear points could all be items utilized during processions on the adjacent causeway. Furthermore, Late Classic Burial CC-B14, which contained artifacts with ritual associations, is a possible example of Courtyard D-1 shifting from a residential function during its early occupation to a more ritual function following the construction of the Eastern Causeway during the Late Classic period.

Conclusions

The 2014 and 2015 excavations of Chan Chich's causeways and associated structures set out to test the hypothesis that otherwise disparate elements of the site's plan functioned together as processional architecture. In the process, the research collected information on the form and age of the two *sacbeob* at Chan Chich, investigated structures at the two *sacbeob* termini, and excavated Courtyard D-1.

Both the Eastern and Western Causeway were elevated although their forms were different in terms of construction. The Western Causeway had parapets constructed from cut limestone blocks, while the Eastern Causeway's

margins had unfaced stones creating coarse retaining walls. The Eastern and Western Causeways were constructed during the Late Classic period with evidence of use into the Terminal Classic period, which coincides with ages of the final architectural phase of Courtyard D-1 and Structures C-17 and D-48. The causeways likely had several functions, although this research specifically looked at the role of processions taking place on the causeways. The evidence collected this season from the clearing units placed alongside the causeways does not definitively point toward processions taking place on the causeways, although our sample size is extremely small. Similarly, the excavations at the termini structures, though not extensive, did not encounter the types of artifacts one would expect if the structures had ritual functions. However, the artifacts collected from Courtyard D-1, which is immediately adjacent to the Eastern Causeway, provide circumstantial evidence for ritual use of the *sacbeob*. The West Indian chank shell, which possibly functioned as a trumpet, the ceramic drum base, the spear points, and the shell costume jewelry could all be items utilized during processions. These artifacts, Burial CC-B14, and the unusual vaulted entrance to Structure D-1 all point to a specialized function for the group during the Late Classic period.

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