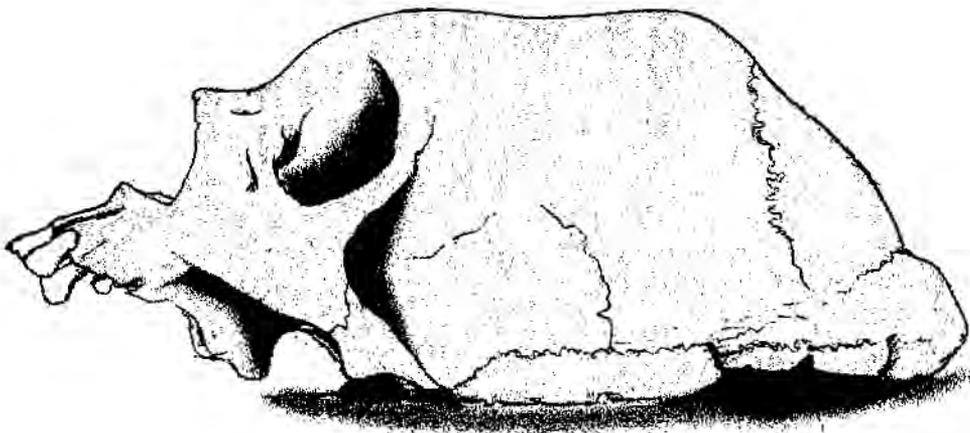




**THE WESTERN BELIZE REGIONAL CAVE PROJECT
A REPORT OF THE 1997 FIELD SEASON**



EDITED BY JAIME J. AWE

**DEPARTMENT OF ANTHROPOLOGY
OCCASIONAL PAPER NO. 1
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JAIME J. AWE

Durham, New Hampshire, 1998

SPATIAL ANALYSIS OF ARTIFACTS IN THE MAIN CHAMBER OF ACTUN TUNICHIL MUKNAL, BELIZE: PRELIMINARY RESULTS

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INTRODUCTION

The paradigm that caves represented sacred landscapes to the ancient Maya has become increasingly accepted among Mesoamerican archaeologists (Andrews 1970, Awe et al. 1997, in press; Bonor 1989, Brady 1989, Heyden 1975, MacLeod & Puleston 1978, Manzanilla 1996, Thompson 1957, Sharer 1994). Throughout the Maya area, caves have been regarded as entrances to the underworld and as a tangible link between the corporal world and the realm of the gods (Tedlock 1985, Schele 1986, Thompson 1970). They were also the birthplace of ancestral humans (Brady 1989), and the stone dwellings of gods that promote rain (Vogt 1969, Thompson 1970, Redfield 1941).

Given this paradigm, it can therefore be assumed that the artifact assemblages located within the sacred cave landscape were associated with ritual activity areas. Roy Rappaport suggested that ritual is repeated in prescribed ways, and that, "artefacts used in ritual should exhibit a pattern of use and discard which is non-random and yields insights into the nature of the ritual itself" (Marcus & Flannery 1994). Andrea Stone echoes this view when she emphatically states that "Like caches found in architectural contexts, most cave artifacts were deposited in an utterly deliberate manner with respect to their placement and their condition" (Stone 1997:1).

Several cave reports mention relationship between artifacts and cave features (Andrews 1970, Brady 1989, Reents-Budet 1980, Graham et al. 1980), and many provide both functional and ideological interpretations based on this association. The provenience and context of artifacts can, therefore, be instructive, but can we in fact conclude that artifact distribution is indeed non-random? And if so, does a pattern of artifact placement in relation to cave features exist? In an effort to address these questions, the Western Belize Regional Cave Project recently conducted a spatial analysis of all artifacts discovered in the Main Chamber of Actun Tunichil Muknal. This paper presents a preliminary report of the results of that investigation.

SETTING

Actun Tunichil Muknal (Cave of the Stone Sepulcher) is a Maya cave site in the Cayo district of Belize. Located near Teakettle village, it is situated on a tributary of the Roaring Creek. It was discovered by geomorphologist, Dr. Thomas Miller (Miller 1989, 1990) and subsequently visited

by a British Speleological expedition (Marochov and Williams 1991). Investigations by Awe (see Awe et al. in press) began in 1993 and continued during the summers of 1996 and 1997.

Actun Tunichil Muknal (Fig. 1) is approximately 5 kilometers long and has a perennially active stream that flows through the major cave passage. Cultural remains in the cave are found in four major loci: the Upper Entrance Chamber, the Sinkhole Tunnels, the Stela Chamber and the Main Chamber. Of these, the Main Chamber is the area with the highest concentration of cultural remains, and it is within this locus that our analysis concentrated. Due to its difficult access and location far into the dark zone of the cavern, the Chamber has not been looted and disturbance of the archaeological record by natural forces appears to be minimal.

The Main Chamber is located in a high level passage, that splits off from the main river passage 500 meters from the eastern entrance of the cave. The Chamber measures approximately 183 meters in length, 36 meters at its widest point and 5 meters at its narrowest. The floor consists of a series of travertine dams that descend gradually toward the eastern entrance of the chamber. It was initially thought that the chamber had been dry for quite some time. No flooding was witnessed between 1993 and 1996, but in July of 1997 torrential rain caused the chamber to flood. Natural drainage began almost immediately, but some standing pools persisted for up to three weeks.

Since the majority of artifacts are calcified to the floor of the chamber, it has been assumed that they are near their place of deposition. While skeletal remains suggest that some water movement has occurred, elements of articulated human remains have been found no more than 18 cm apart. This indicates that there has been limited disturbance as a result of natural causes.

To facilitate our spatial analysis, the Main Chamber was divided into the following areas from east to west: 1) the Creek, 2) Boot Hill, 3) the Burial Chamber, 4) the Ransom Chamber, 5) the Cathedral, 6) the Angel's Room, 7) the West Wall, and 8) the Crystal Sepulcher (Fig. 2). A large area of breakdown, covering approximately 22 square meters, separates the West Wall from the Cathedral. Large stalagmitic columns are most prominent in the Burial Chamber and the Cathedral. The largest quantity of artifacts occurs in three areas: Boot Hill, the Burial Chamber, and the West Wall (including parts of adjoining breakdown). The greatest variability of artifact types is found in the Burial Chamber.

METHODOLOGY AND ANALYSIS

Methodology

All cultural materials in the Main Chamber were recorded *in situ*. Only faunal remains, a few chipped-stone implements, plus one complete ocarina and fragments of two others were removed from the cave for analysis and curation. Gifford's (1976) Barton Ramie ceramic report was employed as the primary reference for our ceramic analysis. All diagnostic types within the Main Chamber were dated to the Late Classic Spanish Lookout complex (AD 700-900). Artifacts were recorded in 1 meter grid squares for detail and transferred to the base map. Only four ceramic artifacts were found intact, the rest appear to have been ritually broken. An *in situ* visual reconstruction was conducted by searching immediate areas for like sherds. The minimum number

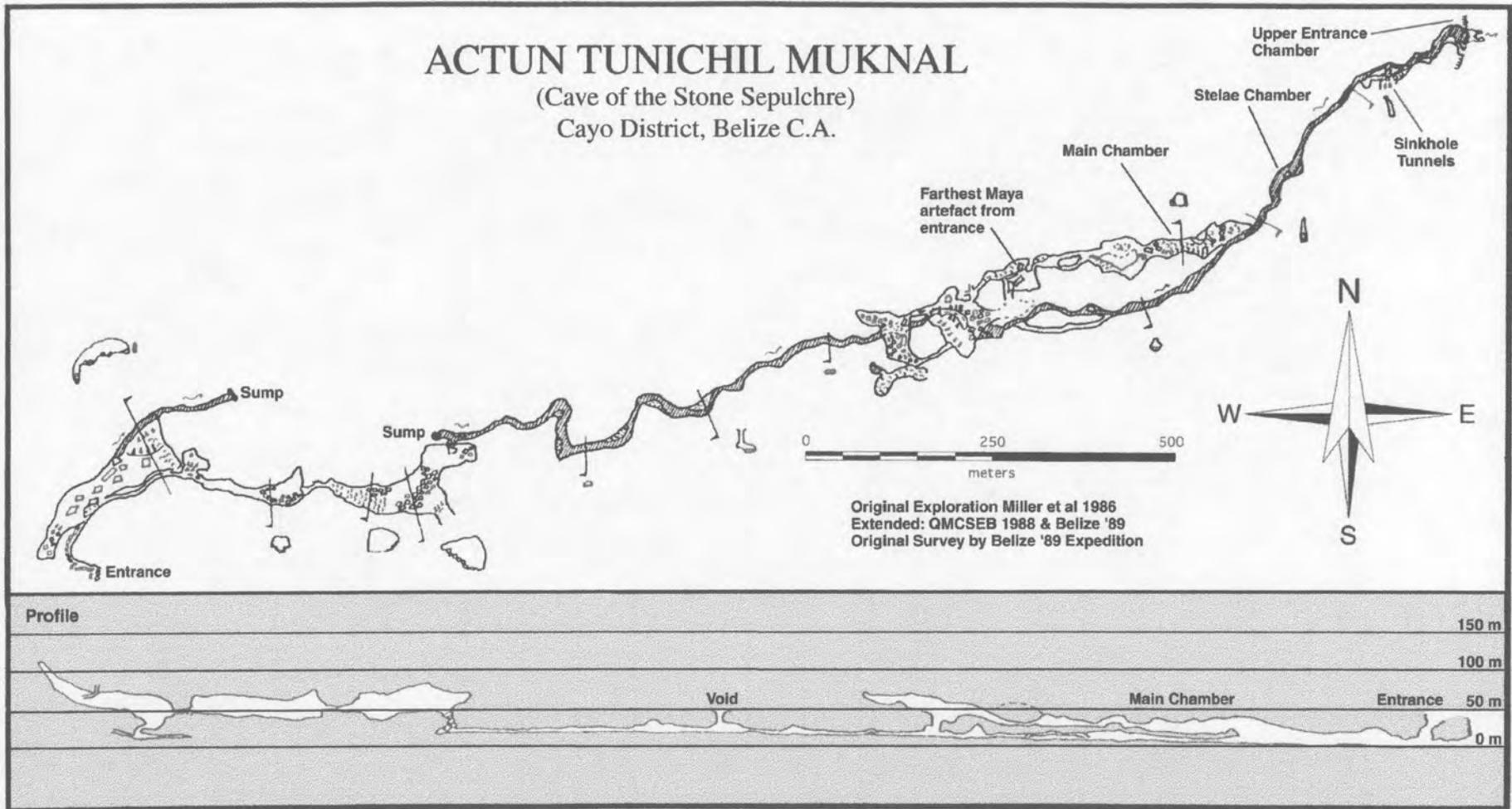


Figure 1: Map of Actun Tunichil Muknal indicating areas with cultural remains.

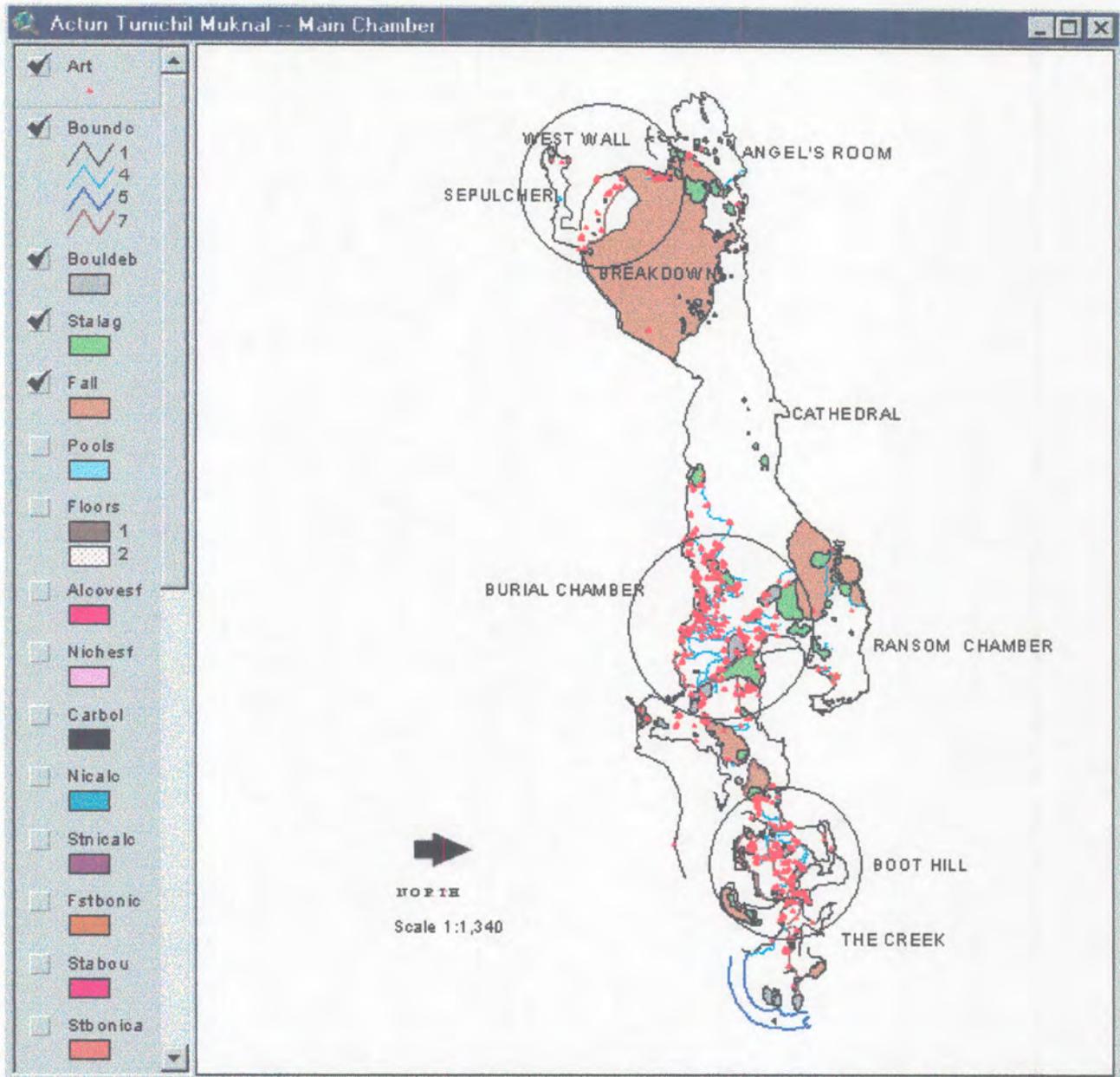


Figure 2. Plan of Main Chamber depicting primary contexts with cultural remains.

of artifacts accounted for was 424. When each artifact fragment was given a discreet identification, however, the total reached 1401. This technique of artifact quantification is preferable for spatial analysis since each fragment represents a point in space. Sherds less than 10 cm in length were not used although four small sherd scatters were recorded. Human remains were also excluded from the sample.

The following broad classes of artifact categories were chosen for preliminary analysis: 1) lithic (chipped stone) material, 2) groundstone, 3) faunal remains, 4) speleothems, 5) ceramics, 6) miscellaneous and unknown (Fig. 3). The "unknowns" consisted of artifacts, so completely covered with calcium carbonate that absolute identification could not be certain, although overall shapes indicated that these objects were cultural material, most likely ceramics. Figure 3 shows the breakdown of the division of artifact classes by percentage. The overwhelming majority of artifacts are ceramic, followed by speleothems, faunal remains, and groundstone. Lithic material was conspicuously low in number.

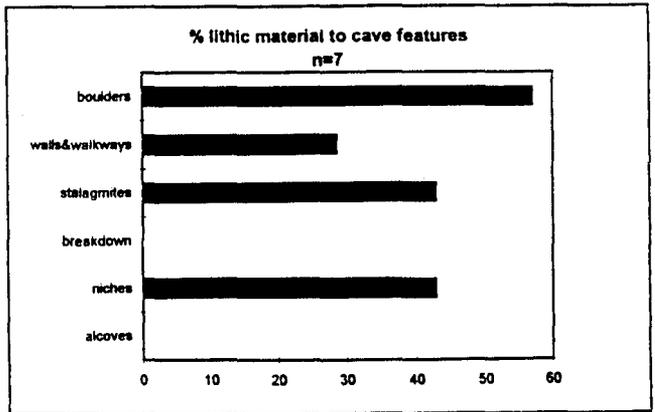
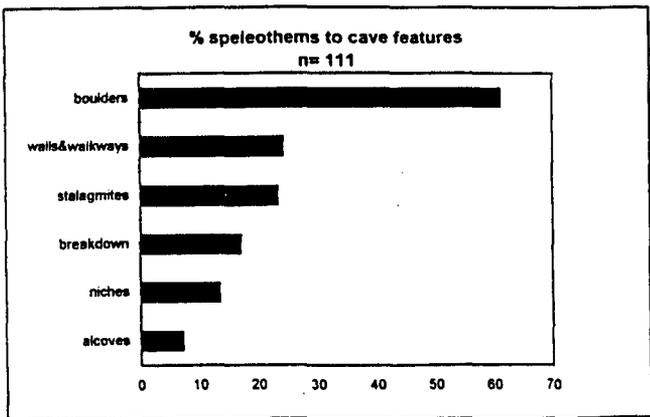
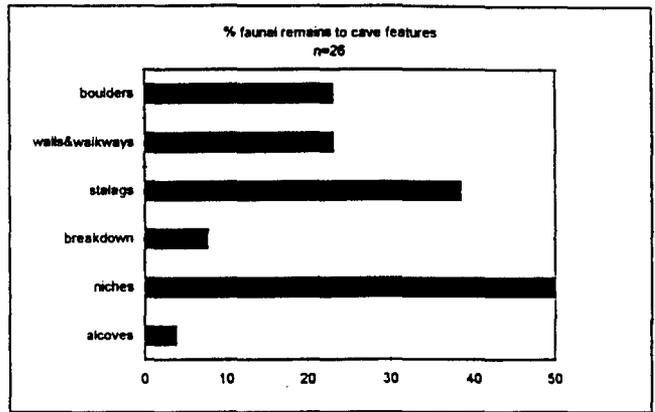
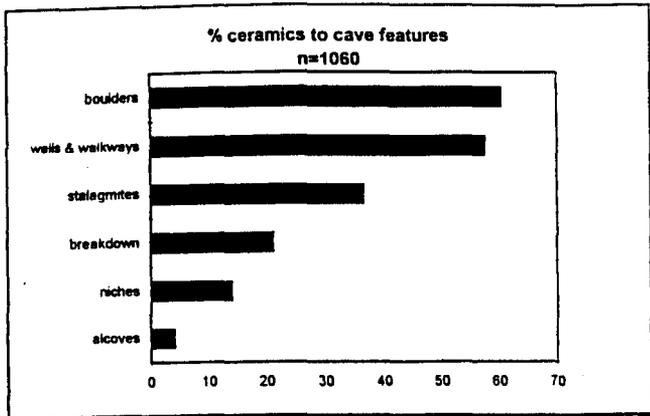
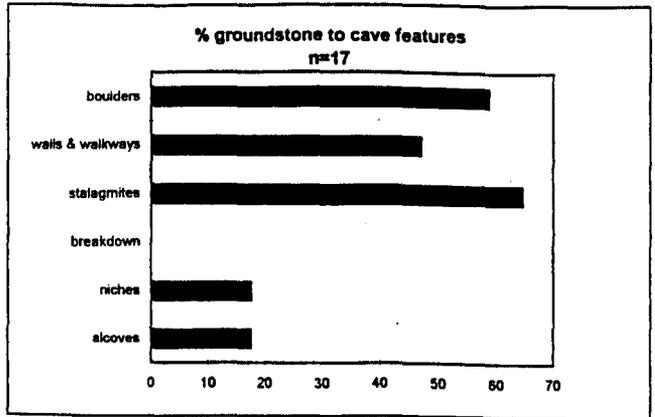
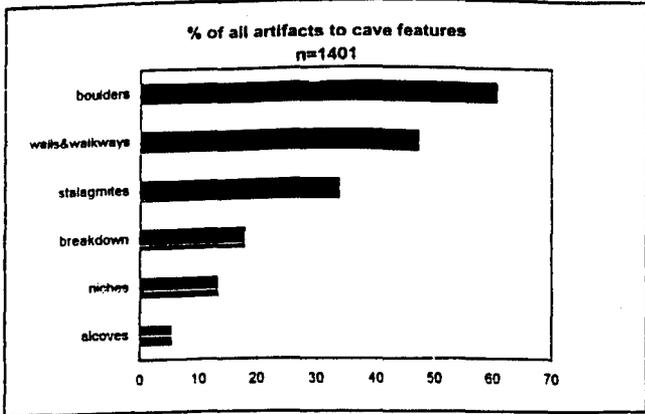
For purposes of this study, natural cave features and formations were divided into the following categories: 1) isolated boulders, 2) walls and walkways, 3) stalagmitic columns, 4) areas of breakdown, 5) alcoves, and 6) niches. Isolated boulders are defined as detached rock masses having diameters greater than 25cm., or about the size of a volleyball (Gary, McAfee, and Wolf 1972), whereas breakdown is characterized by clusters of large boulders. Although niches and alcoves are both recessed areas, niches are equated with caching and are too small to be entered even by a small adult, as opposed to alcoves which are accessible for human entry. Walls and walkways refer either to the extent of the cave chamber or to areas or soil deposits that delineate a path. Only artifacts placed on the floor are included in this category.

At this point it is also important to note that all artifacts located on the floor of the chamber were in travertine pools (which became flooded during the rainy season of 1997). If these travertine dams were used as a placement criteria, they would become a constant as they compose almost the entire floor of the chamber.

Maps were digitized onto a Geographical Information System, using Arc Info and analyzed in Arc View. All artifacts received an equal weight of one, and results are presented in percentages of the total artifact assemblage (1401). A boundary of 1.5 meters was used to access walls and walkways, boulders, stalagmites and areas of breakdown. Analysis of alcoves and niches include only artifacts contained within these features.

Results

Computer analysis was conducted in a series of three test phases. The first phase consisted of a single test using a combination of all six cave feature categories simultaneously. The goal of this test was to determine if the categories chosen were indeed representative of artifact placement and, based on overall percentage, how representative they were. The results showed that 95.15% of the entire artifact assemblage fell into at least one of the established cave feature categories. It is important to note that this test was the only one of the series that produced no overlap between artifacts in feature categories.



The next phase of testing was to discern whether a general pattern of correlation existed between artifacts and specific cave features or formations. Notice that the sum of the percentage of all artifacts does not equal 100%, due to overlap. For example, it is conceivable that an artifact could sit adjacent to both a boulder and a wall and thus be counted twice. However, in this preliminary stage, it is preferable not to bias data by arbitrarily selecting for one or the other. Future analysis will endeavor to dissect out overlapping artifacts, but much of the data will be lost in those tests.

The pattern represented in Figure 4a shows that, rather surprisingly, more artifacts were placed in or around boulders than any other category, followed by walls & walkways, stalagmites, breakdown, niches and finally alcoves.

The third test examined the five artifact classes in relationship to cave features and formations. The first class is ceramic (Fig. 4b), the most frequently represented in the assemblage. Out of 1060 specimens, most are located around boulders, then, walls & walkways, stalagmites, breakdown, niches, and alcoves. The next classification is speleothems (Fig. 4c) of which there are a total of 111. Again, the proximity of most speleothems are on or around boulders, followed by walls & walkways, stalagmites, breakdown, niches, and alcoves. Of the 26 faunal remains (Fig. 4d), most are located in niches and, on and around stalagmites. Of the groundstone (Fig. 4e), most are associated with stalagmites, then boulders, walls & walkways, niches, alcoves, and none are located in areas of breakdown. Figure 4f represents lithic material, which is associated most closely with boulders, then stalagmites, niches and finally, walls & walkways.

When viewed collectively, a pattern emerges (Fig. 4). There are similar distribution patterns among the categories of miscellaneous and unknown artifacts, ceramics and speleothems (which represent the artifact classes with the largest samples). Indeed, the tests demonstrate that the most likely area to find remains of all three groups is in or around boulders. Could this result simply reflect that boulders represented a larger spatial area as compared with other feature categories?

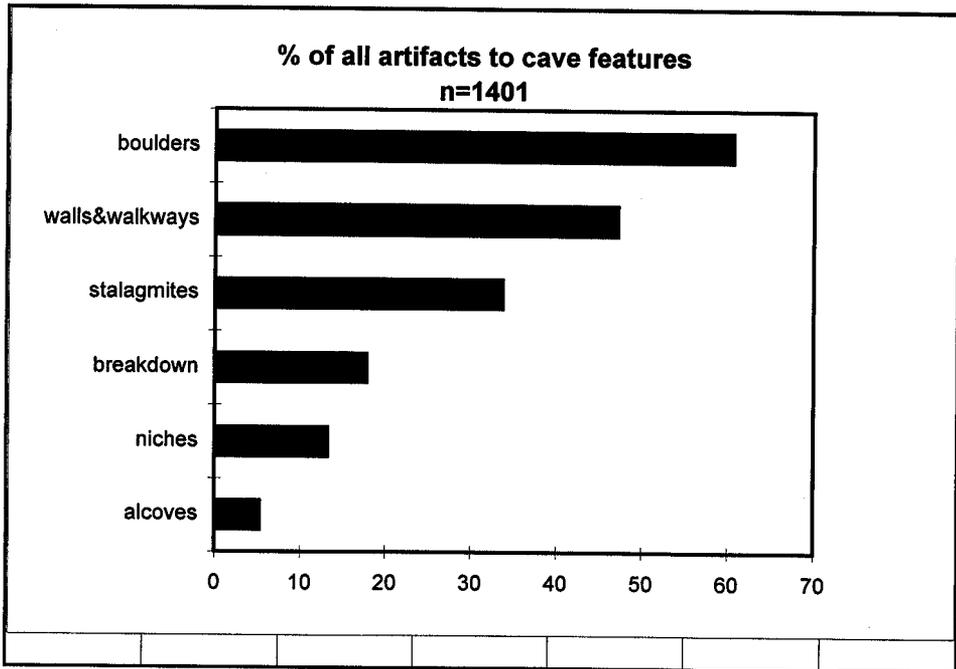
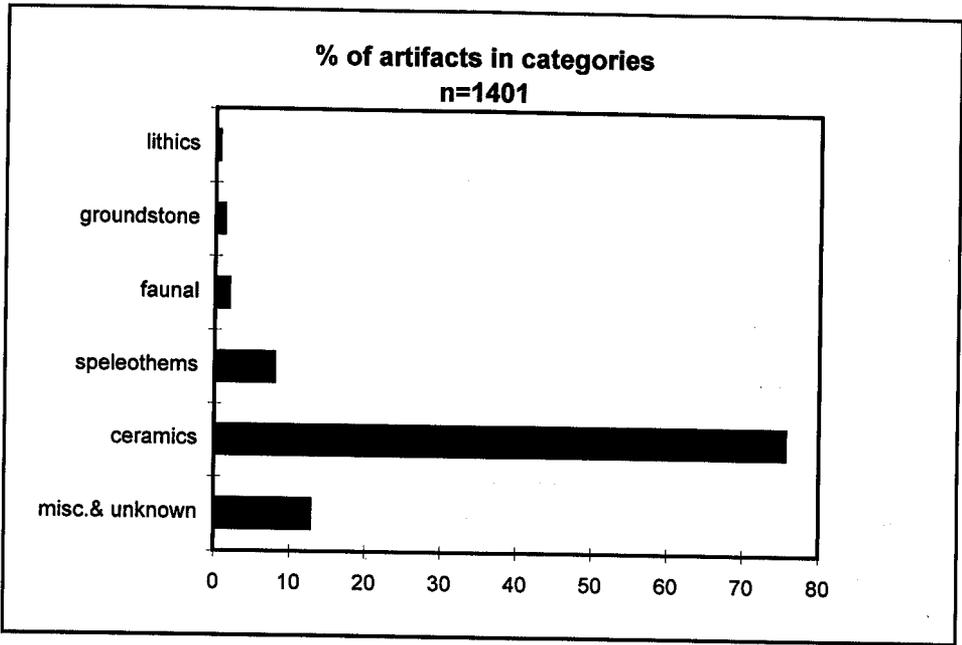
Two further tests were run to examine this issue. Interestingly, both the sum of the areas, and the sum of the perimeters of recorded boulders were considerably less than those of the walls and floors, stalagmites, and areas of breakdown. In the first test (Fig. 5a), the number of artifacts present were divided into the sum of the perimeters of each feature to determine frequency of occurrence.

Boulders still remained in the number one position. The second test based on area (Fig. 5b), produced similar results. (Note that it was impossible to obtain a surface area for walls and walkways as they were represented by lines.)

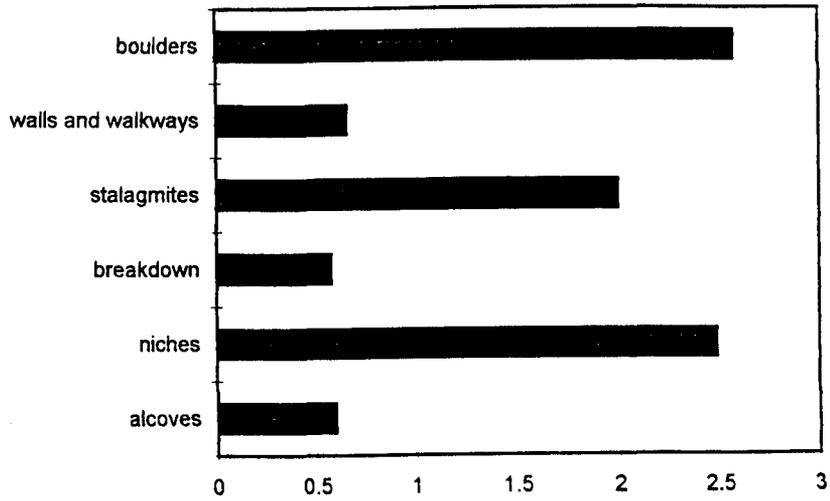
Pattern changes in the final three categories: groundstone, lithic material, and faunal remains, may be due to small sample size, but possibly represent changes in actual artifact distribution patterns.

DISCUSSION

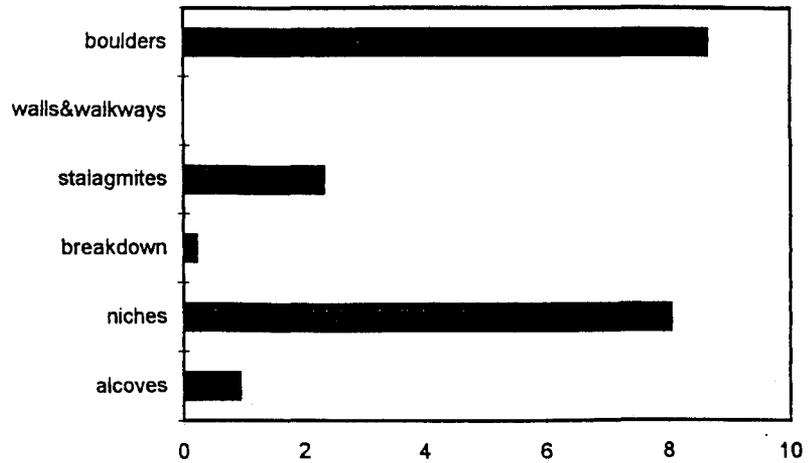
Results of the first phase of testing clearly show that artifacts are indeed distributed in and around specific cave features and that random placement is clearly not the case. Similar results are



frequency index of artifacts based on perimeter
n=1401



frequency index of artifacts based on area
n=1401



reflected at other sites (cf. Brady 1989; Reents-Budet 1980).

The results of the second phase of testing indicate that the preferred choice of artifact placement was on and around boulders. This evidence is also supported by other accounts in cave reports (cf. Brady 1989). What is the reason for this pattern? Is there evidence for practical motivations? Placing offerings beneath boulders or against walls could have provided protection from disturbance, but, many boulders were found in the middle of large chambers and were comparatively small, thus they provide limited, or no, protection for the artifacts. A more likely scenario was that boulders were used as a hard surface on which to ritually break artifacts, which were left at the base. Although this is more intriguing, it is also unlikely since it does not explain why a high percentage of speleothems were left near boulders.

An alternative possibility is a cosmological/religious motivation. Although boulders are not often regarded as part of the Maya cosmological model, there is evidence that suggests they were significant in ritual behavior and since objects are placed both on and around them, they may be functioning as altars. At Naj Tunich, artifacts were often found beneath rocks, and in one instance, drawings were placed on the face of a boulder group (Brady 1989:31). It is one of the few instances in the cave that artifacts were located in the same area as drawings.

Maya altars are often associated with stone. Schele, Friedel and Parker have drawn a parallel between perishable table altars used by modern *h-men* and ancient stone table altars. Their understanding is that all altars represent the Maya cosmic center or axis mundi (Freidel et al. 1993).

Bassie-Sweet points out that in the Dresden codex Chac is seated on benches, and that in the cave setting, modified ledges or flat stones are often called the bench of the deity. She recounts that stones are placed in the base of effigy vases used to burn copal. The stone provides a bench on which the god sits to receive an offering. (Bassie-Sweet 1996:93-95).

In a modern ceremony witnessed at Balankanche, offerings were left on top of rocks in the "Water Chamber". It was on this same group of rocks that Andrews found the most extensive group of offerings in the cave (Andrews 1970:11).

In the dramatic cave setting, laden with exotic drip water formations and dazzling crystalline stone, it is no wonder that the unimpressive boulder has been largely ignored. To observe a connection between world trees and stalagmitic columns excites the imagination, but looking at a brown rock does not inspire the same feeling of awe. We must not assume that the ancient Maya were as unimpressed. This point is well illustrated by David Friedel in the book *Maya Cosmos*. While he was excavating at Yaxuna, local villagers became deeply concerned over the removal of some carved stones from the site. Friedel did not understand the nature of the problem and tried to convince them that sometimes artifacts had to be removed for analysis. Ultimately the stones remained and Friedel concluded, "...I now know why the matter loomed so large: such stones are likely *k'an che'*, seats of the supernaturals" (Freidel et al. 1993:179).

In the third phase of testing, artifact classes were examined individually by dissecting out general artifact classes. In this case, some breaks in the overall pattern were observed. A correlation

was found between groundstone and stalagmites and also between faunal remains and niches. In the case of groundstone, at least two cave reports mention groundstone artifacts found in association with stalagmites. At Petroglyph Cave, a metate was found cached on top of a large stalagmite (Reents-Budet: 1980:18), and at Balankanche miniature manos and metates were found beneath a large stalagmitic column (Andrews 1970:11).

Niching of faunal remains is documented as well. At Naj Tunich, bat bones were located in a wall niche along with obsidian blades (Brady 1989:90) and at Petroglyph Cave snake skeletons and shells were found niched in stalagmitic formations (Reents-Budet 1980:19). Although these last observations are intriguing, they are not conclusive due to small sample sizes. A more definitive correlation may be drawn once similar comparative data from other sites can be generated.

Obviously, it is difficult to reach any definitive conclusions based on evidence from a single site. Despite this limitation, we believe that this study has provided a testable model that may be applied to future research, and that it has demonstrated the value of formal computer analysis when examining ideological issues. By coupling computer generated data with iconographic and ethnographic observations, it is possible to generate insight into the nature of ancient Maya cave rituals.

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EXCAVATIONS AND SALVAGE OPERATIONS IN ACTUN TUNICHIL MUKNAL AND ACTUN UAYAZBA KAB, ROARING CREEK VALLEY, BELIZE

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Indiana University**

INTRODUCTION

Archaeological investigations by the Western Belize Regional Cave project (WBRCP) in 1997 focused on Actun Tunichil Muknal and Actun Uayazba Kab (Fig. 1). Mapping, surface collections, salvage operations, and excavations were conducted in each cave. Areas selected for investigation were based on the presence or absence of looting and the likelihood of subsurface components. Several excavation units were placed over looters' pits to take advantage of exposed vertical intrusions, to ascertain the extent of damage to cultural features, and to obtain diagnostic material remains.

Excavations included rectangular units of various dimensions placed around cultural and natural features. Due to the unique nature of cave morphology, units conforming to the dimensions of natural topography, such as travertine pools, were often employed. Stratigraphic control was based on either cultural or natural levels. This paper summarizes the 1997 WBRCP excavations and presents the results of the preliminary analyses of cultural materials.

EXCAVATIONS IN ACTUN TUNICHIL MUKNAL

A total of 5 excavation units, 2 salvage operations, and 2 surface collections were conducted in Actun Tunichil Muknal. Units 1-3, Salvage Operation 1, and the surface collections were carried out in the Upper Entrance Chamber. Salvage Operation 2 took place in the Sinkhole Tunnels and Units 4 and 5 were carried out in the Main Chamber (Fig. 2). To date, the artifacts from Actun Tunichil Muknal have only been examined in a preliminary fashion. Extensive analyses of the artifacts from the cave will be conducted in the future.

Surface Collection 1, Upper Entrance Chamber

The Upper Entrance Chamber is located 35 meters from the main (eastern) entrance of the cave. Rainwater, leaves, and other organic debris wash into the chamber through a small sinkhole at the northern end of the room. The chamber floor is comprised of silty dirt and guano atop breakdown and flowstone. Several rocks and crudely dressed stones were piled in the southern section of the chamber, indicating that the looters may have destroyed a wall that limited or blocked access to the room from the river passage. Other evidence for architecture includes a line of cut stones that served as the retaining wall for a low platform in the eastern section of the chamber. The north end of the room also contains a rectangular limestone rock, with a tabular surface, beneath

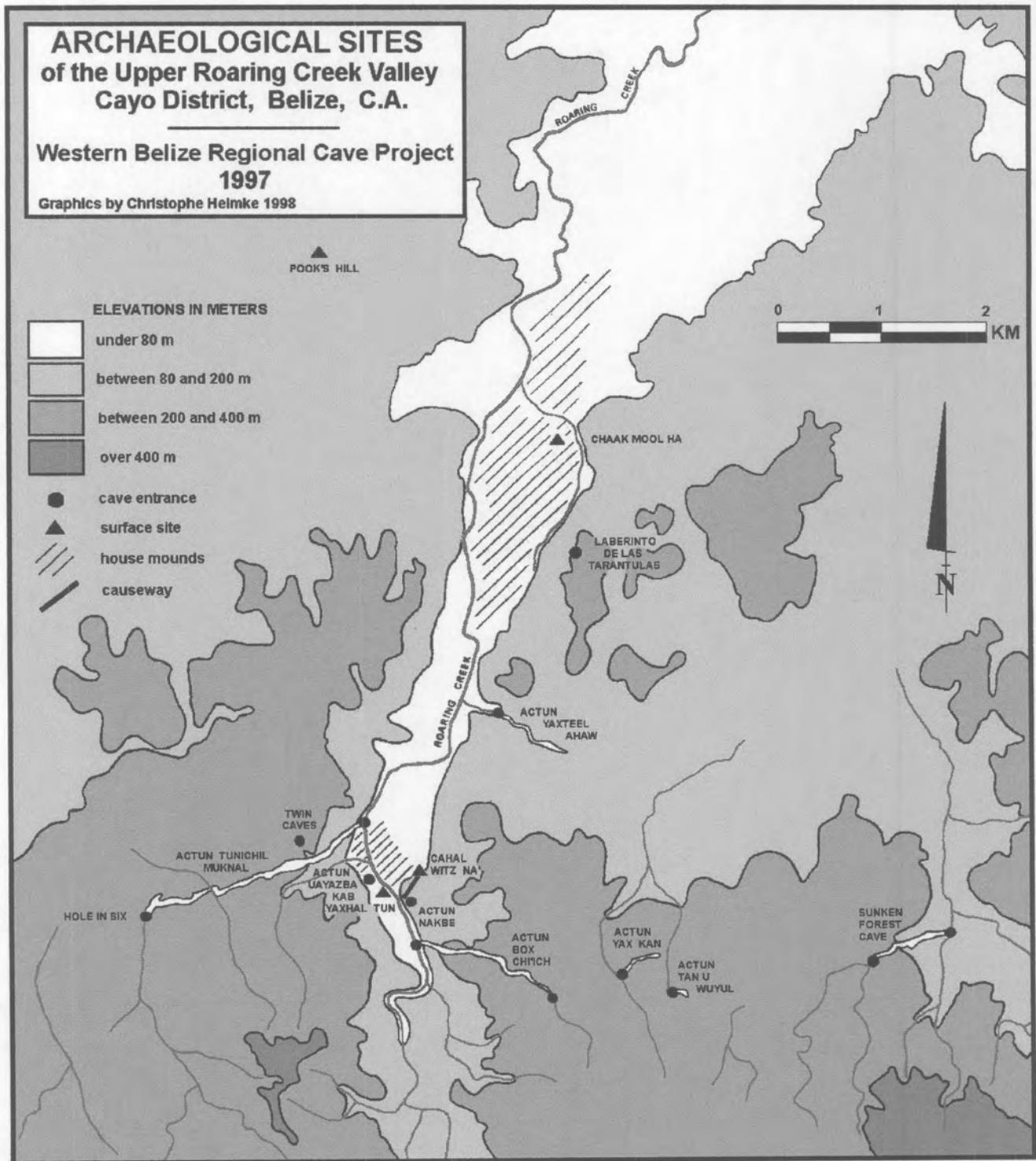
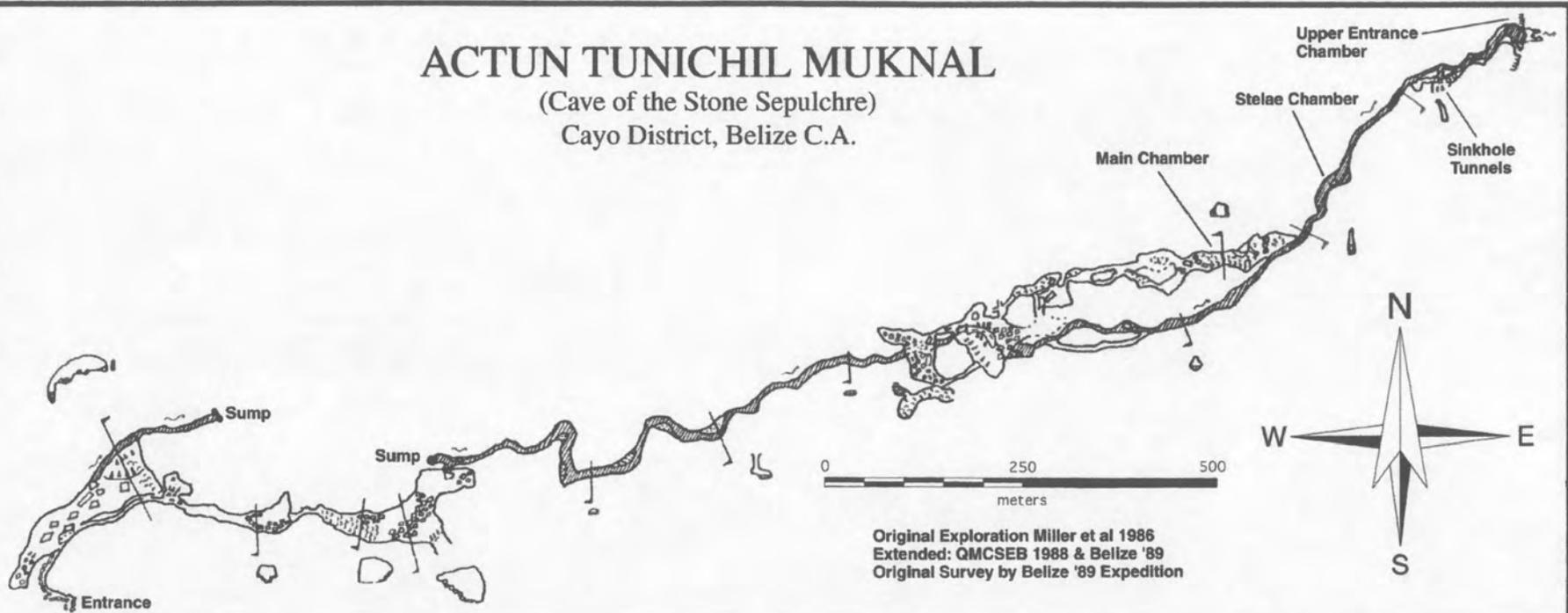


Figure 1. Map of the Roaring Creek Valley showing Actun Tunichil Muknal and Actun Uayazba Kab

ACTUN TUNICHIL MUKNAL

(Cave of the Stone Sepulchre)

Cayo District, Belize C.A.



Original Exploration Miller et al 1986
Extended: QMCSEB 1988 & Belize '89
Original Survey by Belize '89 Expedition

Profile

150 m

100 m

Void

Main Chamber

Entrance

50 m

0 m

Figure 2. Map of Actun Tunichil Muknal showing areas mentioned in the text

jumbled breakdown rocks. Resembling an altar, this stone may have been imported and placed within the cave by the ancient Maya, or it may be a slab of limestone that fragmented off the wall and was later used as an altar stone. The presence of olla neck fragments in association with the tabular stone surface, further suggest the specialized function of this feature.

All areas of the Upper Entrance chamber contained numerous pottery sherds on the surface. Many of the sherds were considered to be out of context due to extensive looting in the chamber. Despite this situation, a sample of the surface artifacts was collected in an effort to identify temporally sensitive artifact types. The surface collections revealed a concentration of jute shells by the east wall of the chamber. A total of 1760 ceramic sherds, 1 slate fragment, 186 animal bones, 187 jute shells (*Pachytilus indiorum*), and seven human bone fragments were recovered. One charcoal sample and one soil sample were also collected. Diagnostic ceramic types include Early Classic Dos Arroyos Orange polychrome and Balanza Black pottery, early Late Classic types such as Saturday Creek Polychrome and Dolphin Head Red, and a large number of Late Classic, Spanish Lookout Complex (see Gifford 1976) types (i.e. Daylight Orange: Darknight Variety, Roaring Creek Red, Garbutt Creek Red, Meditation Black, Tu-Tu Camp Striated, and Cayo Unslipped).

Excavation Unit 1, Upper Entrance Chamber

Unit 1 was placed in the center of the Upper Entrance Chamber (Fig. 3) and bisected the line of cut stones of the retaining wall of the low platform. The unit was oriented with the cut stones rather than with cardinal directions in order to obtain the best profile of the architecture. It measured 1 X 1 m, was excavated by natural and cultural levels and descended to a maximum depth of 1.12 m. The excavation yielded 1178 ceramic sherds, 91 animal bones, 22 pieces of shell, 1 worked fragment of slate. Several samples of carbon, ash, and soil were also recovered.

The sloping surface consisted of hard-packed, silty, brown dirt littered with a mixture of ceramic sherds that date from the Early Classic to the Terminal Classic period. Ceramic types included Dos Arroyos Orange Polychrome (Fig. 4 a), Vaca Falls Red, Roaring Creek Red, Cayo Unslipped, Daylight Orange (Fig. 4 c), Silk Grass Fluted, and other Classic period diagnostic types.

Level 1 was 35 cm deep and consisted of a silty dirt matrix with many root intrusions and pottery fragments. Ceramic types were predominantly represented by Late Classic Spanish Lookout Complex material. An ash lens was encountered in the southwest quadrant, 35 cm below datum. Another lens, which appeared to be a concentration of ash, was located in the northwest quadrant of the unit. Charcoal and soil samples were taken, which included some of the ash matrix. An area devoid of cut stones in the center of the unit may have been the result of looters' activity. Level 1 yielded 752 ceramic sherds, 66 animal bones, 4 jute shell fragments (*Pachytilus glaphyrus*), and 1 small fragment of slate.

Level 2 was comprised of the same silty matrix found in Level 1. Charcoal was dispersed throughout the entire level. In the northwest quadrant what appeared to be a thin plaster floor or possibly a deteriorated travertine or packed ash layer was uncovered (Fig. 5). In view of this feature Level 2 was terminated at a maximum depth of 49 cm below datum. Within the level we recovered 18 animal bones and 231 pot sherds, predominantly from the Late Classic Spanish Lookout complex.

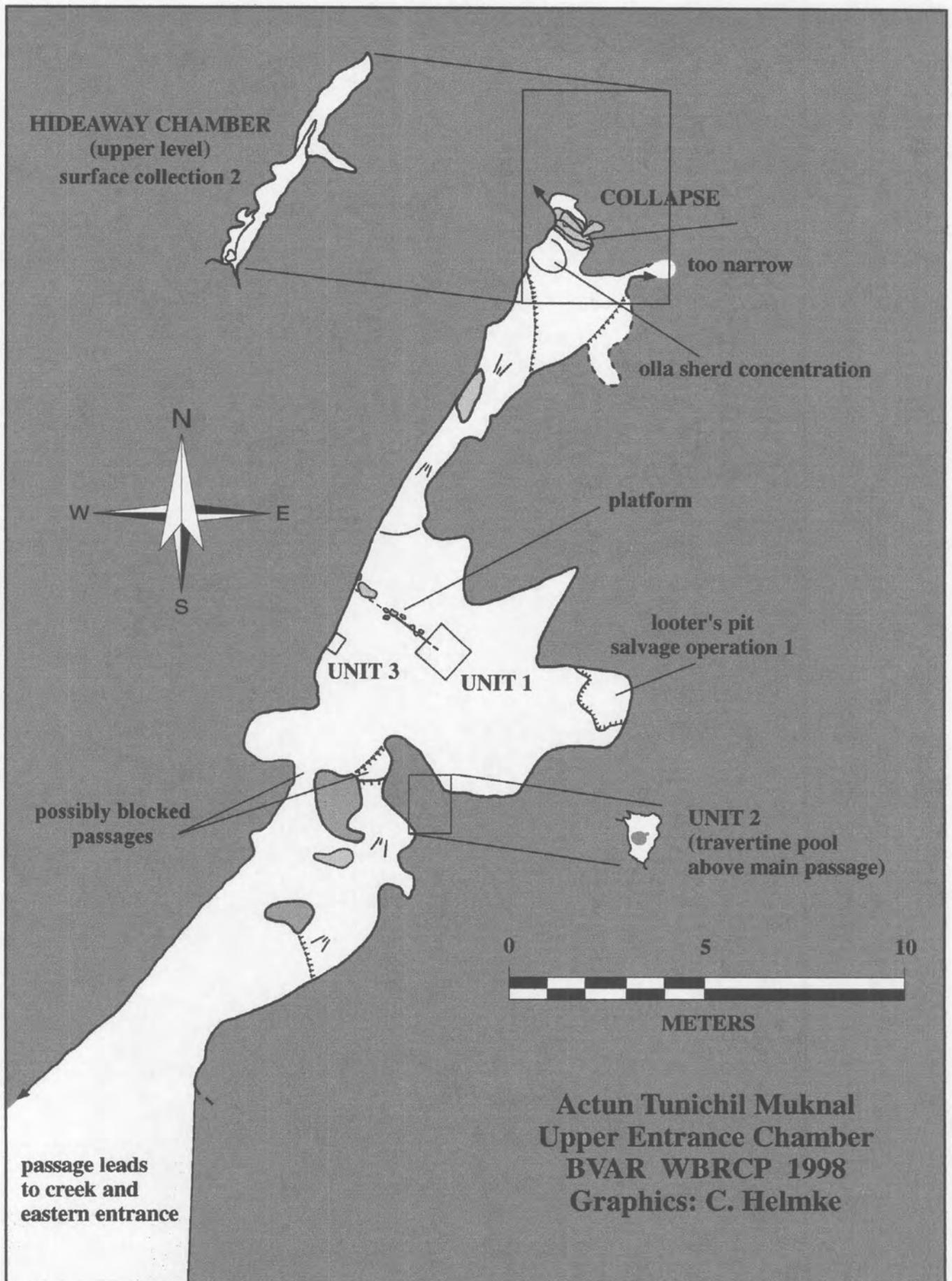


Figure 3. Map of Upper Entrance Chamber, Actun Tunichil Muknal

**Actun Tunichil Muknal
Sample of Decorated Wares**

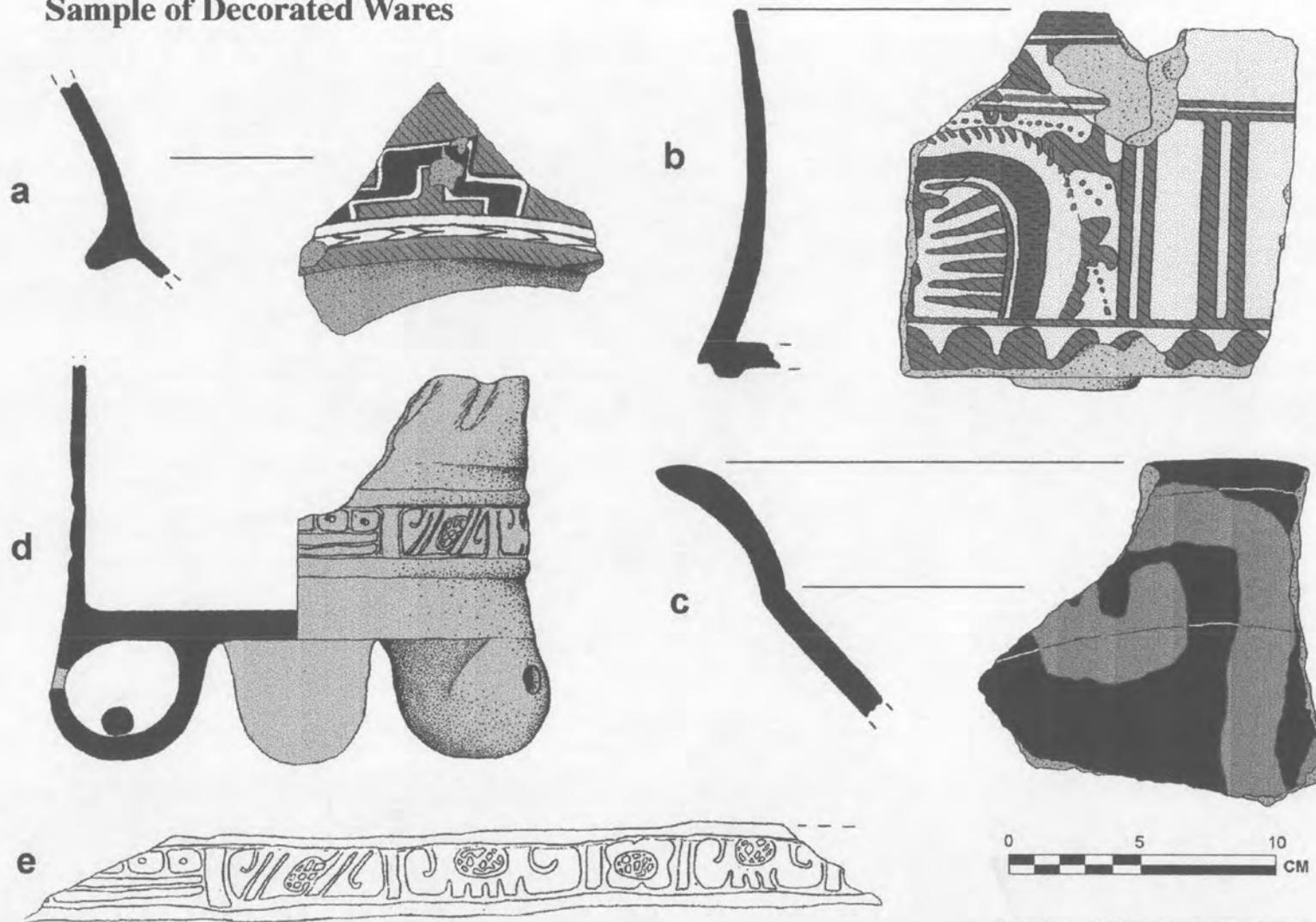


Figure 4. Actun Tunichil Muknal decorated wares. a) Dos Arroyos Orange Polychrome, b) Cabrito Cream Polychrome, c) Daylight Orange, d) Martin's Incised, e) detail of incised band from Martin's Incised vessel.

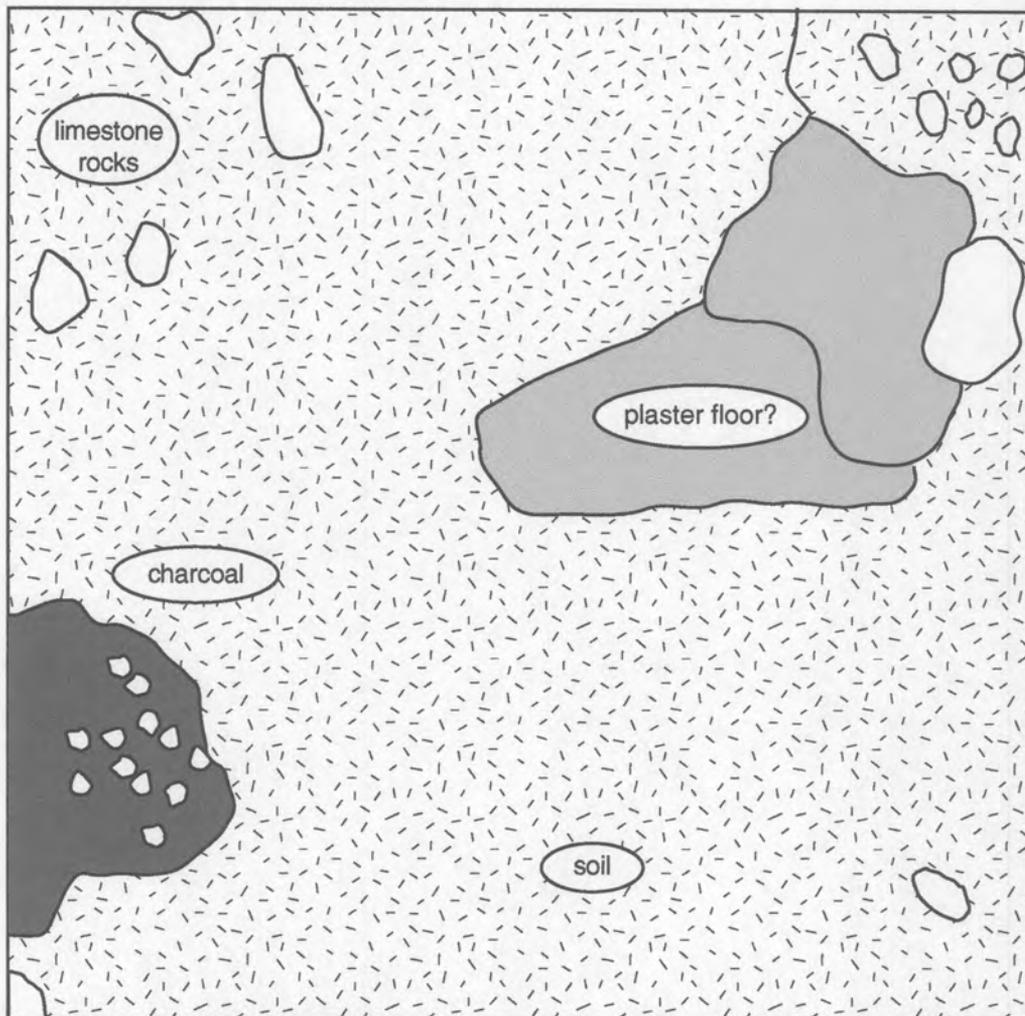
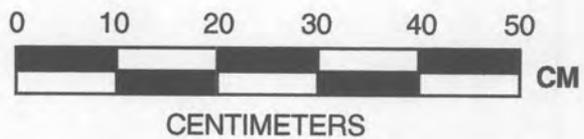


Figure 5. Plan of Actun Tunichil Muknal Unit 1, Level 2, Upper Entrance Chamber

Among the ceramics were Dolphin Head Red, Roaring Creek Red, Garbutt Creek Red, Daylight Orange, Tinaja Red, Silk Grass Fluted, Cayo Unslipped, and Alexanders Unslipped.

Level 3 was 12 cm thick and consisted of dark brown silty soil with charcoal, ash, and small gravel inclusions. The possible plaster or travertine surface originating in the northeast quadrant sloped down to the southwest in an irregular fashion, which lends credence to the travertine definition. A sample of this material was taken for future analysis. A total of 105 ceramic sherds and 1 animal mandible were recovered. Sherds were a mixture of Tiger Run and Spanish Lookout Complex types. Level 3 terminated at a maximum depth of 61 cm below datum.

Level 4 contained a matrix of hard packed brown soil with root and charcoal inclusions. In the southeast quadrant, from 64 to 77 cm below datum, small gravel inclusions and sherds with a 1 mm thick charcoal residue were encountered. Seventy ceramic sherds were recovered from this level, as well as 1 crab claw and a charcoal sample. Ceramics included a majority of Tiger Run and some Spanish Lookout types. The level was terminated at 77 cm below datum.

Level 5 was characterized by a matrix of light-brown dirt with charcoal and limestone cobble inclusions. Twenty potsherds, a charcoal sample and 5 animal bone fragments were recovered. Ceramics were predominantly from the Hermitage Complex. The level was terminated when bedrock was reached, in all quadrants, at a maximum depth of 112 cm below datum.

In summary, Unit 1 revealed extensive evidence of burning and ceramic deposits dating from the Early Classic to Terminal Classic phases. It is possible that looter activity disturbed the cut stone wall in the center of the unit, making the definition of the architecture problematic. The profile of the northwest baulk exhibited lenses extending away from the line of cut stones that may be the remnants of platform surfaces that lipped up to the row of cut stones (Fig. 6). The periodic flow of water and debris from the sinkhole above likely contributed to the poor preservation of these features.

Excavation Unit 2, Upper Entrance Chamber

Unit 2 was placed within a dry travertine pool, located 3 meters above the passage leading to the Upper Entrance Chamber, which contained several olla sherds, charcoal, wood fragments, and two small stones on the surface. The unit measured 50 cm in diameter, conforming to the dimensions of the pool, and descended to a maximum depth of 14 cm. Unit 2 was excavated in two levels defined by natural features.

Level 1 was excavated to a depth of 9 cm. The matrix consisted of guano which contained burned wood, charcoal, 17 ceramic sherds from the Late Classic Spanish Lookout complex, and two fist-sized limestone rocks. Level 2 consisted of a reddish brown, hard packed, dirt with small white pebble inclusions. This level descended 5 cm and yielded no cultural materials. The unit terminated at 14 cm below surface.

In summary, excavations in Unit 2 (Fig.7) recovered fragments of charred wood as well as pottery dating to the Late Classic period. The location of the travertine pool high above any other cultural feature indicates that the material within was deliberately placed in this context rather than

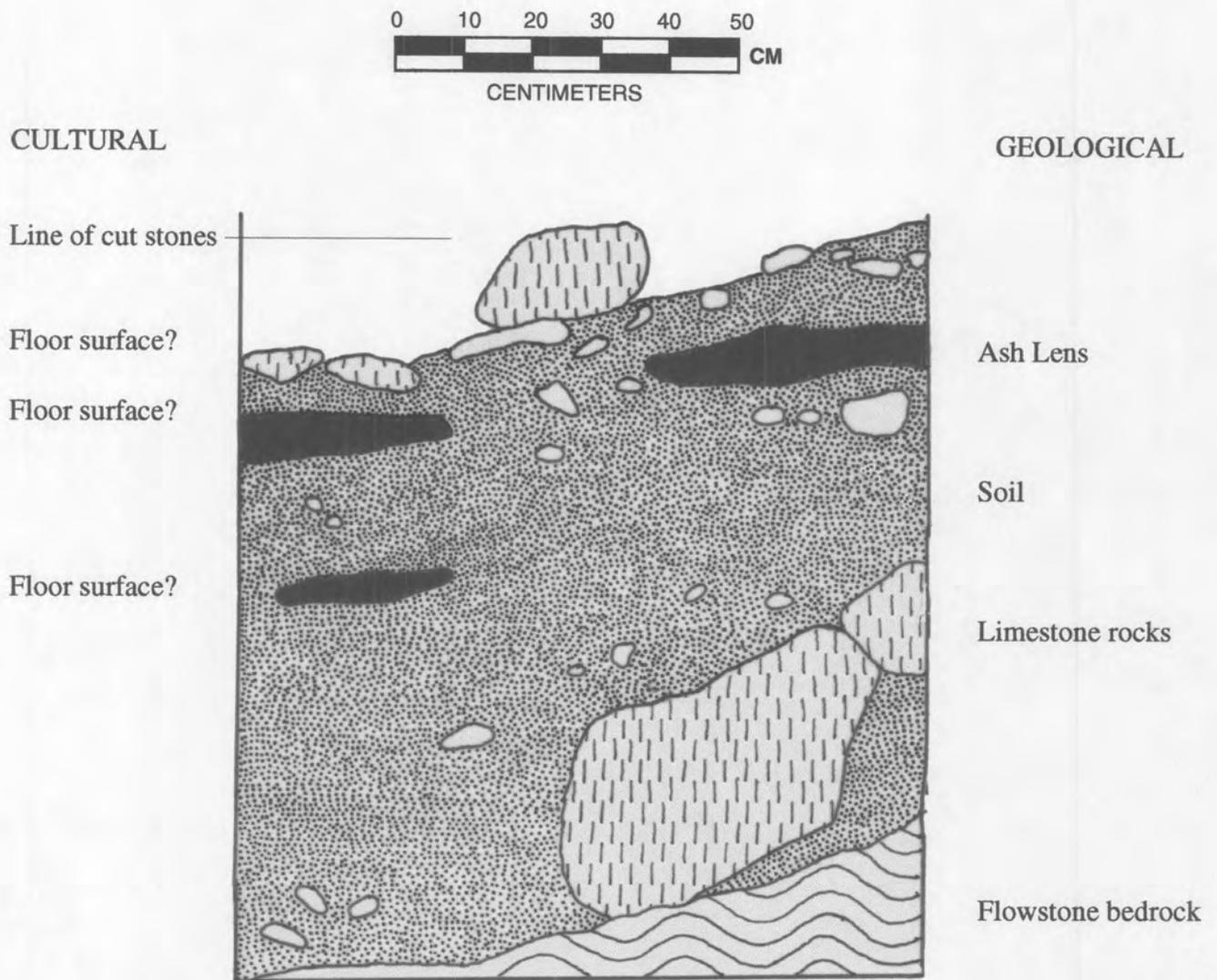


Figure 6. Profile of Northwest Balk, Unit 1, Upper Entrance Chamber

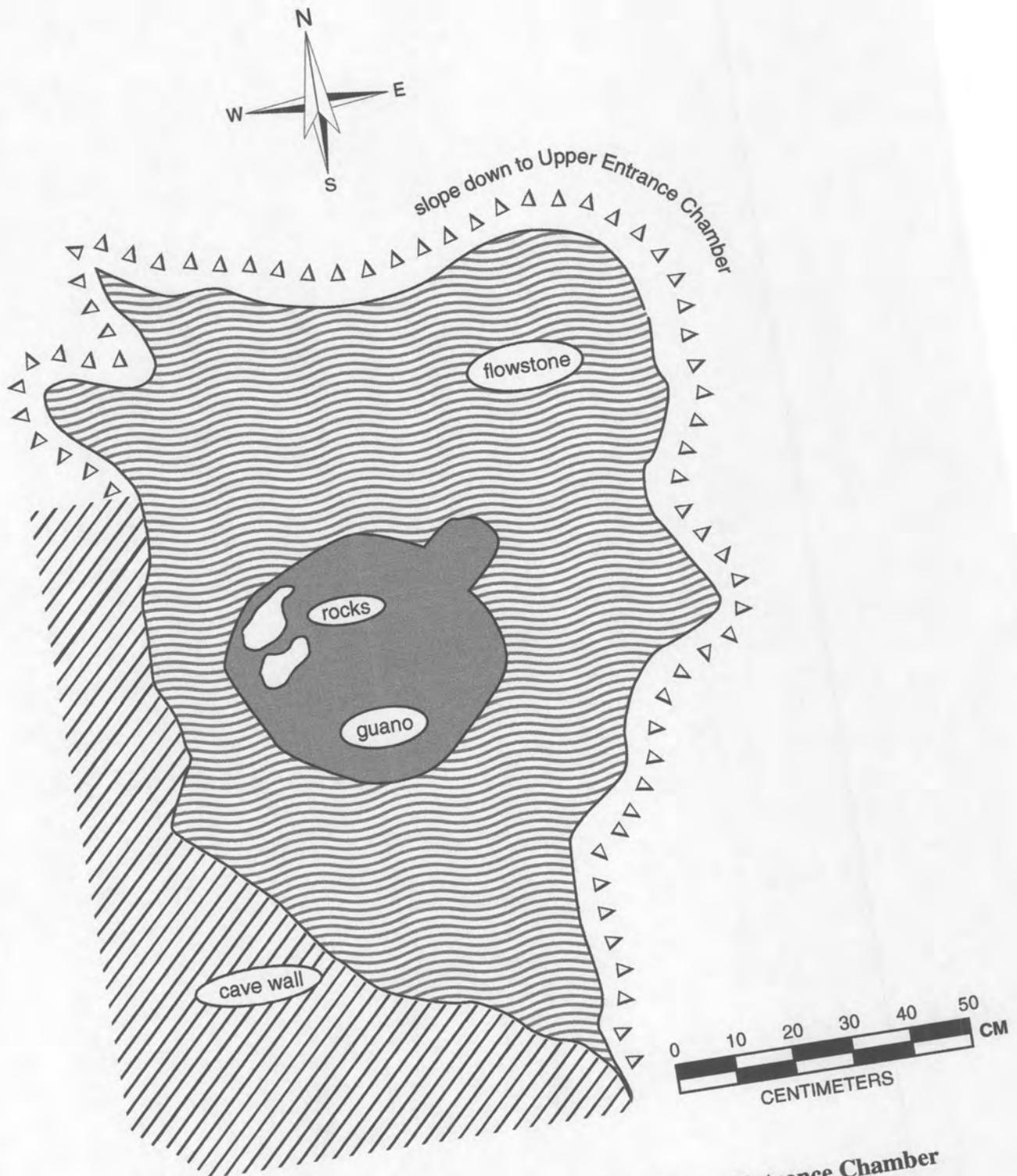


Figure 7. Plan view of Unit 2, Actun Tunichil Muknal, Upper Entrance Chamber

having washed in from another location (see Moyes & Awe, this volume, for more on hydrological disturbance of artifacts in caves).

Excavation Unit 3, Upper Entrance Chamber

Unit 3 was initiated after surface collections revealed a concentration of jute shells (*Pachychilus indiorum*) near the west wall of the chamber. The unit measured .50 X .50 m. and was placed directly over the area containing the shells. A total of 129 ceramic sherds, 224 animal bones, and 457 jute shells were recovered from 3 culturally and naturally defined levels. Soil and charcoal samples were also collected. The unit was excavated to a maximum depth of 32 cm, where bedrock was reached.

The surface was composed of fine, loosely packed, brown dirt containing 184 jute shells and 175 animal bones. Level 1 consisted of the same matrix encountered on the surface and also contained a large number of jute shells. The particular concentration of shells in the southeast quadrant of the unit suggests that the jute, and possibly the animal bones, had been cached in this location. Below the jute there were a number of potsherds that appeared to be lying flat. In total, 90 ceramic sherds, all from the Spanish Lookout complex, 19 animal bones, several pieces of charcoal, and 187 jute shells were recovered from the level. The majority of the jute shells were missing their tips, and ranged in size from 2 to 6 cm long. The average length for the jute shells was approximately 4cm. Level 1 was terminated 12 cm below surface where there was a dramatic reduction in the number of jute shells in the southeast corner of the unit.

The matrix in Level 2 changed to a loose, light gray, silty dirt. The matrix in the northwest quadrant of the unit was looser than in the rest of the unit, and it was from this area that the majority of the artifacts in this level were recovered. Cultural remains consisted of 26 animal bones, 85 jute shells and 27 pot sherds (including one small ceramic rattle ball). The pottery was predominantly Spanish Lookout Complex types. A grey ash layer with charcoal inclusions was also found under a concentration of limestone rocks at 27 cm below surface. The level was closed where this change in matrix occurred.

Excavations continued in Level 3 through a light-brown silty dirt with ash and charcoal dispersed throughout. Eleven ceramic sherds, all from the Spanish Lookout complex, 4 animal bones, charcoal and soil samples, and 1 jute shell were recovered from the level. Bedrock was reached at a maximum depth of 32 cm below datum.

In summary, Unit 3 revealed what appeared to be a cache containing numerous jute shells, animal bones and pottery. The associated charcoal fragments with the cache represents evidence of burning. The state of the jute shells, with the tips removed, indicates that the snails may have been consumed either prior to or during the ritual caching event. It is unclear why the cache was placed in this area of the Upper Entrance Chamber. It is also conceivable that the unit merely caught a portion of a larger cache, possibly associated with the line of cut stones, to the northeast of Unit 3. Research in other caves has indicated that caches comprised of jute shells were ritually significant to the ancient Maya (Reents 1980:19).

Salvage Operation 1, Upper Entrance Chamber

During exploration of the Upper Entrance Chamber we noted that the eastern section of the chamber contained a large looters' pit, measuring approximately 1.5 m N-S and 1.25 m E-W (Fig. 3). The looters had placed their backdirt and numerous potsherds to the southwest of the pit. The discovery of these artifacts plus fragments of human remains in the looter's backdirt prompted Salvage Operation 1. The operation consisted of screening all of the dirt and treating all cultural material recovered as one assemblage. Screening yielded 120 ceramic sherds, 87 animal bones, and 20 human bone fragments. One carbon sample was taken for future analysis. The backdirt was a light brown matrix that distinctly contrasted with the fresh dark guano presently covering the cave surface. Screening operations were terminated when the dark guano surface was reached.

Surface Collection 2, Hideaway Chamber, Upper Entrance Chamber

While excavations were in progress a small opening was located 11 m above the floor of the northern section of the Upper Entrance Chamber. The 1 m high entrance hole leads to a narrow room, 6.3 m long and ranging from 35 to 70 cm wide, that we designated the Hideaway Chamber (Fig. 8). Organic material, roots, mud, and limestone pebbles washed through the entire room via the northern end. These deposits partially concealed several ceramic vessels, including 1 complete olla with a kill hole (Fig. 9e), 5 large dish fragments (Fig. 9f-j), 4 bowls (Fig. 9a-d), the ring base of a dish, 2 speleothems, and numerous large olla body sherds. Along the west wall of the chamber, a small polychrome sherd lay in a small rimstone pool 25 cm wide and 40 cm long. The polychrome sherd (Cabrito Cream-polychrome; Fig. 4b), which has a solid slab foot, lay amongst numerous animal bones within the travertine pool. The walls of the chamber constrict 2 meters from the opening. Three large olla body sherds lay in this constricted area. Just beyond this point were 3 speleothem fragments ranging from 32 cm to 22 cm in length. Below the speleothems several potsherds (fragments of plates, bowls, and ollas) were present.

After the Hideaway Chamber was mapped, photographed, and surface collections completed, the remaining contents (soil and animal remains) of the small rimstone pool were collected as a matrix sample. Diagnostic types recovered in the room included Garbutt Creek Red, Roaring Creek Red, and Cayo Unslipped, all dating to the Late Classic Spanish Lookout complex.

In summary, the surface collections in the Hideaway Chamber revealed that all materials documented date to the Late Classic period. Due to the absence of dripstone formations in the passage, it is likely that the speleothem fragments were imported to this area of the cave and cached. This practice has been documented by other cave researchers in the Peten and Belize (Brady et al. 1997).

Salvage Operation 2, Sinkhole Tunnels

At the end of the field season several small tunnels near the Sinkhole entrance were explored. This investigation led to the discovery of a large fragment of a ceramic vessel. The vessel appears to be a local variety of Martins Incised, and was found sitting loosely in a sandy area with small river cobbles (Fig. 4 d). A band of incised designs or "pseudo-glyphs" encircled the vessel near the base

**ACTUN TUNICHIL MUKNAL
Plan of the Hideaway Chamber**

Western Belize Regional Cave Project 1998

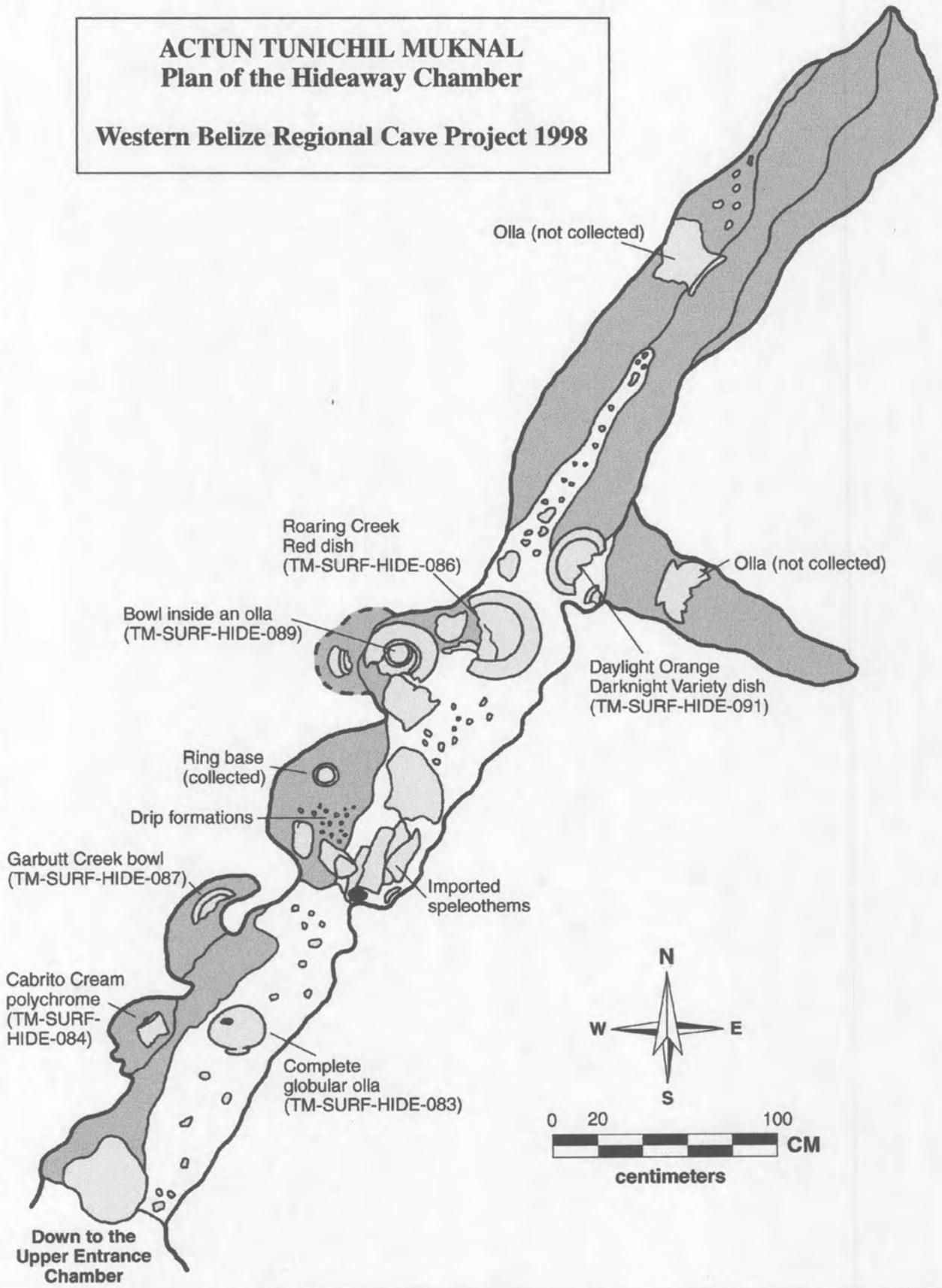
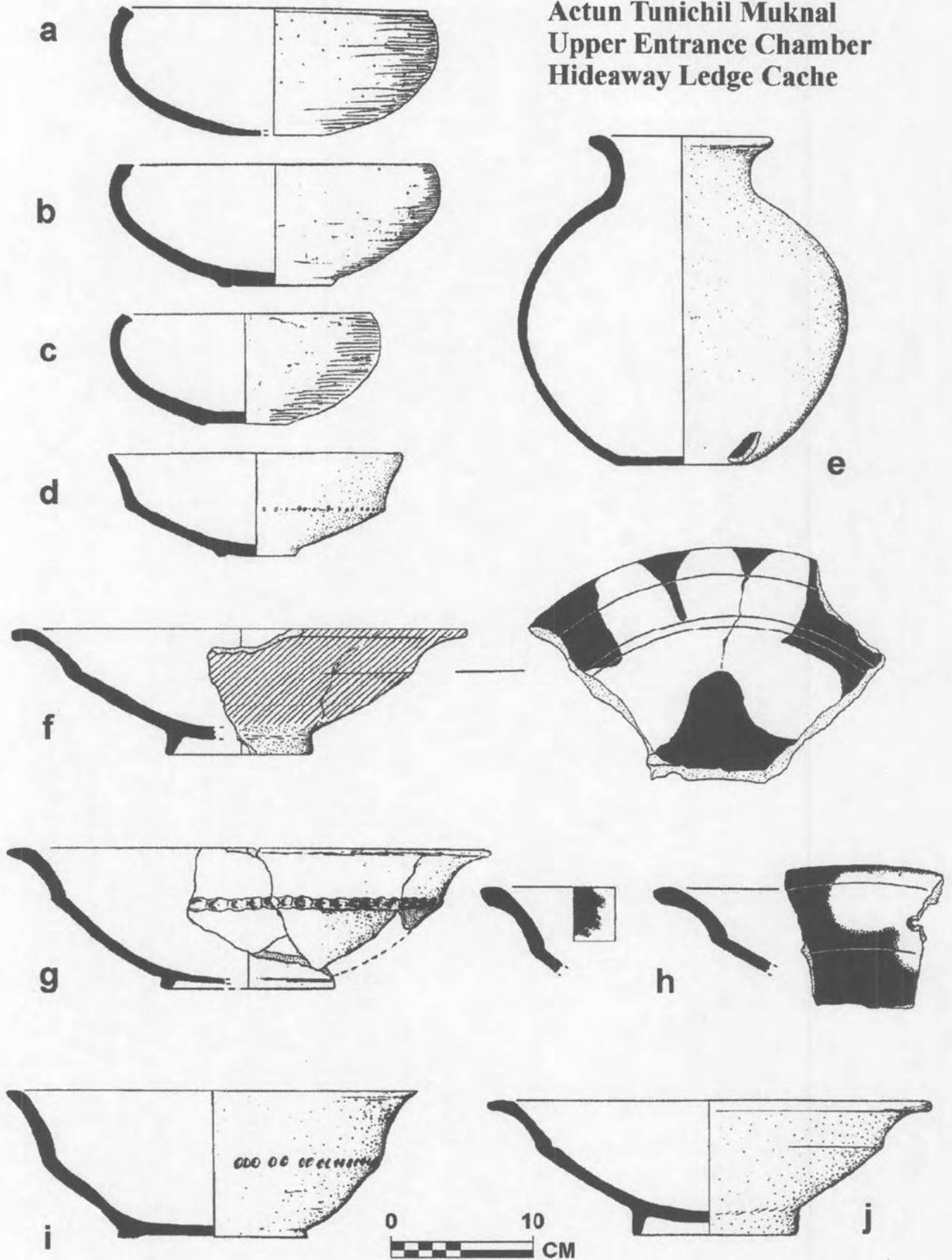


Figure 8. Actun Tunichil Muknal, Hideaway Chamber

Actun Tunichil Muknal
 Upper Entrance Chamber
 Hideaway Ledge Cache



Drawings: Christophe Helmke.

Figure 9. Actun Tunichil Muknal, Hideaway Chamber, diagnostic ceramics. a-c) Garbutt Creek Red. d, g, i-j) Roaring Creek Red. f,h) Daylight Orange

(Fig. 4 e). As the season was drawing to a close and the vessel was in full view it was removed in order to protect it from looters. Extensive reconnaissance, mapping, and excavation are planned for the Sinkhole Tunnels during the next field season.

Excavation Unit 4, Main Chamber

Located in the Main Chamber (Fig. 10), Unit 4 encompassed two speleothem fragments lying adjacent to an outcrop of brecciated limestone (Fig. 11). The area between the speleothems and the rock outcrop is charred and contains a concentration of charcoal fragments, some as large as 1 cm in diameter, surrounded by a compact greyish-white substance that is very likely moist ash. The rest of the brecciated limestone outcrop is covered with a layer of brown sand.

The unit measured 1 X 1 m and descended to a maximum depth of 9 cm below surface. The charcoal and ash concentration in the center of the unit measured 30 X 40 cm. A total of 6 ceramic sherds, 1 quartzite fragment, and 1 small shell fragment were recovered. Three of the sherds lay on the surface, and 3 were mixed in with the charcoal. The two speleothems measured 29 cm and 7 cm in length, respectively. One soil sample and one carbon sample were taken from the unit. Unit 4 was excavated in only one level.

Level 1 was excavated in a manner that would result with "minimal visual impact". Care was taken during excavations so that the area would appear undisturbed upon the completion of the unit. The sandy area of the east wall was excavated until sterile depths were reached. This sand matrix was screened separately on a tarp and then replaced. The charcoal and ash concentration was halved to preserve its integrity and so as not to disturb the associated speleothems. The carbon and ash concentration was excavated separately from the sand beneath and samples were taken. The pottery sherds on the surface were mapped and also returned to their initial locations. Excavation proceeded to a depth of 9 cm, at which point sterile matrix was reached. The ceramics (all body sherds) dated to the Late Classic Spanish Lookout complex.

In summary, the excavations in Unit 4 revealed that the speleothems had been placed adjacent to the rock outcrop possibly to serve as a hearth. Given the small quantity of charcoal and ash in the upper matrix it is likely that the hearth may have been used for a single burning episode. Associated artifacts included small potsherds, a quartzite fragment, and one olivella shell fragment. After backfilling, the area exhibited no traces of the archaeological excavation.

Excavation Unit 5, Main Chamber

Unit 5 (Fig. 12) was located on a slope against the southern wall of the Main Chamber (Fig. 10). This area was dubbed the "Metate Slope" by project members due to the presence of one turtle-back granite metate fragment and fragments of a basalt tripod metate. During the initial reconnaissance of the cave 3 rodent teeth and one drilled oyster shell pendant were recovered from the Metate Slope. Unit 5 was initiated to ascertain the nature of subsurface deposits. The placement of the unit in roughly the center of the Metate Slope was determined by the discovery of a shell bead and a blue-green sherd just prior to the establishment of the unit. Unit 5 encompassed both of these items. The unit measured .50 X 1 m and descended to a maximum depth of 5.5 cm. A total of 50

**Actun Tunichil Muknal
Roaring Creek Valley, Belize
Detail of the Burial Chamber
Location of Units 4 & 5 Indicated
WBRCP 1998**

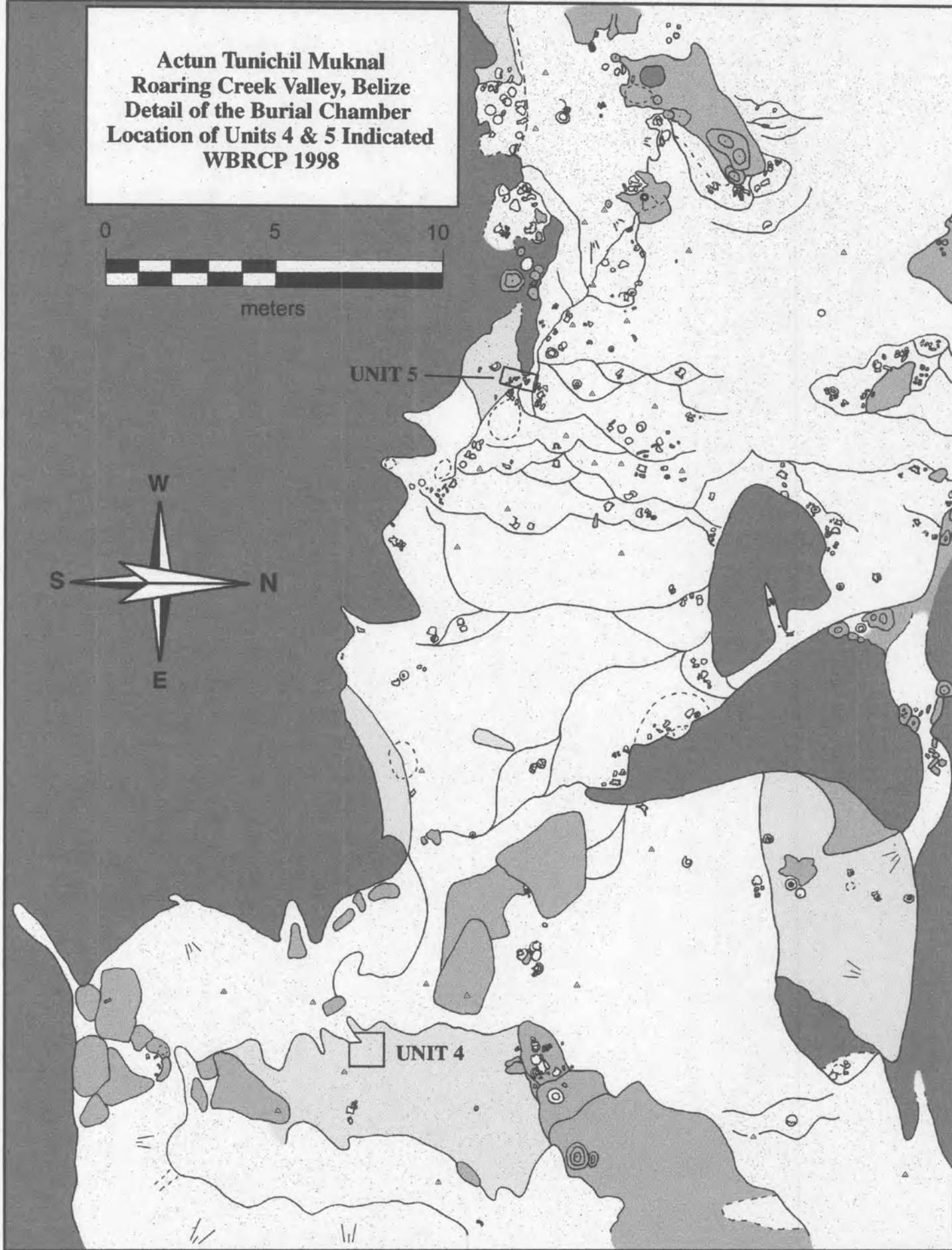
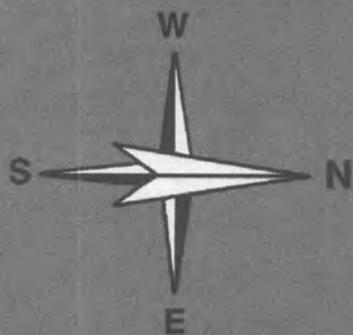
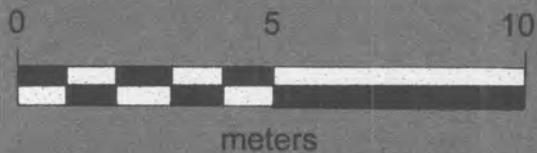


Figure 10. Main Chamber, Actun Tunichil Muknal, Units 4 & 5 shown

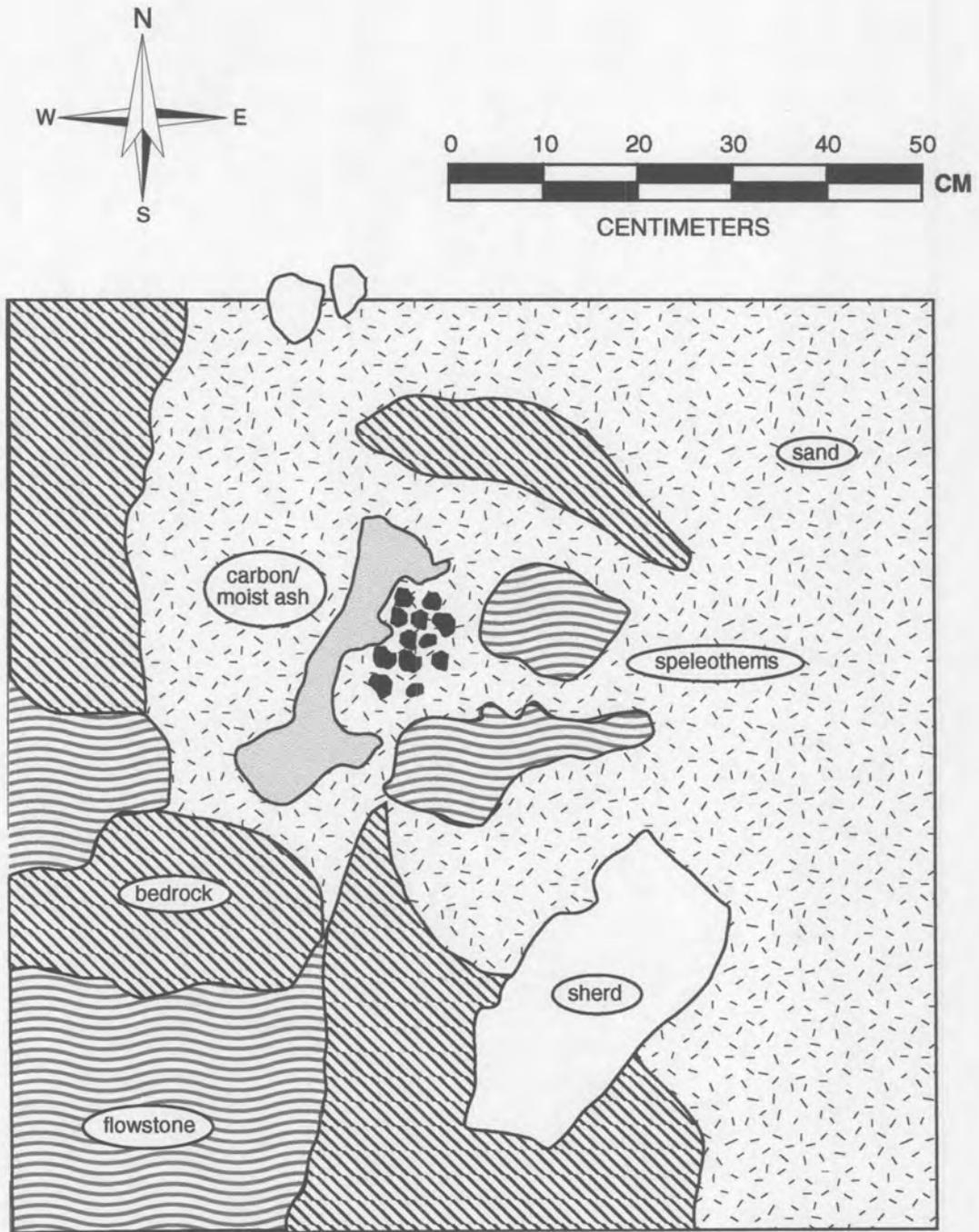


Figure 11. Unit 4, Main Chamber, Pre-excitation plan view

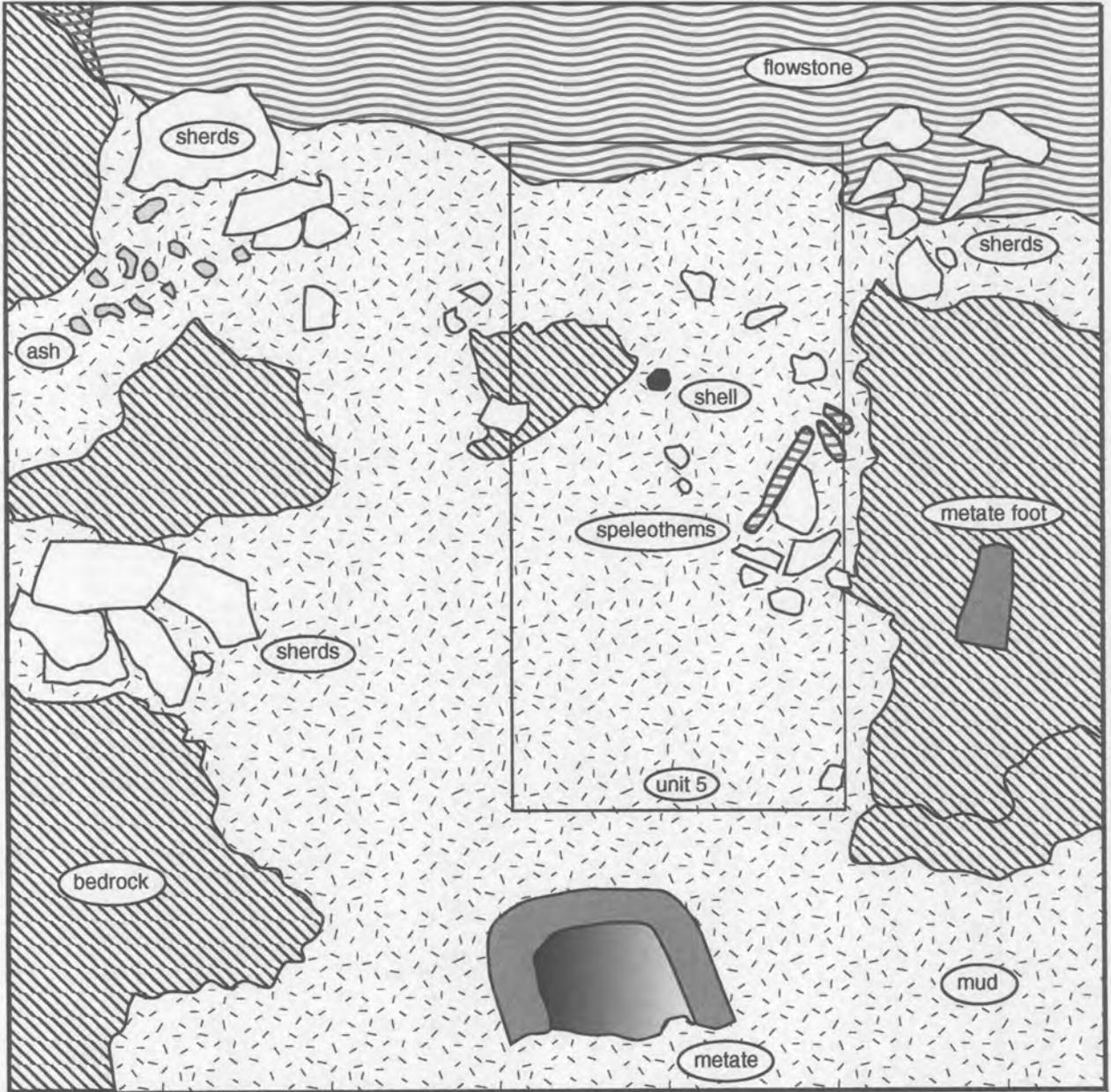
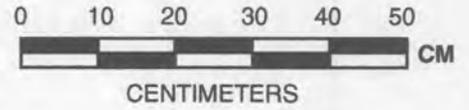
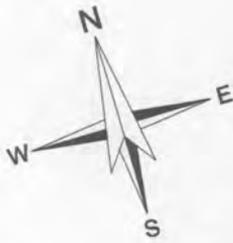


Figure 12. Unit 5, Main Chamber, Metate Slope, pre-excavation plan view

ceramic sherds, most dating to the Late Classic Spanish Lookout phase, one modified shell, several pieces of charcoal, and several small speleothem fragments were recovered. One blue-green sherd was located on the surface and has been identified as Terminal Classic, Tohil Plumbate, from Highland Guatemala (Joseph Ball, personal communication 1998). One carbon sample was taken, and 3 carbonized seeds were bagged separately. Unit 5 was excavated in one level which was terminated upon reaching flowstone.

The matrix of Unit 5 consisted of moist brown mud and charcoal, ceramic sherds, speleothem fragments including soda straws, and speleothem shatter. Similar to the excavations in Unit 4, Unit 5 was excavated with extreme care in order to minimize the visual impact of the excavation. All surface materials were meticulously removed and placed aside so that they could be returned to their original locations. The mud matrix was screened, yielding few subsurface artifacts. Fifty ceramic sherds were recorded, all dating to the Spanish Lookout complex. Excavation proceeded to the point where solid white flowstone was encountered throughout the entire unit. Excavation of this unit terminated at this point.

In summary, Unit 5 revealed that the material on the surface slope represents the only material deposited in this area. One item that must be noted about this unit is the presence of small speleothems. On the surface there were 15-20 fragmented soda straws and small stalactite fragments. The orientation of the metate slope and the lack of any drip water formations above the slope indicates that the speleothem fragments were imported from another area, perhaps smashed along with the pottery during ritual activity. After backfilling, no traces of the excavation are evident.

SUMMARY, ACTUN TUNICHIL MUKNAL

The 1997 archaeological investigations in Actun Tunichil Muknal indicate that the ancient Maya used the Upper Entrance Chamber of the cave from the Early Classic to the Terminal Classic periods. Activities in the Upper Entrance Chamber included the construction of a low platform, the interment of human remains, the importation of speleothems, plus the caching of pottery vessels, other artifacts and jute. The latter may, or may not, have been consumed in conjunction with ritual events, and most ceramic vessels may have been ritually terminated following these events. Charcoal in the chamber may be the residues of torches, or associated with the cooking or burning of other organic materials.

The cursory examination of the Sinkhole Tunnels indicates that it was in use during the Early to Late Classic period, but further investigations are necessary to ascertain the true temporal range of utilization of this area.

The Main Chamber deep in the dark zone of the cave exhibits ceramic material that dates no earlier than the Late Classic period (see Moyes and Awe this volume). Activities in the Main Chamber included the caching and burning of speleothems, human sacrifice (see Gibbs, this volume), and the termination and caching of pottery vessels, pyrite, musical instruments (see Moyes and Awe this volume), chipped and ground stone artifacts, plus animal remains. The apparent temporal differences in the use of the cave entrances versus the dark zone deep inside may be related to changes in the perception of cave rituals over time.

EXCAVATIONS IN ACTUN UAYAZBA KAB

A total of 6 excavation units, 1 surface collection and 1 salvage operation were carried out in Actun Uayazba Kab during the 1997 season (Fig. 13). The surface collection was conducted in Entrance I, the Burial Alcove, Entrance II, and the "Histo Chamber". Units 1 and 2 were excavated in the Burial Alcove and Unit 3 was placed in Entrance I. Unit 4 was located in Entrance II and Units 5 and 6 were located on the Upper Ledge. The salvage operation was carried out in the "Histo" Chamber. Although the pottery from Uayazba Kab have only been examined in a cursory manner, it is apparent that the ceramics span from the Terminal Preclassic to the Late Classic periods.

Surface Collections

All areas of Actun Uayazba Kab contained numerous pottery sherds on the surface. A collection of all surface artifacts was undertaken in an attempt to gather a diagnostic assemblage and clear the area for excavation and mapping. The surface collections are separated below into 3 sections: Entrance I, Entrance II, and the Histo Chamber.

Surface collections in Entrance I yielded a total of 1675 ceramic sherds, 27 lithic fragments, 141 jute shells (*Pachyichilus glaphyrus*), 505 animal bone fragments, and 111 fragments of human bone (see Gibbs, this volume). Two modified slate artifacts, 2 obsidian blade fragments, 1 metate fragment, and one mano fragment were also recovered.

Entrance II yielded a surface total of 403 ceramic sherds, 2 pieces of lithic material, hundreds of animal bones, and several jute shells. Other items that were recovered included 1 obsidian blade fragment, 1 foot from a tripod metate, and 1 conch shell.

The Histo Chamber surface collections recovered 369 ceramic sherds, 17 human bone fragments (ibid), 1 mano fragment, and 1 piece of modified slate. Also recovered were a number of animal, lithic, and shell fragments that have yet to be tabulated.

In summary, the surface collections in Actun Uayazba Kab yielded numerous cultural material. Pottery types include Sierra Red and Aguacate Orange (Late Preclassic), Dos Arroyos Orange Polychrome and Fowlers Creek Orange-red (Early Classic), Garbutt Creek Red, Roaring Creek Red, and Cayo Unslipped, all dating to the Late Classic Period.

Salvage Operation 1, Histo Chamber

The "Histo" Chamber is a small dark chamber to the south of Entrance II and is home to numerous bats. The floor is a mixture of silty dirt and black guano. In 1996 and 1997 we noted evidence of extensive looting in a dry gour pool in the chamber. Within the looter's backdirt there were many potsherds and fragments of human bone. Salvage Operation 1 was conducted in an effort to ascertain the extent of the damage caused by looting, and to recover data for determining the temporal use of the chamber. The operation consisted of screening all of the looter's backdirt as one assemblage. This effort yielded 62 human bone fragments, a small carbon sample, 3 obsidian blade fragments, 1 drilled slate artifact, 1 perforated animal tooth, 886 ceramic sherds, and over 100 animal

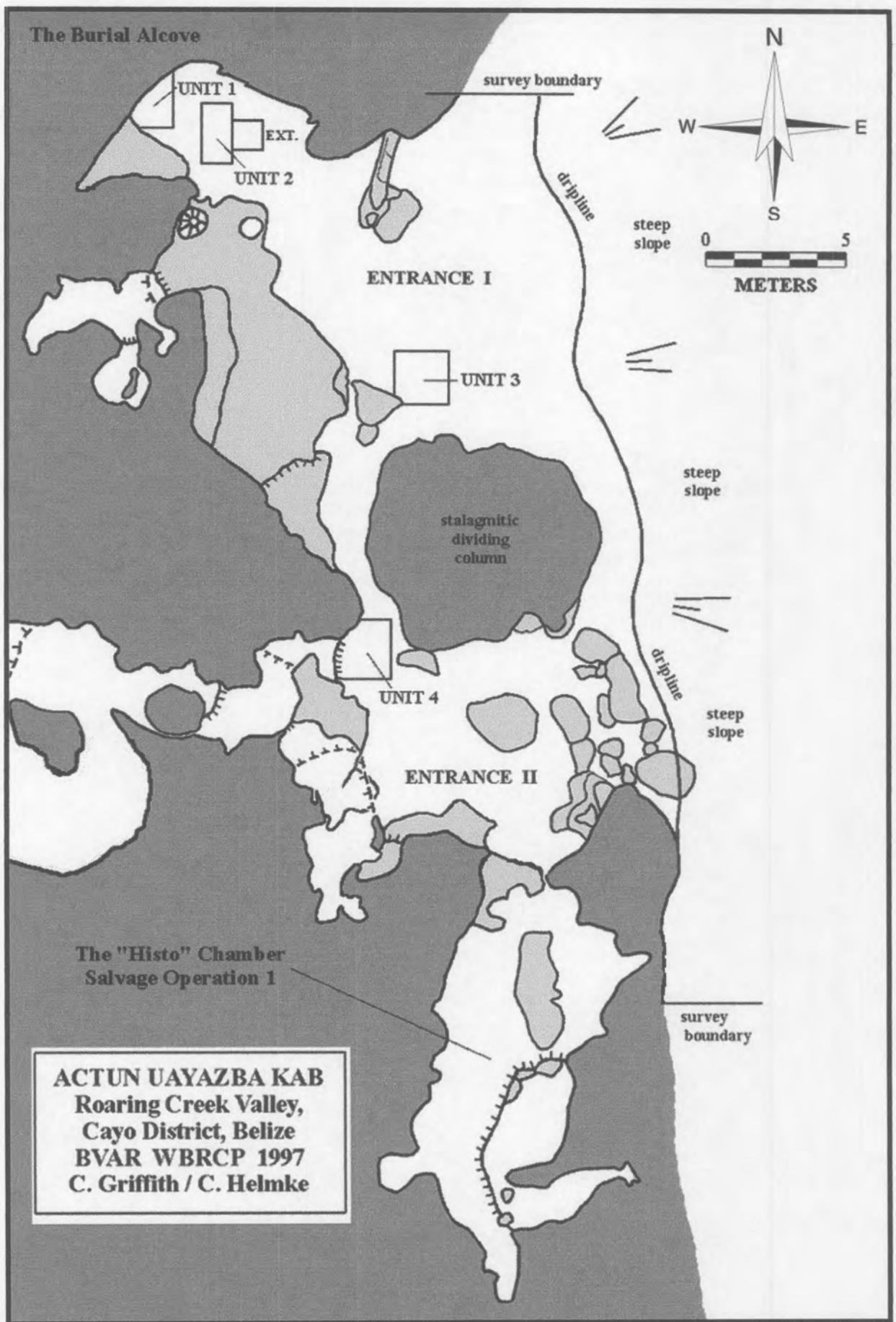


Figure 13. Actun Uayazba Kab map showing Entrances I & II

remains. Pottery types include Sierra Red, Aguacate Orange, Saturday Creek Cream Polychrome, Dos Arroyos Orange Polychrome, Mountain Pine Red, Cayo Unslipped, and Garbutt Creek Red. These ceramic types range in date from the Late Preclassic through the Late Classic period. Salvage operations were terminated when the dark surface guano matrix was reached beneath the backdirt.

Excavation Unit 1, Burial Alcove

Unit 1 was located in the northwest corner of the Burial Alcove. It was placed over a looter's pit where human long bones were discovered during surface collection. The unit was excavated to bedrock at a maximum depth of 49 cm below surface and was composed of 3 levels defined by natural and cultural features. A total of 825 potsherds, 49 lithic flakes, several human bone fragments, numerous animal bones and jute shells were recovered. In addition, 7 matrix samples and 10 carbon samples were taken from various levels.

Level 1 consisted of the looter's backdirt in the northeast corner of the unit. From this level a total of 120 ceramic sherds, 15 lithic fragments, 2 slate artifacts, 1 shell tinkler (*Oliva sp.*), 3 obsidian blade fragments, 1 pyrite fragment, 1 quartz crystal flake, 1 chert uni-face, 1 piece of jadeite, and 33 fragments of human bone were retrieved. The human bone included 1 ilium fragment, 1 scapula fragment, 1 phalanx and 30 other small fragments (see Gibbs, this volume). Level 1 terminated at a maximum depth of 16 cm where the looters' backdirt ended.

Level 2 consisted of a brown silty dirt matrix, slightly darker than that found in Level 1. In the southern half of the unit a layer of flowstone was present, likely a result of the drip water activity from the travertine dams that overflow into the burial alcove during heavy rainfall. Below this flowstone layer, in the southeast corner of the unit, was a concentration of ash and charcoal containing some human bone fragments (see Gibbs, this volume). Below the flowstone in the southern section was a layer of dark soil with calcite intrusions. Artifacts from this level totaled 546 ceramic sherds, 21 lithic flakes, 2 pieces of daub, 2 shell tinklers (*Oliva sp.*), 5 obsidian blades, 4 jadeite pieces, 2 quartz crystal fragments, and a large number of animal bone and jute shells (*Pachychilus sp.*). Five soil samples and 4 charcoal samples were also collected from this level. Level 2 terminated 29 cm below surface where there was a change in matrix.

Level 3 was comprised of an orange/red clay matrix with limestone rock inclusions. Recovered artifacts totaled 159 ceramic sherds, 13 lithic flakes, 3 pieces of daub, 3 obsidian blade fragments, numerous jute shells and animal bone, and a few human bone fragments. Two soil samples and 5 charcoal samples were collected. A plaster floor was encountered in the southeast corner at a depth of 43 cm. Under the floor along the eastern wall was a deposit consisting of a human talus bone, 4 jute shells, and some small rocks with charcoal and calcite inclusions. Charred bat bone and rock indicate that burning may have taken place in this area. Under the floor, in the southeast corner, there was a ballast/marl matrix with charcoal and calcite inclusions. Beneath this layer was a large number of jute shells, some lithic flakes, 2 obsidian blade fragments, and a small amount of fragmented human bone. The level was terminated at bedrock, 49 cm below surface.

In summary, the area where Unit 1 was placed had been extensively looted. Despite this destruction, excavations revealed the remains of a plaster floor and several fragments of human

remains. The latter indicate that both adult and infant individuals had been interred within the alcove, possibly beneath the floor..

Excavation Unit 2, Burial Alcove

Unit 2 measured 2 m by 1 m and was placed between looter's pits at the center of the alcove. The unit was later extended to the east following the discovery of articulated remains of an adult individual along the eastern wall of the unit. Due to time constraints the unit was terminated before sterile levels were reached, and as a result overall artifact totals have not yet been tabulated.

The matrix of level 1 was greyish-brown silty dirt with ash inclusions. Artifacts recovered from this level included human cranial fragments, animal bone, lithic material, potsherds, obsidian blade fragments, quartz crystal, and fragments of pyrite. The cranial fragments did not appear to be in situ and may have been redeposited in this area during looting activities. Level 1 yielded 1076 potsherds, 18 chert flakes, one slate fragment, 1 chert blade, 1 carved stone, 7 obsidian blade fragments, 3 quartz crystals, 3 fragments of pyrite, 1 large conch fragment, 2 ground speleothems, and worked bone. Level 1 was excavated to a depth of 21 cm below surface, at which point a plaster floor was reached abutting outcrops of bedrock. In the east extension the plaster floor was located in the northeast and southeast corners.

The matrix of Level 2 was comprised of loose dirt with red clay, limestone cobbles, and fragments of shell. Bedrock was exposed in the center of the unit. The matrix around the floor surface was an orange clay with limestone rock inclusions. Along the east wall there was a line of flat stones coated with orange clay which served as capstones for a burial. This level yielded 143 ceramics, 3 chert flakes, 164 jute (*Pachychilus sp*), numerous animal bones, 7 quartz crystal fragments, and 2 obsidian blade fragments. Human bone was also collected from this level and included a left patella, 2 rib fragments, the distal end of a humerus, a number of smaller fragments and one tooth. Plaster samples and matrix samples were also collected. This level was excavated to 39 cm at its greatest depth.

Level 3 was comprised of the same hard orange clay matrix that was found in Level 2. To the west the matrix was loose, dark grey dirt with some limestone rocks, charcoal, shell, and calcite inclusions. In the southwest corner large pieces of charcoal, numerous jute shells (*Pachychilus sp*), and the fragmentary remains of a large animal, possibly a deer, were present. At 53 cm below surface chert flakes covering articulated human bone were encountered. The cranium was located along the southern wall of the east extension. The remains were those of an adult male, of approximately 40 years of age at death. This individual was interred in a flexed position on his right side, with his head oriented east by southeast and facing north. Numerous chert flakes were found above the burial, and jute shells (*Pachychilus sp*) were dispersed amongst the bones (see Gibbs, this volume). Due to time constraints, excavations in Level 3 were terminated after the removal of the human remains. It is likely that cultural material is present at lower depths. Further excavations in Unit 2 may take place during the next field season.

In summary, Unit 2 and the east extension contained the disturbed burial of an adult male. A majority of the bones were missing and much of the burial was damaged by extensive looting,

however enough data was retrieved to provide information regarding age, sex, and pathologies of the individual (see Gibbs, this volume, for details).

Excavation Unit 3, Entrance I

Unit 3 was placed in Entrance I, east of the petroglyphic panel. The unit was initiated to recover cultural remains for dating the activities conducted in the cave, and to determine the nature of these activities. The unit measured 2 X 2 m and descended to a maximum depth of 22 cm below surface. The unit yielded 55 potsherds, 2 pieces of lithic material, 48 animal bone fragments, and 3 pieces of jute shell (*Pachychilus glaphyrus*). Excavation also revealed 3 plaster floors within a natural bedrock basin. Unit 3 was excavated in 3 separate levels.

Level 1 consisted of grey-brown loose dirt with organic inclusions such as twigs and leaves. Two plaster floor surfaces were uncovered in the northwest quadrant, the discovery of which terminated Level 1 at 10 cm below surface. Level 1 yielded 55 ceramic sherds, 2 lithic fragments, 29 animal bone fragments, and 3 pieces of jute shell.

Level 2 continued only in the northwest quadrant since bedrock had been reached in the remainder of the unit. Floor 1 was plastered and ovoid in shape, measuring 26 cm N-S, 52 cm E-W, and 2 cm thick. The denigrated edges of Floor 1 indicated that it likely spanned the entire bedrock basin at one point but had deteriorated over time. Floor 2 was well preserved plaster that conformed to the irregular shape of the bedrock basin (Fig. 14). Floor 2 measured 76 cm N-S, 102 cm E-W, and was 1 cm thick. Level 2 descended a total of 6 cm through Floors 1 and 2. Another plaster surface was encountered below Floor 2, which terminated Level 2 at 13 cm below surface. Level 2 contained a total of 16 animal bone fragments. These, plus samples of charcoal and plaster from Floors 1 and 2 were collected for analysis.

Level 3 proceeded through Floor 3, descended below a tamped layer of hard-packed brown dirt and small pebbles, and terminated at bedrock at a maximum depth of 22 cm below surface. Floor 3 was well preserved plaster that measured 23 cm N-S, 48 cm E-W, and 3 cm thick. Three fragments of animal bone were found lodged in the plaster of Floor 3, and 1 land snail was located in the tamped dirt.

In summary, Unit 3 revealed a series of plaster floor surfaces recessed in a bedrock basin (Fig. 15). The purpose of these plaster surfaces remains unclear. The plaster floors appear to have been placed over the jagged bottom of the bedrock depression to provide a flat regular surface. This may have been a small platform designed to level the undulating bedrock basin and to create a level surface suitable for standing or as an area for the placement of offerings. Alternatively, it may have served as a catchment area for dripstone water flowing out of the cave. It is also possible that the plaster surfaces were part of a larger architectural feature that has been removed or destroyed.

Excavation Unit 4, Entrance II

Unit 4 was placed in Entrance II near the access tunnel to the Handprint Chamber and in close proximity to a looters' pit. The surface consisted of large limestone cobbles and potsherds in a moist

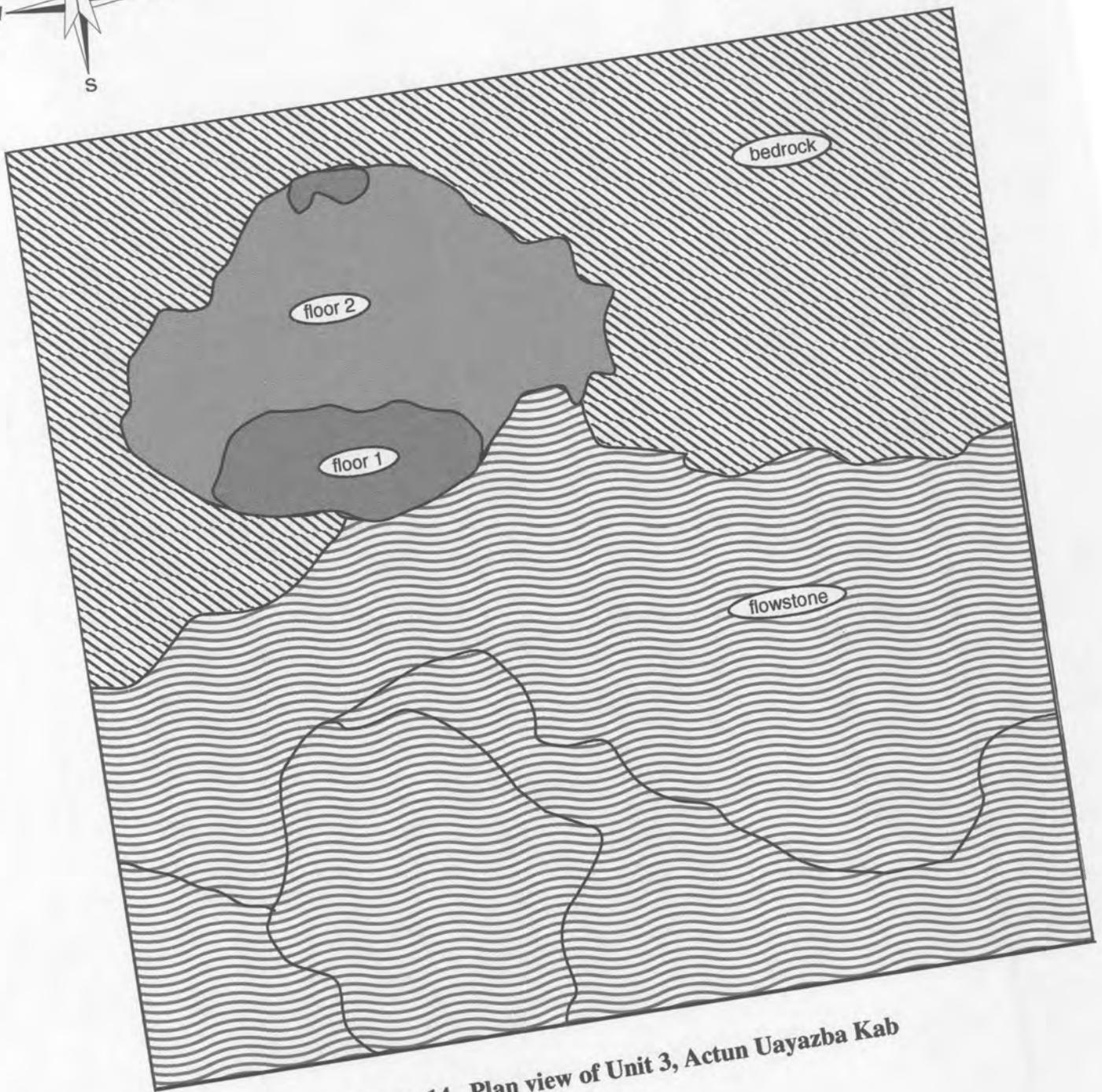


Figure 14. Plan view of Unit 3, Actun Uayazba Kab

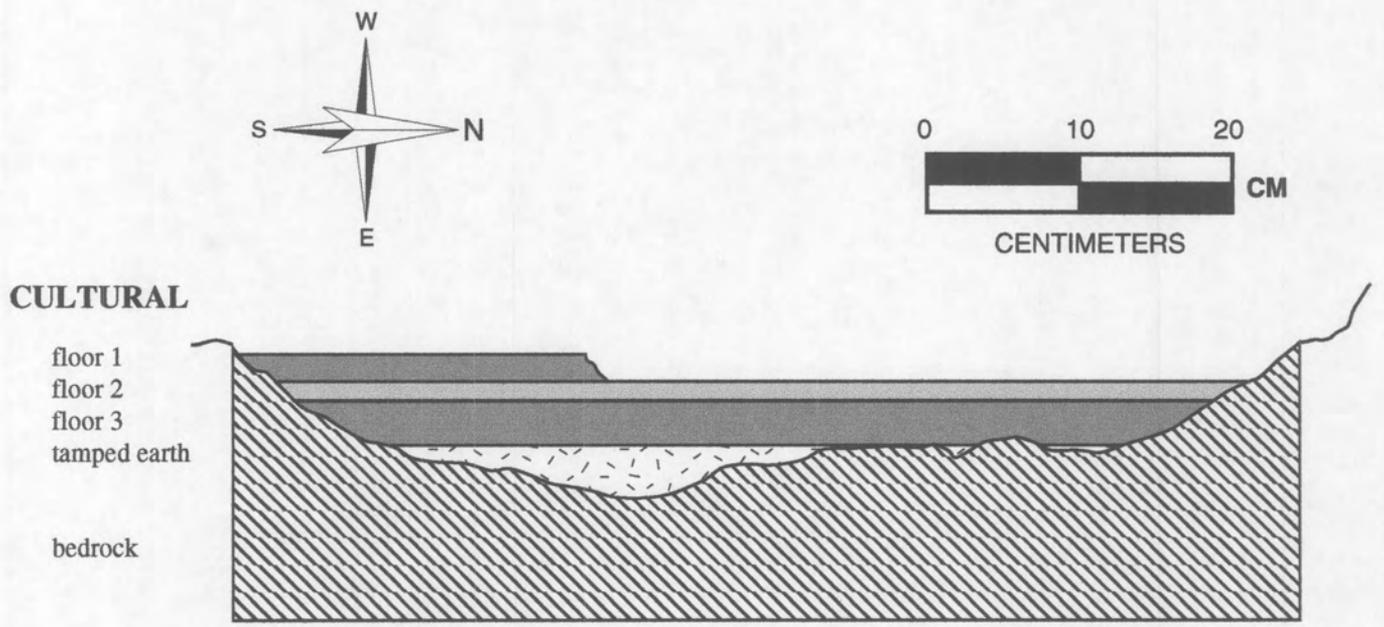


Figure 15. Profile of plaster surfaces, west view, Unit 3, Entrance I, Actun Uayazba Kab

dark brown silty dirt matrix. The unit measured 2 X 2 m and descended to a maximum depth of 45 cm. The unit yielded 2210 ceramic sherds, several hundred animal bones and shell fragments, and 62 pieces of lithic material, including 1 obsidian blade fragment, 1 chert burin, and 1 chert uniface fragment. The remnants of a deteriorated plaster floor were also uncovered. One sample of carbon and 2 samples of plaster were taken. Unit 4 was completed in 3 levels defined by cultural and natural features.

Level 1 was a matrix of dark brown silty dirt with large limestone rock inclusions. A plaster floor was uncovered at 25 cm below surface, which terminated the level. Level 1 yielded 1372 ceramic sherds as well as hundreds of animal bones and shell fragments. Excavations also revealed 1 chert uniface fragment, 1 obsidian blade fragment, and 1 chert burin. The floor was in poor condition with bedrock protruding out in the center and in the northwest quadrant of the unit. Although the southeast quadrant appeared to contain a plaster surface, the preservation was poor, and what appears to be the continuation of the floor to the northeast and southwest quadrants was significantly more deteriorated. The floor abutted a relatively flat bedrock that extends out from the western cave wall in the northwest quadrant of the unit. Remnants of a looters pit intruded into the unit on the east side of the southeast quadrant.

Level 2 proceeded through the plaster floor and the matrix of the same dark brown silty dirt noted in Level 1. The level produced 756 potsherds, 8 pieces of lithic material, 13 animal bones, and 44 jute shells. A matrix change was reached at a maximum depth of 32 cm below surface, at which point the level was terminated.

The matrix of Level 3 was a light tan, hard-packed, dry soil. A total of 82 potsherds, 3 lithic fragments, 4 animal bones, and 21 jute shells were recovered from the level. A charcoal sample was taken from within a small niche in the bedrock. Level 3 terminated when bedrock was reached in the entire unit at a maximum depth of 45 cm below surface.

In summary, Unit 4 revealed a plaster floor that abutted the natural bedrock of the cave floor. Carbon deposits, ceramic sherds, and other cultural material were located beneath the plaster floor.

Unit 5, Upper Ledge (Ledge 1)

Unit 5 was defined by a large travertine pool on the Upper Ledge (Fig. 16). Excavations were prompted by the presence of two large ollas and an abundance of polychrome sherds in Pool 1 (Fig. 17). The unit measured 2.3 X 1.8 m and descended to a maximum depth of 69 cm below surface. A total of 7293 potsherds, several lithic pieces, 7 slate fragments, several thousand animal bones, several charcoal samples, and other artifacts were recovered. Unit 5 was excavated in 6 arbitrary levels (Fig. 18).

The surface of Pool 1 was level and comprised of dark guano and thousands of animal bones (predominantly bat). Fragments of 4 large ollas were embedded in this matrix. One olla rim sherd measured approximately 70 cm in diameter. The surface was littered with countless potsherds, some decorated polychrome ceramics, and a few black bird feathers. The material in the southwest area of Pool 1 appears to have washed in from another pool. The large olla contained a number of feathers

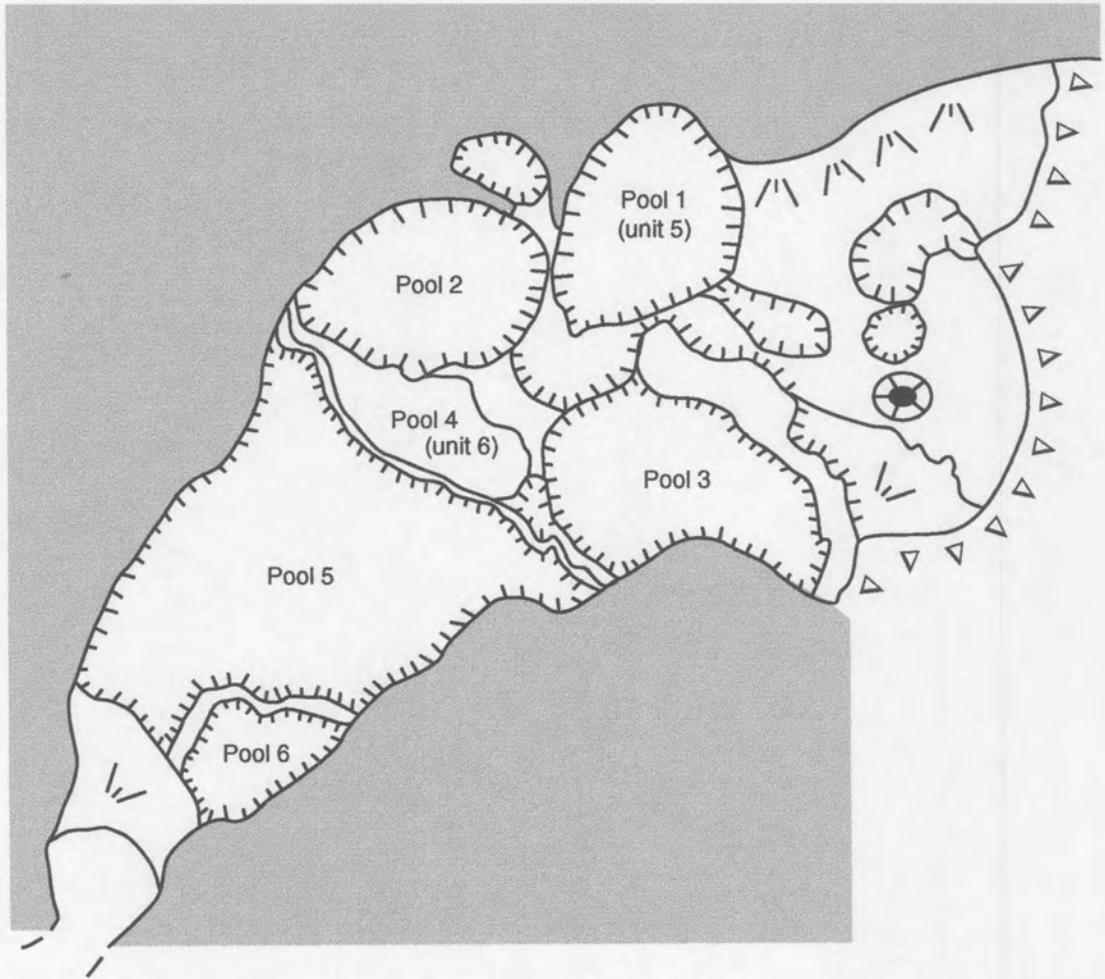
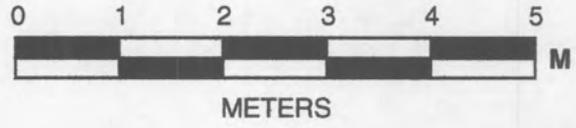
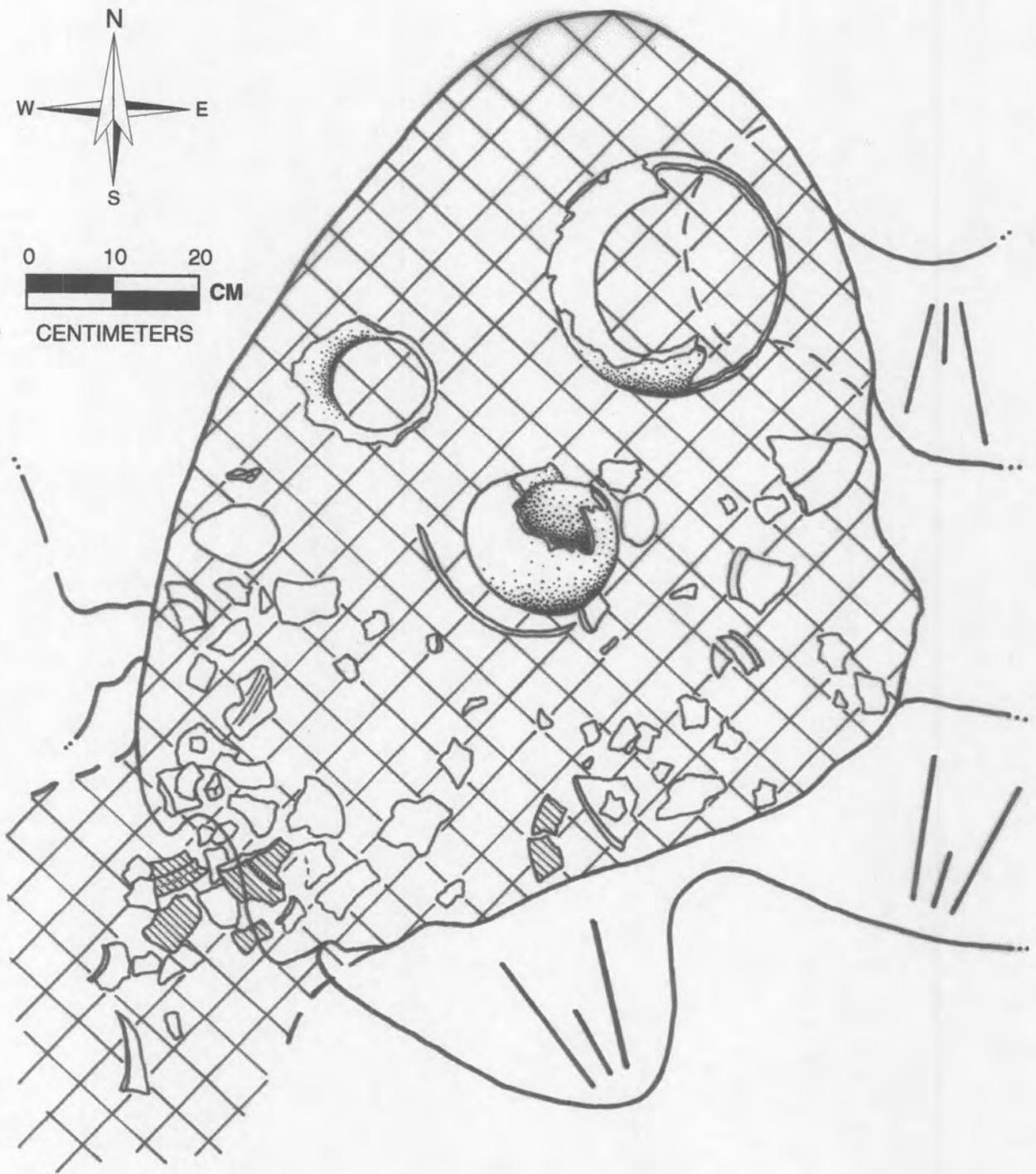


Figure 16. Map of Ledge 1 (Upper Ledge), Actun Uayazba Kab



**Figure 17. Actun Uayazba Kab, Pool 1, Unit 5.
Ollas, monochrome sherds, and polychrome sherds shown.**

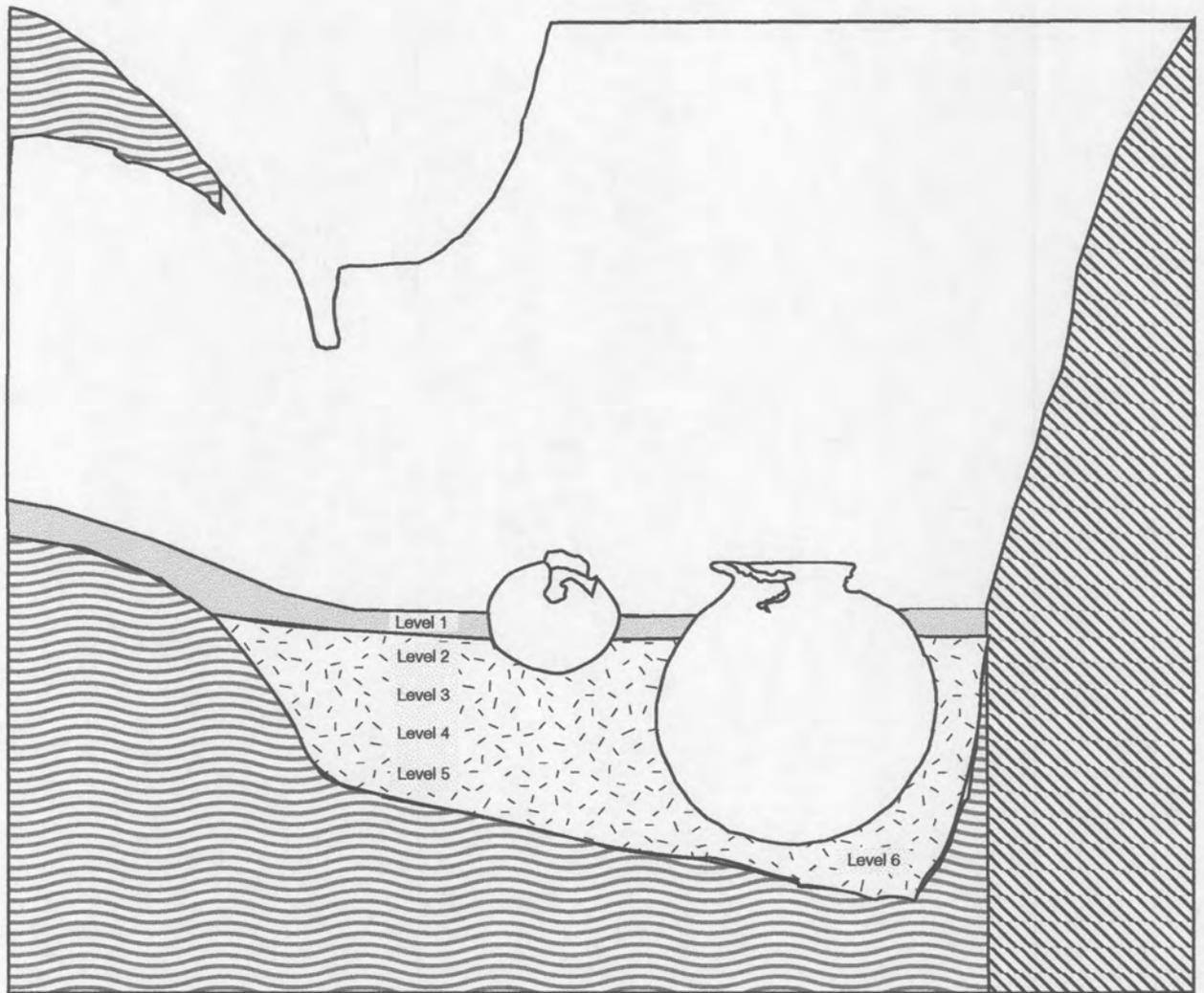
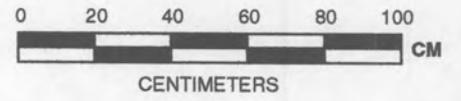


Figure 18. Profile of Unit 5, Pool 1, Actun Uayazba Kab, western view

and the darkest guano.

The matrix of level 1 consisted of dark brown to black guano interspersed with many more animal bones. In addition to the latter, the unit yielded 3428 ceramic sherds and several lithics, including 1 slate fragment, 6 obsidian blade fragments, 1 jade bead, and one hook-shaped limestone artifact. The level was terminated at 10 cm below surface.

Level 2 was composed of the same dark brown guano matrix. A total of 1051 ceramic sherds, 45 slate fragments, thousands of animal bones, and 4 obsidian blade fragments were recovered from this level. The majority of the slate fragments came from a concentration approximately 20 cm in diameter in the northern part of the unit (west of the large olla). The level terminated at 20 cm below surface.

Level 3 was the same silty brown dirt matrix, still replete with animal bones, which became slightly lighter brown with increasing depth. This level yielded a total of 1558 ceramic sherds, 25 slate fragments, 1 chert fragment, 1 carved shell pendant, 1 soda straw, and 4 obsidian blade fragments. The slate concentration seen in level 2 continued in the same area. There was a decrease in the frequency of ceramics recovered from the south quadrant of the unit. The level terminated 30 cm below surface.

Level 4 contained the same matrix as the above levels, yet was more compact. A total of 997 potsherds, 1 piece of slate, thousands of animal bones, and 1 obsidian blade fragment were recovered. Two large ollas were removed to facilitate the excavation. Level 4 terminated 40 cm below surface.

There was no change in the matrix of Level 5. Cultural remains did, however, decrease in number and totaled 137 potsherds and hundreds of animal bones. Level 5 terminated 50cm below surface.

Level 6 also exhibited no change in matrix. It contained 84 potsherds, hundreds of animal bones, and one tubular jade bead fragment. Level 6 terminated at 69 cm when all matrix had been removed from the travertine pool. Two limestone rocks were lodged in a small hole at the bottom of the pool. This hole drains down into Entrance I, just above Unit 2.

In summary, the excavations in Unit 5 produced a collection of elaborate pottery sherds and a small number of non-ceramic artifacts. A cursory evaluation of the animal material indicates that the remains are the result of natural deposition (Norbert Stanchley, Personal Communication, 8/3/97). It seems that the Upper Ledge and one of the large ollas within may have served as a nest for a bird of prey. The concentration of slate fragments likely represents a single piece of slate or an artifact that shattered by natural processes, as all pieces are unworked. The ollas, due to their large size and level of preservation, are likely in their original locations. Some smaller artifacts, however, appear to have washed in from other areas of the Upper Ledge.

Unit 6, Upper Ledge

Unit 6 was placed in a small travertine pool on the Upper Ledge. Excavations were initiated

due to the presence of olla sherds and charcoal in the pool, and to provide comparative data to the excavations in the large travertine pool. The unit measured 4.15 m long and .85 m wide, conforming to the dimensions of the pool. It descended to a maximum depth of 16 cm and was excavated in two levels.

Level 1 was a matrix of black guano which yielded 226 potsherds, 1 unworked piece of slate, hundreds of animal bones, and one obsidian blade fragment. One carbon sample was taken for future analysis. The western half of the unit descended only 3 cm below surface, which resulted in the majority of the excavation taking place in a section of the pool measuring 2.3 m long and .45 m wide. At 8 cm below surface a matrix change was encountered which terminated the level.

Level 2 consisted of a reddish-brown, compact, silty dirt with small white pebble inclusions. The level was continued for 8 cm and yielded no cultural materials. The unit was subsequently terminated at bedrock, 16 cm below surface.

In summary, excavations in Unit 6, Pool 4 revealed the presence of numerous potsherds and an obsidian blade fragment in a small travertine pool. The location of Pool 4 in a perennial wash zone does not rule out the possibility that the artifacts within may have washed in from another location.

SUMMARY, ACTUN UAYAZBA KAB

The 1997 archaeological investigations in Actun Uayazba Kab produced evidence (plaster floors and ceramics) which suggests that this cave was utilized by the ancient Maya from the Late Preclassic to the Late Classic Periods. The placement of human remains within graves (in Entrance I, II, and the "Histo" Chamber), plus the association of grave goods (i.e. the burial in Unit 2) with some burials reflects a pattern different from that observed in the Main Chamber at Actun Tunichil Muknal. Gibbs (this volume) notes that these differences quite likely reflect different treatment at death of the individuals within the two sites.

The activities in the Upper Ledge (Ledge 1) included the caching and termination of large ollas, polychrome vessels, slate objects, worked shell, and jadeite. The exorbitant number of animal bones on the Upper Ledge may have been the result of natural accumulation, probably related to predator (bird of prey) activity. Hopefully, the ongoing analysis of the animal remains will clarify the exact nature of their deposition. Investigations in Actun Uayazba Kab will also continue in 1998 and should provide more clues regarding the utilization of the cave by the ancient Maya.

CONCLUSION

The excavations, salvage operations, and surface collections by the WBRCP in Actun Tunichil Muknal and Actun Uayazba Kab have confirmed that both caves were extensively used by the ancient Maya. The ceramic assemblage recovered from Actun Tunichil Muknal indicates that the Upper Entrance Chamber and the Sinkhole Tunnels were utilized from the Early Classic to the Late Classic Period. In contrast, the Main Chamber contained ceramics that date only to the Late Classic Period. In comparison, Actun Uayazba Kab yielded pottery ranging from the Late Preclassic to the Late Classic periods. The artifact assemblages and human remains from Tunichil Muknal and Uayazba

Kab further indicate that prehistoric activities in the two caves may have differed. Further investigations to address these differences are planned for subsequent field seasons of the Western Belize Regional Cave Project.

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HUMAN SKELETAL REMAINS FROM ACTUN TUNICHIL MUKNAL AND ACTUN UAYAZBA KAB, CAYO DISTRICT, BELIZE

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Trent University

INTRODUCTION

The 1997 field season of the Western Belize Regional Cave Project (WBRCP) focused on two caves in western Belize: Actun Tunichil Muknal and Actun Uayazba Kab. A primary goal of the investigations was to record all human remains within the two sites. Previous research, in 1989 and 1996, had identified the remains of nine individuals at Actun Tunichil Muknal (see Roberts 1990 and Gibbs 1997). During the 1997 field season 5 other individuals, not previously recorded, were identified, mapped and analysed. One of these had been previously noted by Roberts (1990), but was not relocated by the WBRCP until the 1997 field season. The remaining 4 individuals were discovered during the extensive mapping of the Main Chamber in 1997. The remains from Actun Uayazba Kab consist, at present, of 7 individuals: 1 young infant, 2 children, 1 adolescent and 3 adults, one of which was retrieved from a semi-complete burial.

Research at Actun Tunichil Muknal and Actun Uayazba Kab in 1997 further indicated that the two sites were quite different, not just in their respective geomorphology, but possibly in the activities carried out in the two caves. The rituals performed at the two sites may have been conducted for similar purposes but, as suggested below, the manner in which interments were treated at the two caverns differed. In this paper I argue that the human remains in Tunichil Muknal are those of sacrificial victims while those from Uayazba Kab were more likely associated with mortuary (burial) and sacrificial rituals.

SETTING

Actun Uayazba Kab and Actun Tunichil Muknal are located in the upper Roaring Creek valley of western Belize. Uayazba Kab is approximately 700 metres south of Tunichil Muknal and about 800 metres west of a large surface site (Cahal Uitz Na or Place of the Mountain Houses) that was discovered in 1997 (Awe and Helmke, this volume). Analysis of ceramic remains from these three sites indicate that they were contemporaneous and that Maya activity in the area commences in the Late Preclassic (300 B.C.) and intensifies during the Late Classic (AD. 700-900) period.

INVESTIGATIONS

The 1997 field season marked the 3rd year of investigations at Actun Tunichil Muknal (Fig. 1). Research in 1997 involved the most comprehensive work there to date and included further reconnaissance of the cave; the mapping and documentation of all artifacts within the Stelae and Main

ACTUN TUNICHIL MUKNAL

(Cave of the Stone Sepulchre)

Cayo District, Belize C.A.

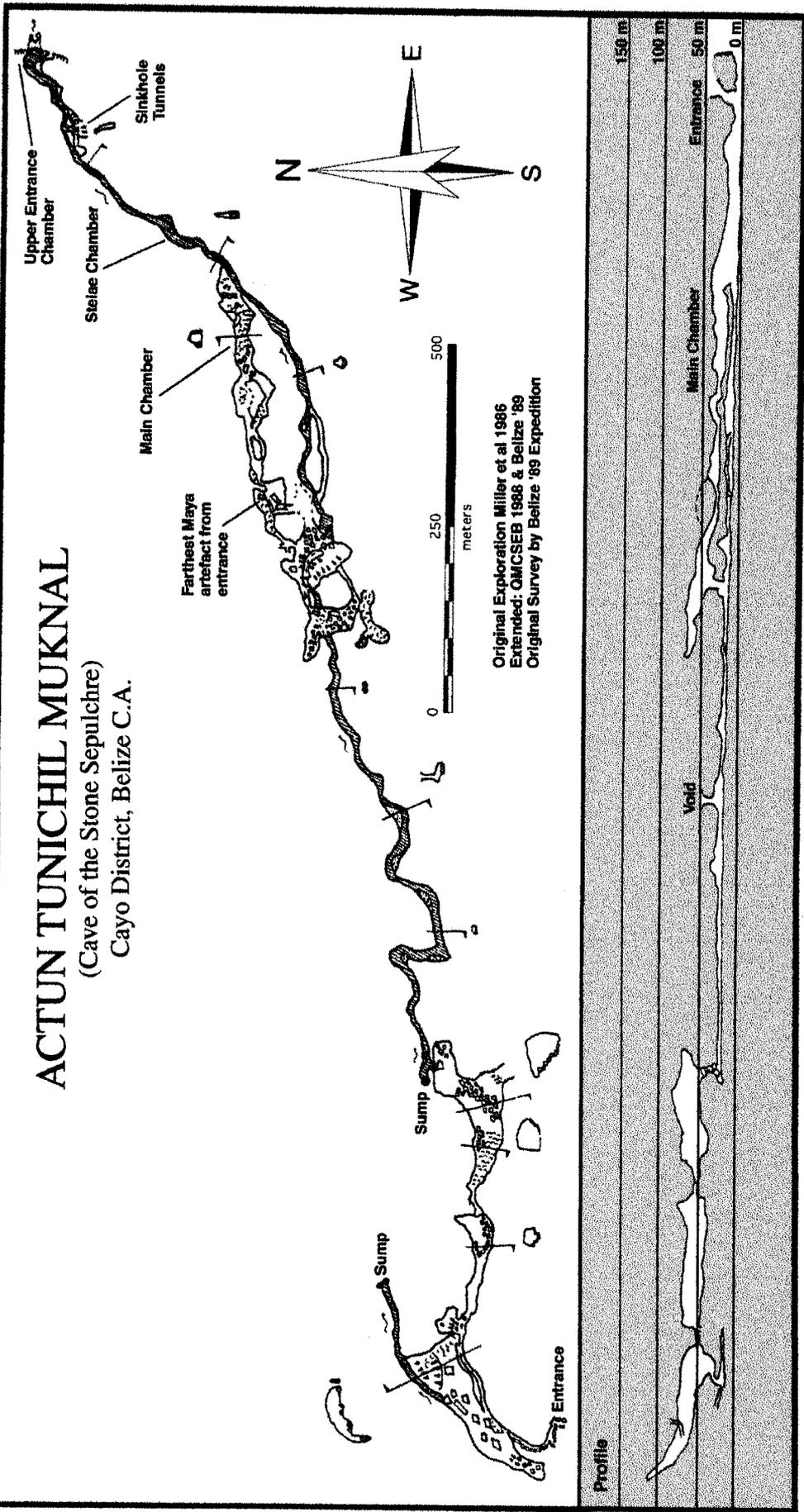


Figure 1: Map of Actun Tunichil Muknal indicating areas with cultural remains.

Chamber (see Moyes and Awe, this volume); and the identification and analysis of previously unidentified human remains.

It should be noted that this analysis of the human remains from Tunichil Muknal is a supplement to the 1996 report (see Gibbs, 1997), thus only those individuals discovered in 1997 are described below. The 5 individuals that were analysed during 1997 brings the total number of individuals in the Main Chamber of Actun Tunichil Muknal to 14. Although we believe that this number may represent the total sum of individuals in the chamber, there is always a possibility that others may be hidden by breakdown or concealed beneath calcium carbonate deposits.

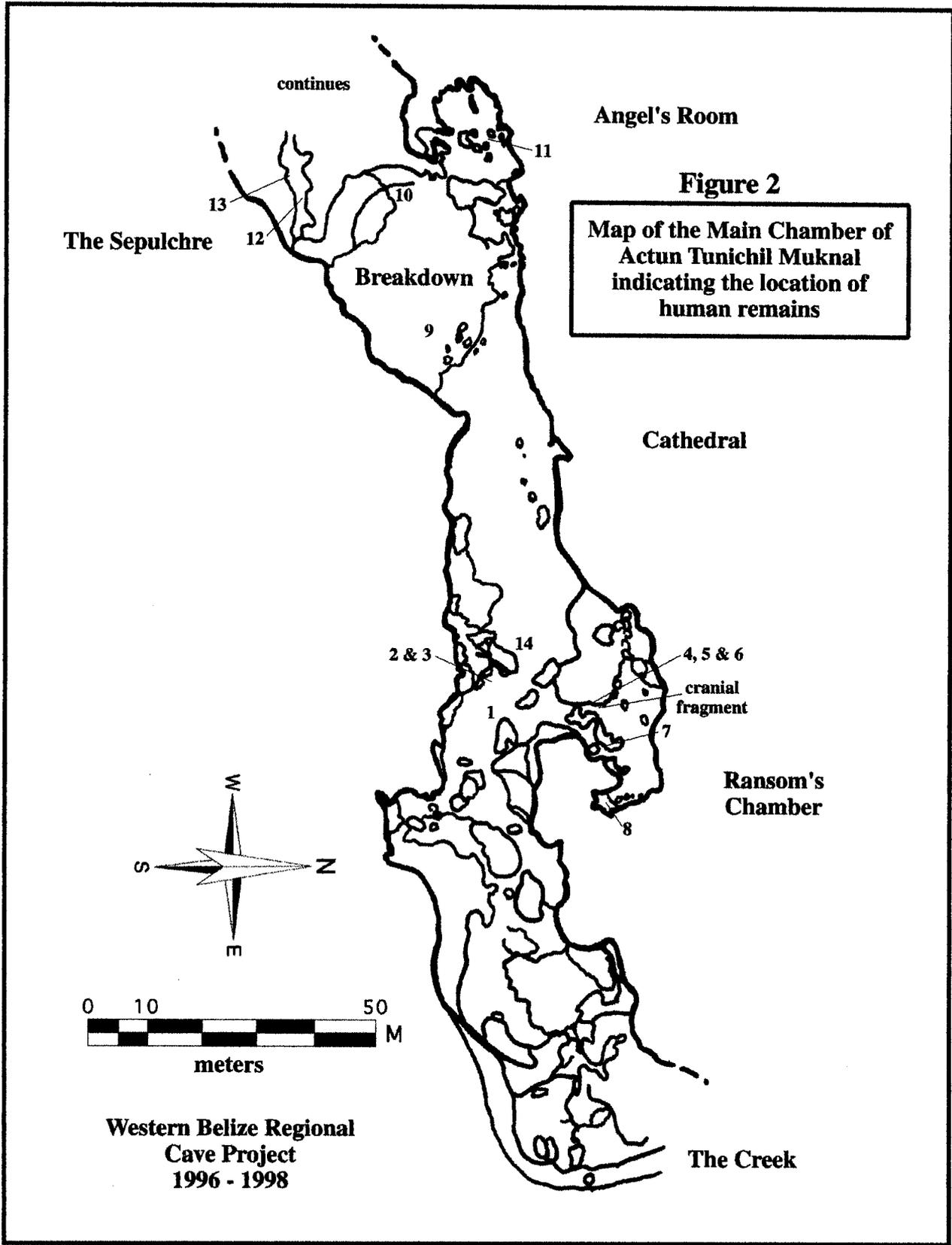
In addition to the 5 individuals located within the Main Chamber, the remains of another individual was discovered in the Entrance Chamber of Tunichil Muknal. The latter is located on the north side of the Main Entrance making it easily accessible. Unfortunately, looting activities in this area of the cave had disturbed much of the cultural materials, and we are certain that the human remains were not located in situ.

Research at Actun Uayazba Kab began during the 1997 field season. Prior to these investigations no human remains had been located within this cave. At the onset of the project in 1997 we found that the cave had been extensively looted. Sections of the cave floor were littered with potsherds, animal remains including jute (*Pachichylus* sp.), olive (*Oliva* sp.), and conch (*Strombus* sp.), ground and chipped stone fragments (including mano and metate fragments and obsidian blade fragments), and human bone. The areas most disturbed by the looters were the Burial Alcove; Entrance II and the "Histo" Chamber. Fragments of human bone were found in both the Burial Alcove and the Histo Chamber. Due to time constraints, however, excavations focusing on the location of burials were conducted primarily in the Burial Alcove where the majority of human remains were discovered.

HUMAN REMAINS IN THE MAIN CHAMBER OF ACTUN TUNICHIL MUKNAL

The human remains in the Main Chamber (Fig. 2) of Actun Tunichil Muknal were numbered sequentially based on their proximity to the entrance of the chamber. The five individuals discovered in 1997 were numbered in the following order. Individual 11 was located in the Angel Room west of the Cathedral Chamber (See Appendix A at end of this paper for illustrations of the human remains from Tunichil Muknal). Individual 10, the remains of a child, had been previously identified by Roberts (1990) but was not relocated until the 1997 season. Individual 6 was located during the mapping of individuals 4 and 5. Individuals 9 and 14 were discovered during the survey of the chamber. Individual 9 was located at the foot of the breakdown to the south of the Cathedral Chamber and was very poorly preserved. Individual 14 was located just west of the Burial Chamber, and was also in poor condition.

The co-mingled fragments of Individuals 4, 5 and 6 were located to the north of Individual 2 in a small sunken alcove on the western side of the chamber. This deposit was originally thought to consist of only two young individuals (Gibbs, 1997). Flooding of the chamber as a result of the heavy rains, however, revealed the remains of a third infant. The calcite-covered bones were intermingled and wedged in the floor, most likely as a result of water activity. The MNI of 3



individuals was based on 3 maxillae (including a semi-complete face and palate). Measurements of the long bones indicated that one individual is between 1 and 1.5 years and another between 2 and 3 years of age (see Gibbs 1997).

Individual 9 was located at the base of the Breakdown (in the southwest section of the Main Chamber). The remains were very poorly preserved due to the damp conditions of the cavern. The individual was laid out in an extended position with the head to the south-south-west. It is interesting to note that there is almost no calcite coating on the bones. Most of the bones were crushed and only the rough outline of some bones were present. Fortunately, some diagnostic fragments remained which were used to estimate age and sex of the individual. Based on the pubic symphysis it is suggested that this individual was approximately 40 years of age at death. This is further supported by the arthritic lipping on the thoracic and lumbar vertebrae. The narrow ischio-pubic ramus, the obtuse pubic angle, and the small femur head, indicate that this individual may have been female.

The tenth individual was located in the Breakdown and some of the bones have fallen between boulders. Due to the elevated context of this location no water collects around the bones, but there is active drip-water during the rainy season. Because of this limited and periodic water flow there is a minimum accumulation of calcium carbonate, with the exception of those areas where bones are in contact with the rock. In these places the bones are 'cemented' to the rock surface.

Based on the dentition (Ubelaker 1978: fig 62) and the lengths of long bones this individual was estimated to be approximately 6.5 to 7.5 years of age at death (see also Roberts 1990). The femur is 217.5 mm long which places the individual at or older than 5.5 years of age (Bass 1987, table 34; after Johnston 1962, table 2). The individual falls between 75 and 86 months, based on a sample from Stewart (1968, figure 54; in Bass 1987, figure 144). The younger individuals in this estimate are Caucasian and the older are Eskimo. Based on the dentition the individual is roughly 7 years old. The M² crown is present, with no root development. The RI¹ and RI² are impacted since the 1st was just beginning to erupt into the 2nd. This child also shows signs of frontal-lambdoidal cranial modification.

The eleventh individual was located in the Angel Room to the west of the Main Chamber. The remains were extended with the head to the northwest, and had been placed in a small, narrow, natural depression. It appears that this individual, like the others from the Main chamber, may have had its head smashed, as the cranium is broken and poorly preserved. Again the bone is not covered by any calcium carbonate but it is very wet and fragile. Based on lengths of the femur (111 mm), the radius (67.5 mm) and dental eruption, this infant was approximately 1 year (\pm 6 months) of age at death. Using two sources, which give estimates based on North American native populations, a range of 6 months to 18 months was obtained for both bones (Bass 1987, table 29 & 34; Ubelaker 1978, table 5). It should be noted that the mean for both was larger than the actual measurements, however, they do fall within the 'range of variation'. Based on the dentition sequence of formation and eruption among Native Americans (using Ubelaker 1978: fig 62) individual 11 was between 1-1.5 years of age at death. The I_m has erupted and the second is visible, however, the roots are very underdeveloped, especially in the second molar. The mandibular incisors have erupted but, again, their roots are very short and small, making the age a bit younger (1 year), while the near eruption of the second molar puts it a bit older (1.5 years).

The fourteenth individual was located at the edge of the Cathedral Chamber, west of the Main Chamber (and west of Individuals 1, 2 and 3). The deposit is comprised of only a humerus and some broken cranial fragments, which were located 1 metre apart. The cranial fragments were exposed and poorly preserved. Presently it is not known whether the humerus and cranial fragments belong to the same individual, however, there are no other individuals in this immediate area. It is possible that the rest of the individual is covered by the flow-stone. The 111mm humerus falls within the 'range of variation' (closer to the higher end) for 0.5 to 1.5 years of age based on Ubelaker (1978: table 5). According to Johnston (in Bass 1987: table 25), a range of 1.5 to 2.5 years is indicated, with this humerus falling in the lower end of the range. Hence, an estimated age of 18 months (\pm 6 months) is suggested for this individual. The cranial fragments are thin and consistent in size with infant remains, suggesting the two belong to the same individual.

A number of the remains examined in 1997 were re-analysed, and the following are additions to the 1996 report (see Gibbs 1997). Individuals 2 and 3 are clustered in the Main Chamber, to the southwest of Individual 1, at the base of a small travertine dam. The ledge above may have been the original placement of the two, which have since been washed off the ledge by the water that periodically floods the chamber. It is suggested that the two individuals are male based on cranial and pelvic girdle traits (contrary to Roberts 1990:127). The only exposed sacrum, to the east of both crania, was rectangular in shape and has an intrusive curvature. The sacro-iliac articulation extends into 3 segments and the ratio of alae to body is 1/4-1/2-1/4. From the right innominate bone the subpubic angle is acute or narrow with a broad medial surface. The first cranium, basal side up (top of the cranium was embedded in the flowstone) to the north, has a large mastoid process, large occipital condyles, robust muscle markings, and a zygomatic arch which extends past the external auditory meatus. The second cranium, which was on its left side and south of the 1st cranium, has a very large mastoid process and a well marked external occipital protuberance. The only exposed long bone was the right humerus. The bicondylar width of 62.5 mm falls within the range for males, thereby further substantiating the claim that both were male.

The sutures are still open on both of the crania, which indicates that both males were young adults. The coronal suture in the second cranium is wide open giving the appearance that the frontal bone is coming away from the parietals. The right pubic symphysis, however, when compared with Todd's sample (Ubelaker 1978) indicates an age of 40 to 50 years. The presence of arthritic lipping on a number of the bones supports the suggestion for an older age.

The sacrum has arthritic lipping on the auricular facet. The 3 lumbar vertebrae attached to the second sacrum (which is well concealed) also show signs of lipping, especially on the superior lip of the third, and on both the superior and inferior margins of the fifth lumbar. From what can be seen of the sacrum, the right superior side of the auricular facet also has some lipping. The tibia also shows signs for arthritic lipping on the medial condyle. These bones thus suggest that both individuals may likely have had some form of arthritis.

Individual 12 is located in a secluded region at the south-west end of the Main Chamber in a high alcove called the Sepulchre. The floor of this chamber is seasonally covered with water. Located in a small depression, these remains were fragmented and heavily encrusted with up to one centimetre of calcite. It is possible that this individual was bound in a flexed position with the hands

ted behind the back. The cranium is modified in the tabular oblique style, giving the appearance of a 'bulbous' cranium. No comments can be made on the sex due to the excessive accumulation of calcium-carbonate. The age of this individual is suggested to be 15 years or younger, based on the lack of the distal femoral epiphysis. The femur was the only bone that could be positively identified, even though it was heavily encrusted. Since this epiphysis begins to fuse around the age of 15 (Schwartz 1995:table 7-6), this is suggested as an upper age limit. In the absence of more diagnostic features, a more accurate age range cannot be provided.

Individual 13 was located to the west of Individual 12, lying in a supine anatomical position with the cranium to the southwest. The right arm is outstretched above the head and the legs are sprawled. The remains are covered with a thin layer of calcite and the skull exhibits the tabular oblique form of cranial deformation. The individual is probably female based on the wide sub-pubic angle, the small mastoid process, the sharp supra-orbital margins, and the small supra-orbital ridges (Roberts 1990). The size of the long bones and general overall size and stature are also indicative of a female. The stature, compiled from all measurable long bones, has a mean of 149 cm. Both the left humerus and the left and right femur measurements fall far below the average length for females based on Bass (1987: table 86). It must be noted, however, that these measurements are based on African-Americans. In comparing the stature of this individual with others estimated from the Maya area, this individual falls well within the female range (Cohen et al. 1989:table 2; Marquez and del Angel 1997:56; Saul and Saul 1997:table 3.10). The age of this female is believed to have been approximately 20 years based on the distal end of the right femur and the proximal end of the tibia which had not fused (McKern and Stewart (1957) from White 1991:314; Roberts 1990).

The information from the 5 newly documented individuals from Actun Tunichil Muknal is consistent with the argument (see Awe et al., 1997a & b, Gibbs 1997) that these 14 individuals represent sacrificial victims. All infants, for example, show evidence of cranial trauma, which may have been the cause of death. Furthermore, no grave goods have been found in direct association with any of the individuals. Awe (personal communication 1998) suggests that the reason for the absence of grave goods may be due to the fact that these human remains do not represent burials *per se*, but rather represent offerings, perhaps related to agricultural rituals.

HUMAN REMAINS IN THE UPPER ENTRANCE CHAMBER OF TUNICHIL MUKNAL

During investigation of the Upper Entrance Chamber in Actun Tunichil Muknal several human bones were discovered lying on the surface. As Griffith (this volume) notes, these remains were not in situ and probably had been removed from their original context by looters. Excavations in the chamber failed to recover any additional human remains but surface collection yielded enough bone to suggest that there was at least one individual present. The identifiable bones included 2 articulated cranial fragments, 4 phalanges, 1 scapula fragment with the glenoid fossa present, some humerus fragments and a 4th cervical vertebra. This vertebra displays some arthritic lipping on the inferior dorsal margin and a disproportionate body. The sex is indeterminable and the only indicator of age is the evidence for arthritis on the cervical vertebra which suggests an adult age for the individual. The disturbed context of these remains precludes more detailed observations. It is interesting to note, however, that a cache of jute shells and animal bones were recovered from the opposite side of the chamber (see Griffith, this volume).

ACTUN UAYAZBA KAB

Prior to any excavations at Uayazba Kab (Fig. 3) an extensive surface collection was conducted in the two Entrance Chambers and the Histo Chamber in an effort to collect artifacts exposed by looting activities. Each area was divided into quadrants according to cardinal directions. The areas with extensive looting were further subdivided by bagging artifacts according to the respective looter's pit or back dirt pile. The Handprint Chamber showed no evidence of looting, but any artifact that may have been lying on the surface of the chamber had been obviously looted. Analysis of the ceramics indicate that the cave was used from Preclassic times to the end of the Late Classic period.

Most of the excavations conducted in 1997 at Uayazba Kab were undertaken in Entrance I. Units 1 and 2 were placed in the Burial Alcove in the hope of finding an intact burial not disturbed by looters. Unit 3, located in Entrance I, revealed remains of a possible platform. Unit 4, was located in the passage that joins Entrances 1 and 2. The remaining units were placed on the Upper Ledge overlooking Entrance I (see Griffith, this volume). The human remains recovered in Units 1 and 2 will be the focus of this report.

The burial alcove (see Fig.3) is approximately 7.5 metres long and 3.5-4.6 metres wide. It narrows to 2.5 metres wide at its juncture with Entrance I. The southwest wall is the extension of an overhang which leaves approximately 30 cm of space between it and the level surface. The resulting space extends a few metres south of the Burial Alcove and Entrance I. Numerous potsherds were found beneath the overhang, but no further examination was carried out due to time constraints and the difficult access. Though naturally formed, the overhang looks like an altar with travertine dams. On the southwest side of this formation, a carved face overlooks the burial alcove (see Helmke & Awe, this volume).

Unit 1 measured 2 m X 2 m and was located in the northwest corner of the Burial Alcove. The unit encompassed a large looter's pit that extended to the cave wall. During surface collection a humerus shaft, tibia shaft and 2 femora shafts, among other bone fragments, were retrieved from this particular area, hence it was believed this was the location of a burial. The looter pit was 56 cm deep in the centre, 0.7m wide and 0.4 m long, and it was soon discovered that it actually extended beyond the wall of Unit 1.

The human bone from Unit 1 includes the remains of both adult and juvenile individuals. An undisturbed section of the unit indicated that a plaster floor had been constructed above the buried individuals. Little additional human bone was recovered in the excavation. Those that were retrieved were very fragmented, indicating that any burial here had been extensively destroyed by looting activity.

Unit 2 was placed in an undisturbed area of the Alcove with the hope of locating an intact burial. Within the first stratigraphic level, which consisted primarily of the looter back dirt, a large amount of fragmented human bone was recovered (similar to Unit 1). All of the remains consisted of cranial and splanchnocranial (facial) fragments, as well as teeth. These remains were predominantly adult in age. Two deciduous teeth were also recovered. This is also similar to what

The Burial Alcove

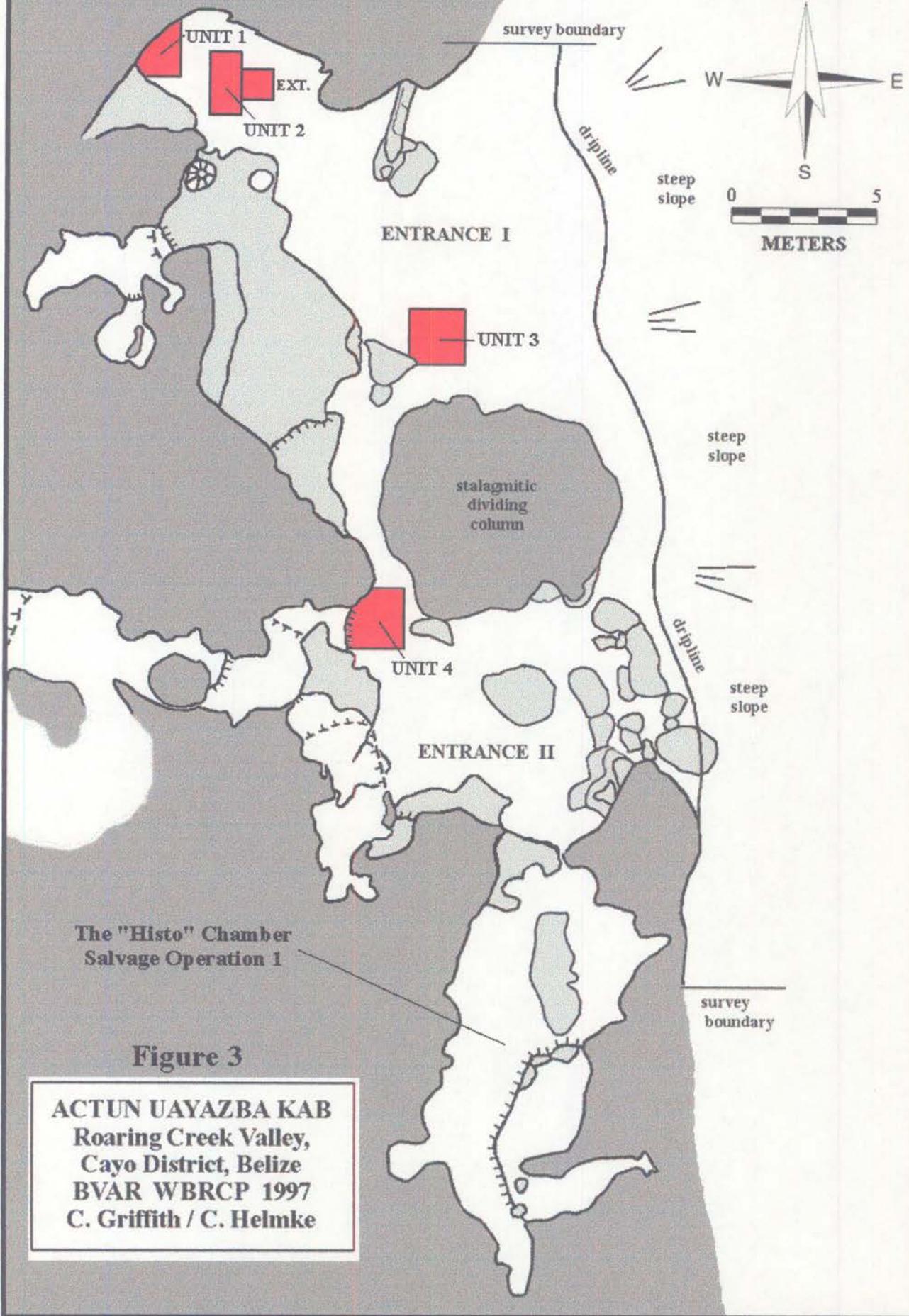


Figure 3

ACTUN UAYAZBA KAB
Roaring Creek Valley,
Cayo District, Belize
BVAR WBRCP 1997
C. Griffith / C. Helmke

we found in Unit 1. In the subsequent levels more teeth were recovered, including 1 deciduous tooth, and small fragments of long bones and ribs. The ischial bone of the pelvis, still articulated with the femoral head, was uncovered at a depth of 63 cm. In an effort to recover more of these remains the unit was extended to the east. Unfortunately, looter's pit # 6 was immediately south of the extension, but more human remains were discovered beneath the plaster floor at a depth of approximately 70 cm.

The remains recovered in Unit 2 were those of an adult male lying on his right side in a flexed position with the head toward the southeast and facing north. Chert flakes were found on top of the bone and jute shells (*Pachichylus* sp) were interspersed amongst the bone. Identification of the individual as male is based on traits from the sacrum, mandible, cranium and femur. The sacrum is rectangular and narrow. The body to alae proportions are 1/4-1/2-1/4, which is a male trait. The gonial angle of the mandible is flared with a large ascending ramus. The mastoid process is also large and the zygomatic arch extends over the external auditory meatus. The femur head diameter is 44.54 mm, which falls within the range for males (Bass 1987:table 38). The stature, based on the radius (232 mm) and the ulna (250 mm) is 163.3 cm \pm 4 cm, which also falls within the range for males (Cohen et al. 1989:table 2; Marquez and del Angel 1997:56; Saul and Saul 1997:table 3.10). The only observable female trait is the ischio-public index which is 103.87%, well exceeding the index for white and negro females (Bass 1987:193).

The age of this male is approximately 40 years. The lateral-anterior external cranial vault closures suggest an approximate age of 45, with a range of 27-54 years. Some sutures, however, are still open in areas. The auricular surface is intact and suggests a younger age range of 20-35 years (Lovejoy et al. 1985, Meindl and Lovejoy 1989:165 from Buikstra & Ubelaker 1994:fig 10). In contrast, the dentition shows heavy attrition thus suggesting an older age. There is evidence for enamel hypoplasia on LI¹ and RC. An estimated age of 40 years is suggested because it is within the 2 ranges provided from the auricular surface and the suture closures.

The MNI from the Burial Alcove is 5, including a newborn (or possible fetus), a child, an adolescent, and 2 adults. The disarticulated adult individual remains include a large number of fragments, especially cranial fragments. It is possible there is more than one adult, and this will be determined during the 1998 field season as some of the initial unidentified long bone fragments may represent more than one individual. Some of the bones include the shafts of a humerus, tibia and 2 femora (left and right), a number of phalanges, 2 mandible fragments, numerous cranial fragments, vertebral fragments and teeth. The condyle and gonial angle of the mandible display male traits, including large size, marked tuberosity, and an angle slightly exceeding 90 degrees. The dentition shows a high degree of attrition.

The adolescent, which is probably not older than 14 years of age, is comprised of 2 phalanges lacking the proximal epiphysis, and with a distal epiphysis not fully fused (Schwartz 1995:table 7-6). The dentition of a juvenile was also retrieved during the screening of the back-dirt. At present there is a RI¹, M₁, RC¹, RM₁, all of which indicate an age of 4-5 years. The incidence of a newborn is indicated by the presence of an immature ilium fragment, 4 long bones (2 of which measure 33.5 and 35.8 mm in length), and 2 mandibular fragments.

The human remains from the Histo Chamber were collected from the surface, as well as from

a large pile of looter back dirt toward the rear of the chamber. The remains are damp and poorly preserved, partially due to a matrix composed primarily of bat guano. Numerous small fragments were recovered, including cranial, vertebral, and long bone fragments. Fragmentary elements include the right pubic symphysis, right talus, a scapula fragment (of the acromial process), and the distal end of a right tibia. The symphyseal surface of the pelvis indicates an individual approximately 20 years of age. Juvenile elements were also present, including 2 metatarsals, 5 phalanges and a right calcaneus.

DISCUSSION AND CONCLUSION

It has been suggested that Actun Tunichil Muknal and Actun Uayazba Kab are caves that differed not only morphologically, but also with respect to the cultural activities conducted within them. The individuals within the Main Chamber at Tunichil Muknal were deposited deep (500 m) within the dark zone of the cave, they are all located on the surface, and are not accompanied by grave goods. The positioning of the remains within shallow depressions and travertine pools also suggest that they may have been intentionally placed in pools of water. In contrast the remains of the individuals from Actun Uayazba Kab are located within the Main Entrance chamber. Since the entrances face east, the Entrance Chambers are naturally lit by sunshine. Not until late afternoon is artificial lighting required to illuminate the small side alcoves of Uayazba Kab. In addition, the individuals at Actun Uayazba Kab were all buried below the surface of the cave, sometimes beneath plastered floors, and were predominantly accompanied by a large number of grave goods such as shell, obsidian, quartz crystal, pyrite, slate, ceramics and lithic material. These artifacts are also in direct association with the individuals, unlike in Tunichil Muknal where skeletal remains do not appear to have any directly associated artifacts.

The treatment of the individuals from each cave also appears to have differed. Several of the remains in the Main Chamber at Actun Tunichil Muknal display evidence of trauma and most likely represent sacrificial victims that accompanied other ritual offerings. The individuals in Actun Uayazba Kab appear to have been interred with accompanying grave goods. Thus, the individuals in Tunichil Muknal may have been perceived and treated as offerings, rather than as deceased members of the community who were buried within the cave..

The only individual from Actun Tunichil Muknal which shares some similarities, in its treatment at death, with those from Actun Uayazba Kab is the individual discovered in the Upper Entrance Chamber. Like at Uayazba Kab, remains of this individual were located within the entrance to the cave (although access to the entrance of Tunichil Muknal is considerably more difficult than at Uayazba Kab). The adult individual in the Upper Entrance Chamber was also buried under a tamped or poorly preserved plaster floor that represents the surface of a platform bordered by a low stone wall (see Griffith, this volume). Furthermore, there were large numbers of potsherds, jute shells (*Pachichylus* sp.), and animal bones in the area where the human bones were found. Due to the disturbed context of the burial, however, little more could be discerned regarding the nature of the grave.

Awe et al. (1997, in press; Gibbs 1997, 1998) previously argued that the 14 individuals located within Actun Tunichil Muknal were sacrificial victims. This is based on data recorded in both

the Stelae Chamber and the Main Chamber. At the former, Awe et al. (1997; in press) noted that the two monuments (one in the shape of an obsidian bloodletter, the other representing a stingray spine), two associated obsidian prismatic blades, and a Modelled-carved vessel depicting the presentation of a bound captive (see Helmke et al., this volume) were all indicative of ritual bloodletting and sacrifice. The relatively limited number of adult individuals in the Main Chamber of Tunichil Muknal and the predominance of infants and juveniles displaying trauma to the skull certainly lends support to the idea of sacrifice. The fact that ethnohistoric sources (see Thompson 1965) report that infants were the preferred victims of sacrifice to rain deities in caves also strengthens this argument. Furthermore, the haphazard nature of the remains, their location in travertine pools, and their general lack of associated grave goods indicate that the human remains in the Main Chamber were not burials *per se*, but actual offerings. The possibility that these activities were directed toward rain deities also lead us to believe that these individuals were sacrificed in association with agricultural fertility rituals.

In contrast to Actun Tunichil Muknal, the adult individuals from Actun Uayazba Kab are not believed by this author to be sacrificial victims, although the infants may have been. It is proposed here that the adults buried at Handprint were part of an ancestral lineage with ties to the cave, or were perhaps shamans or *h-men* who conducted the rituals and ceremonies within the cave. That these individuals were of local importance is implied by their associated grave goods which included jadeite, pyrite, and quartz crystal. The infants could have been victims sacrificed to accompany the deceased adult individuals. There is evidence for children being sacrificed to accompany heads of lineages or elite individuals (Coe 1993; McAnany 1996; Roys 1943; Tozzer 1941; Welsh 1988). Hopefully, future investigations at Actun Tunichil Muknal, Actun Uayazba Kab, Actun Yaxteel Ahau and perhaps Chechem Ha Cave will improve our understanding of the mortuary practices and rituals that were conducted within the caves of western Belize.

Acknowledgements

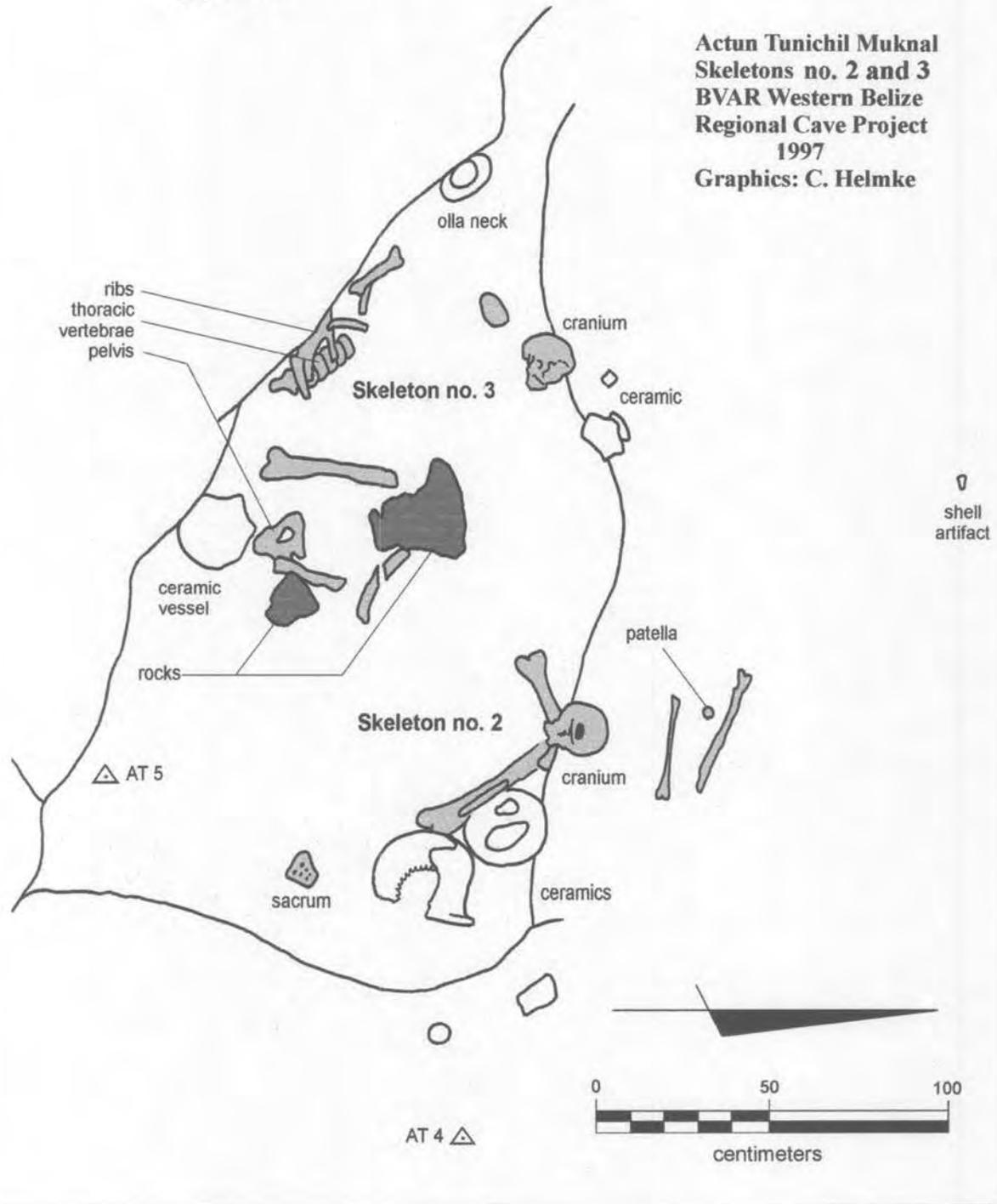
I would like to thank Commissioner John Morris, and the Belize Department of Archaeology, for their support of our research. I thank Dr. Jaime Awe for providing me the opportunity to work with the Western Belize Regional Cave Project. My gratitude is also extended to my thesis supervisor, Dr. Hermann Helmuth. In the field much appreciation goes to our crew who did a great job under some tough conditions. Special thanks goes to Don Valentin, Ventura Chi (aka Tigre), and Felix Uk for keeping me on my toes; to Jose Mai for the great food and laughs; Christophe Helmke for his wonderful artistic talents and comradery; Holley Moyes for her keen eye and company; Rhan-ju (the Wizard) Song for her help, comments, organization and friendship; to Cameron Griffith who made everything run so smoothly and helped me keep my sanity; and to Vanessa Owen, Adrienne Desjardine, Andrea Jesson, Samantha Smith, Pierre Robert Colas, Josalyn Ferguson, Pete Zubrzycki and David Valencia for their assistance and great company. I could not ask to work with a better group of people.

APPENDIX A:

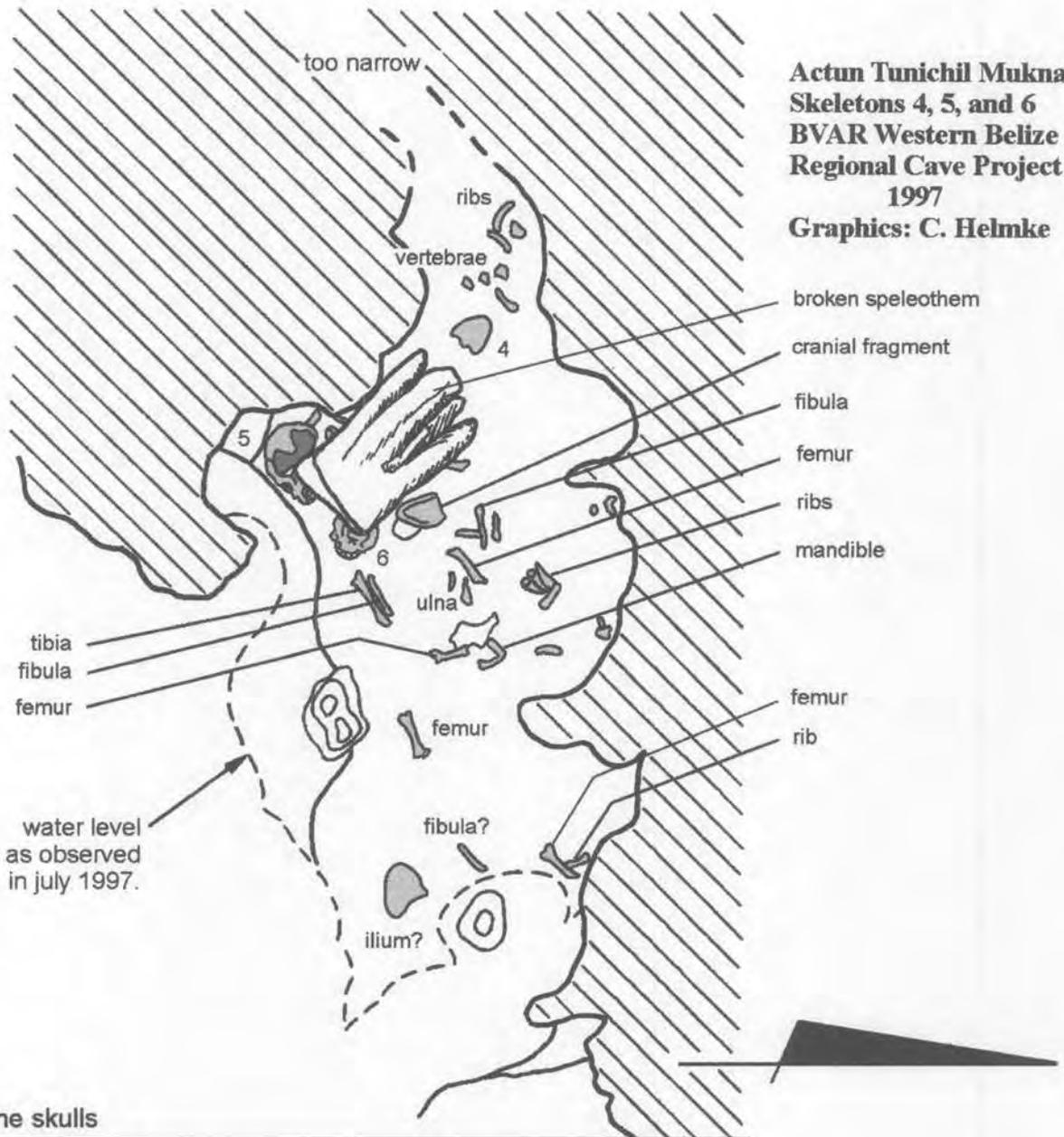
**ILLUSTRATIONS OF THE HUMAN REMAINS FROM
THE MAIN CHAMBER AT ACTUN TUNICHIL MUKNAL**

△ AT TD 17

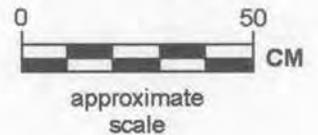
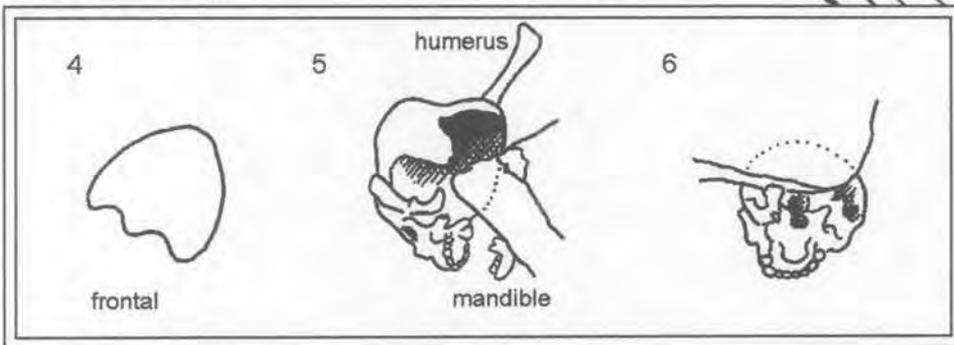
**Actun Tunichil Muknal
Skeletons no. 2 and 3
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke**



**Actun Tunichil Muknal
Skeletons 4, 5, and 6
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke**

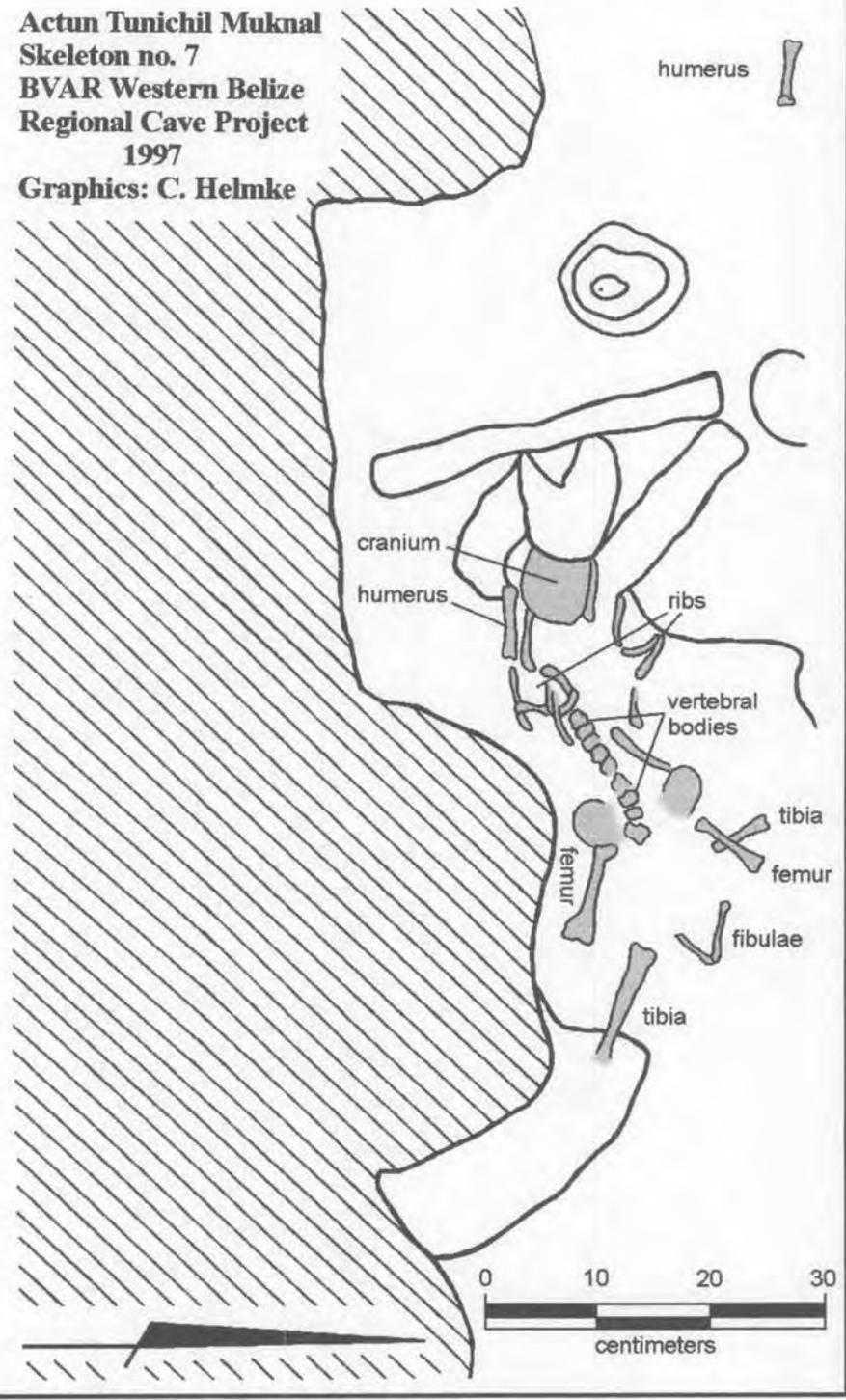


detail of the skulls

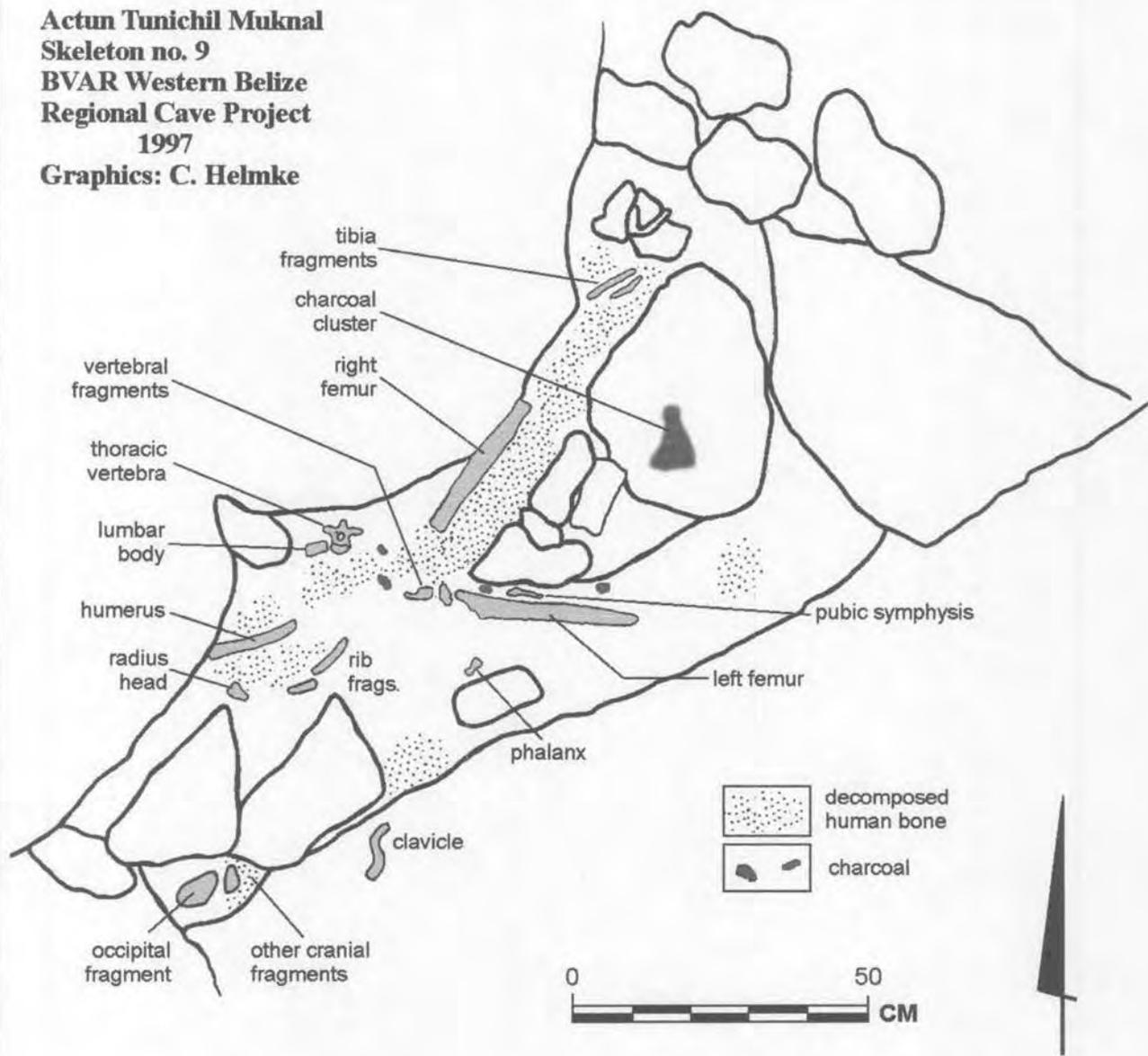


**Actun Tunichil Muknal
Skeleton no. 7
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke**

humerus 

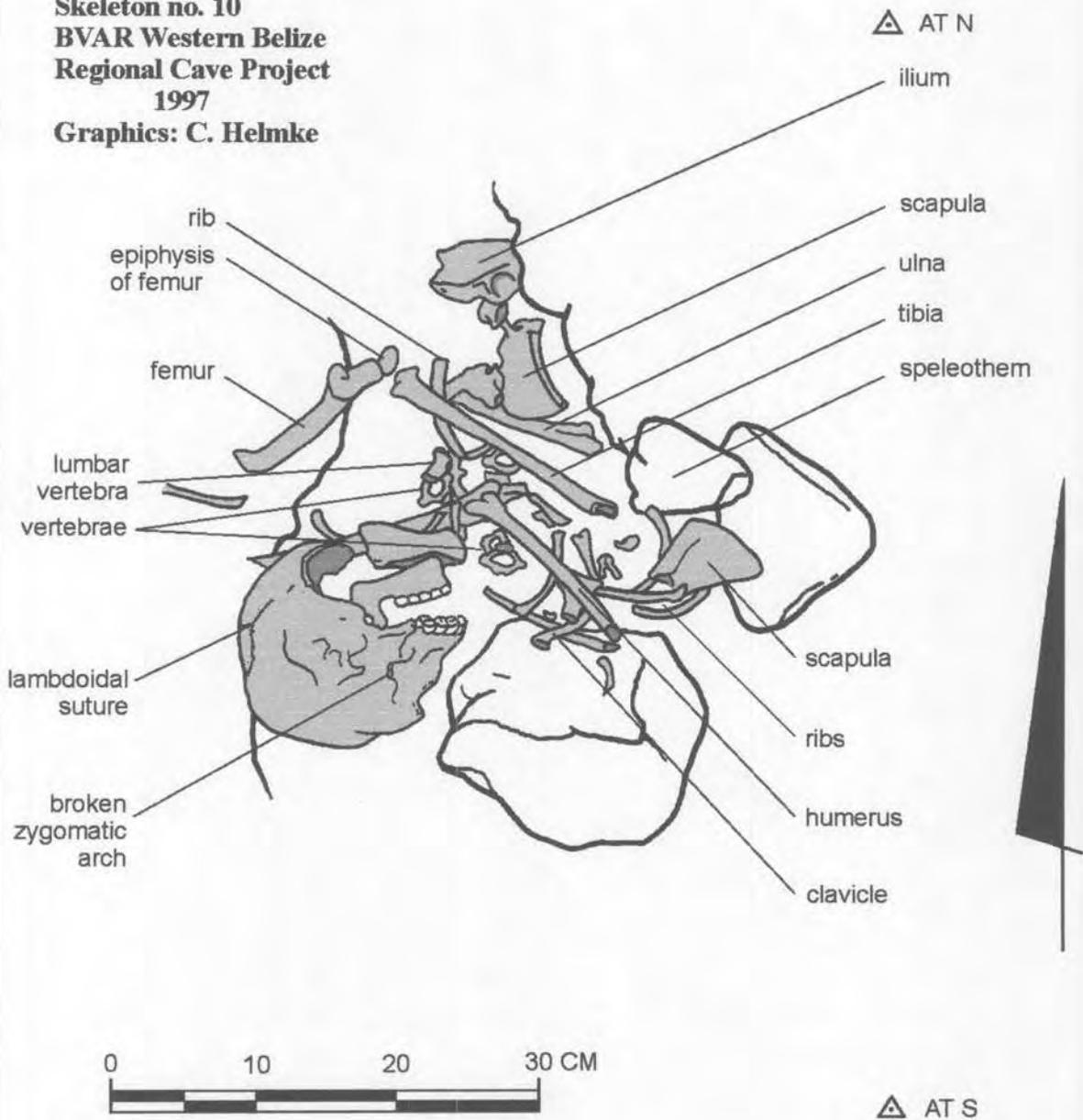


**Actun Tunichil Muknal
Skeleton no. 9
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke**

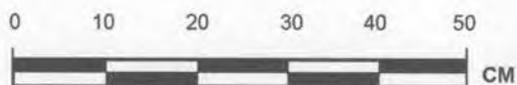


**Actun Tunichil Muknal
Skeleton no. 10
BVAR Western Belize
Regional Cave Project
1997**

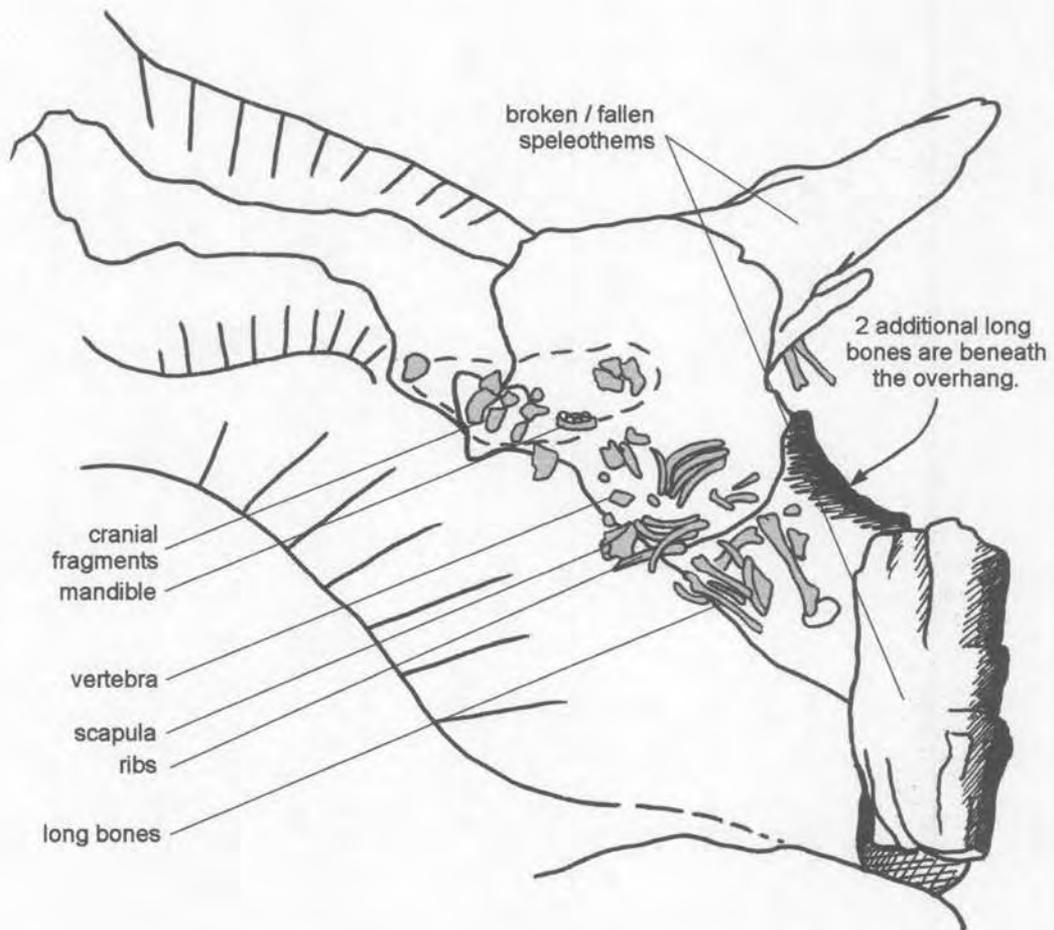
Graphics: C. Helmke



Actun Tunichil Muknal
Skeleton no. 11
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke

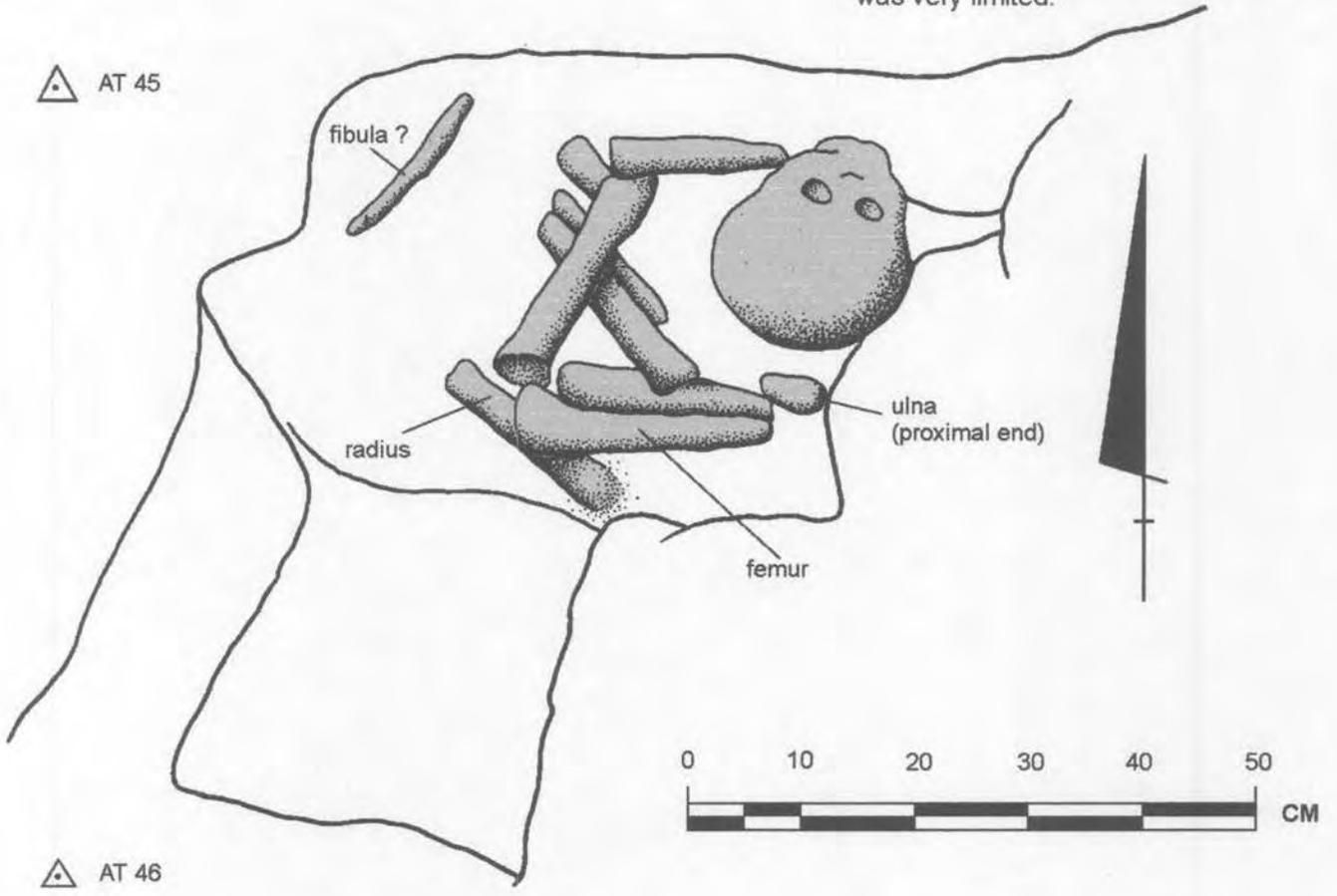


△
AT 78



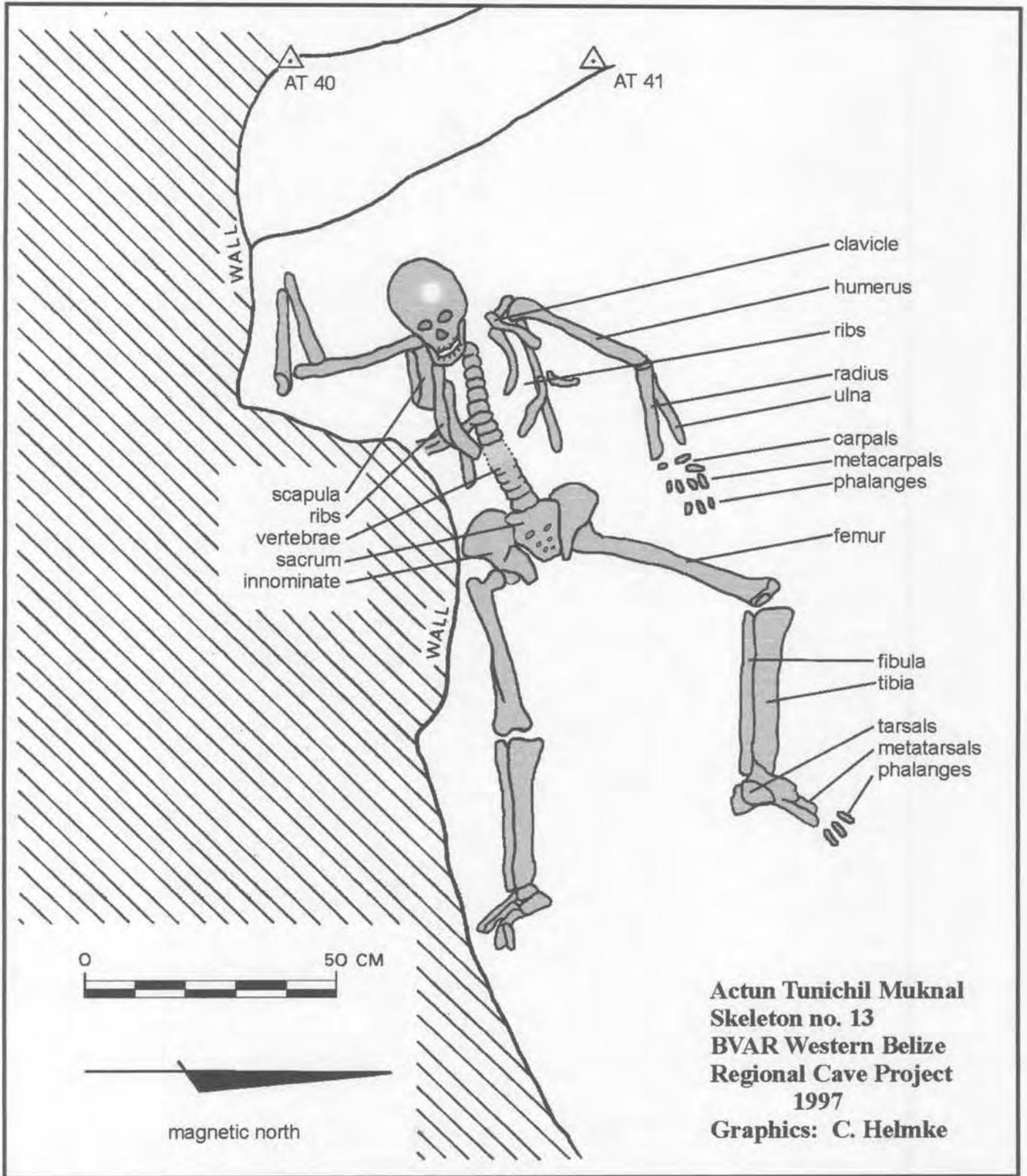
Due to the thick calcium carbonate coating (up to 11 mm), identification of the bones was very limited.

△ AT 45



△ AT 46

**Actun Tunichil Muknal
Skeleton no. 12
BVAR Western Belize
Regional Cave Project
1997
Graphics: C. Helmke**



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COMMENTS ON THE TYPOLOGY, EPIGRAPHY AND ICONOGRAPHY OF THE ACTUN TUNICHIL MUKNAL VASE AND BELIZE VALLEY MODELED-CARVED VESSELS

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INTRODUCTION

This paper presents the results of a stylistic, iconographic, and epigraphic study of a vase that was recently discovered at Actun Tunichil Muknal in western Belize (Awe et al. in press). It notes that the vase is almost identical to other Terminal Classic modeled-carved vessels that have been discovered in various contexts in the greater Belize River valley and eastern Peten (Fig. 1), but typologically different from Pabellon Modeled-carved pottery from the Peten. The similarities of the Belize valley specimens, in terms of their shape, their inscribed texts and the two carved panels which decorate the circumference of their barrel-shaped bodies further argues for the establishment of a new ceramic type. The new type designation proposed by this study is Belize Valley Modeled-carved.

CONTEXT OF THE TUNICHIL MUKNAL VASE

The Tunichil Muknal vase (Fig. 2) was recovered, in fragmentary condition, on a ledge overlooking the main river passage (Fig. 3). Designated as the "Stelae Chamber", the ledge lies approximately 250 m from the eastern entrance of the cave (Awe et al. in press; Miller 1989abc.). At the center of the ledge are two vertically erect slate monuments, supported by several speleothems. Around the monuments were found an obsidian bloodletter, a carved slate tablet, a small slate artifact, and fragments of at least five ceramic vessels. The vessel fragments included the remains of two Roaring Creek Red dishes, one Tinaja Red dish, a Cayo Unslipped jar, and the modeled-carved vase. Interestingly, in no case were all the pieces of any vessel found on the ledge, even after careful examination of the cave floor was made in 1993 by Awe and by WBRCP personnel in 1996 and 1997. This is significant because there are only small patches of matrix on the ledge, none of which conceals significant amounts of cultural material.

The fragmentary condition of the vessels may very likely be the result of termination rituals. The absence of several fragments, including the entire base, of the modeled-carved vase may be explained in a similar fashion. Elsewhere in Tunichil Muknal the caching of partial vessels was also documented in the Main Chamber. At the latter, the oven foot of a tripod vessel was found near a

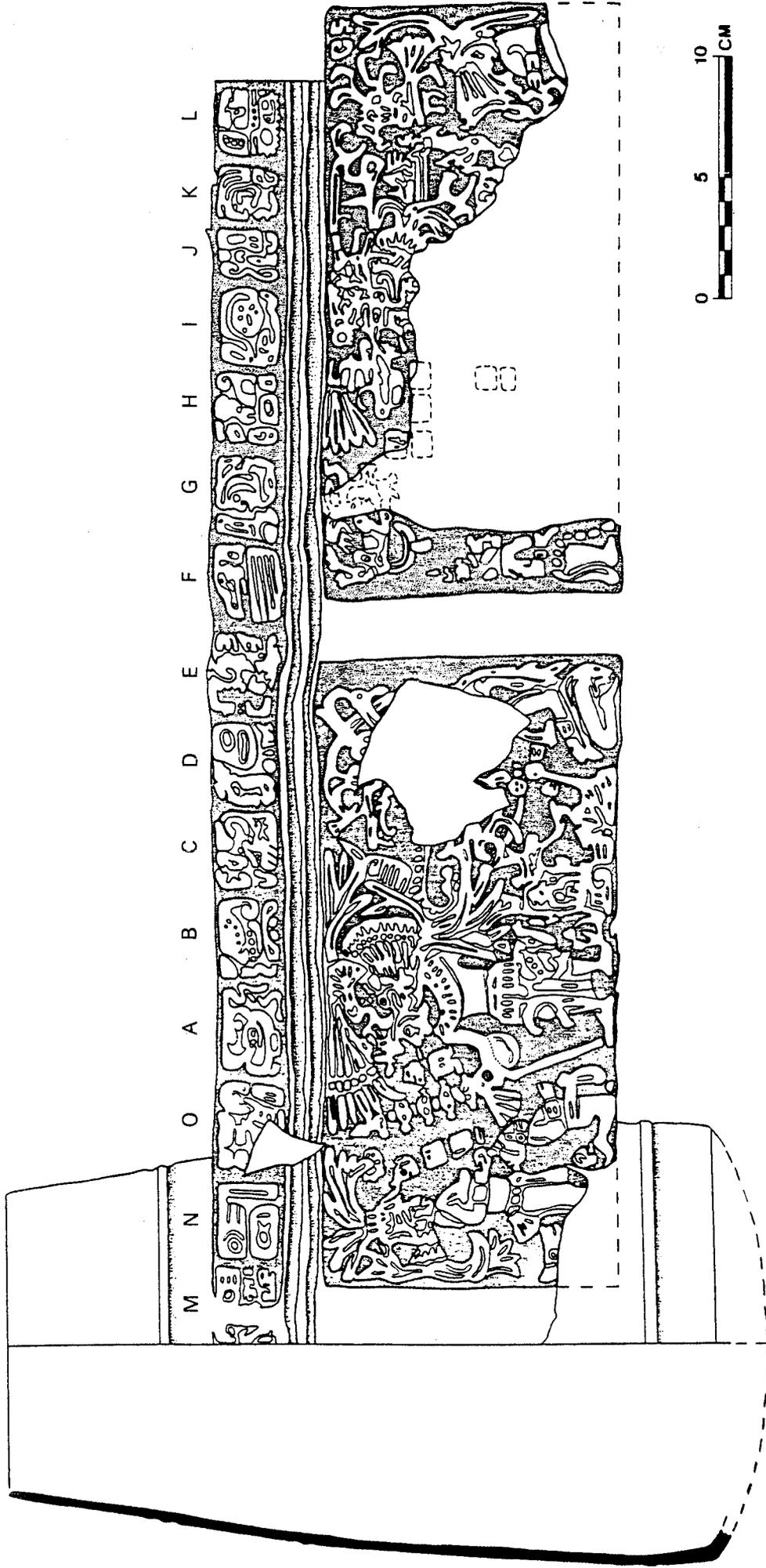


Figure 1: The Actun Tunichil Muknal vase. (Drawing by Christophe Helmke).

Note that the vessel should have three oven feet below the concave base. These were not reconstructed on the drawing as they were not recovered and their dimensions alter considerably from one specimen to the next.

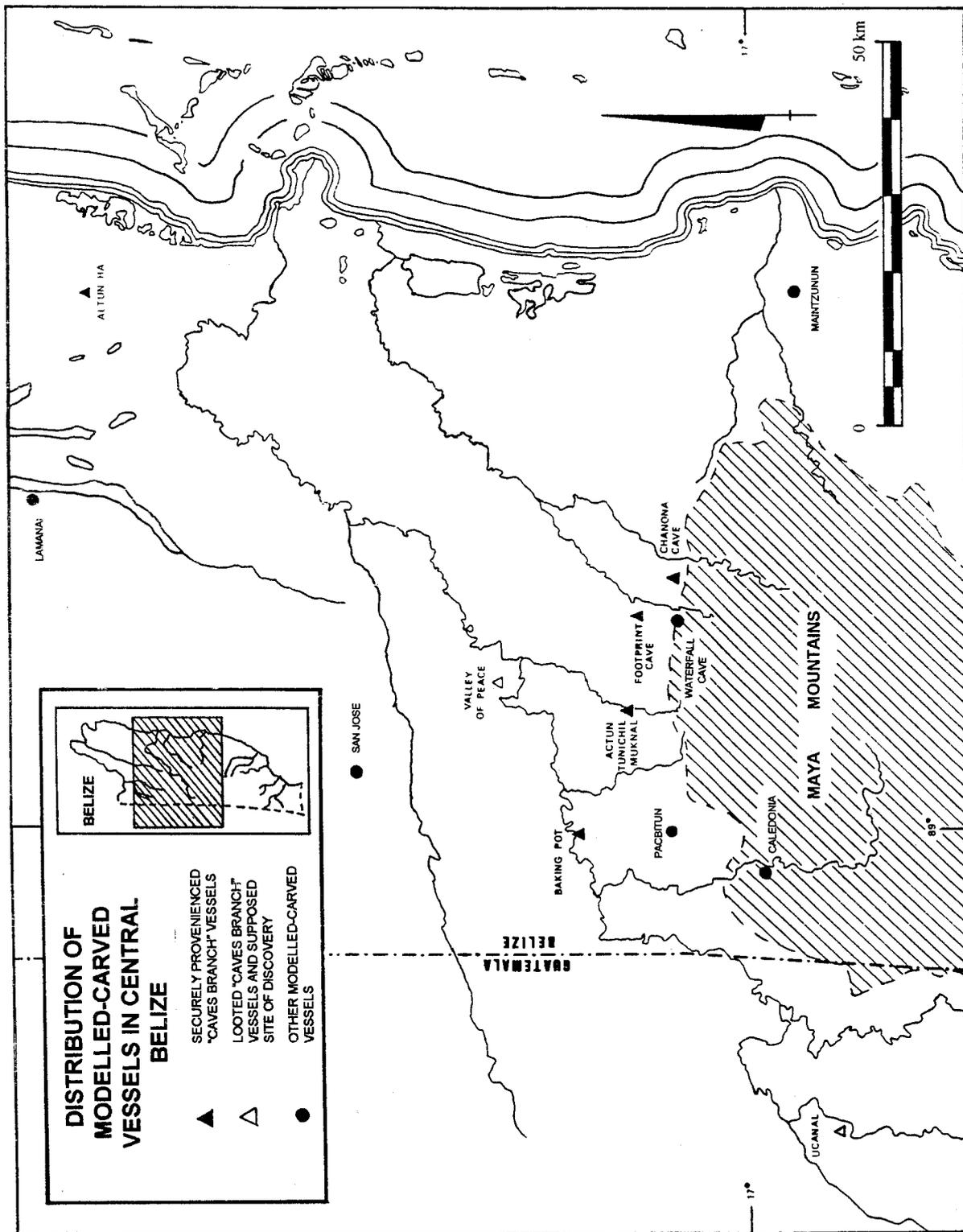


Figure 2: The distribution of sites in central Belize where modelled-carved vessels have been discovered.

ACTUN TUNICHIL MUKNAL
 (Cave of the Stone Sepulchre)
 Cayo District, Belize C.A.

The Tunichil Muknal Vase was found here.

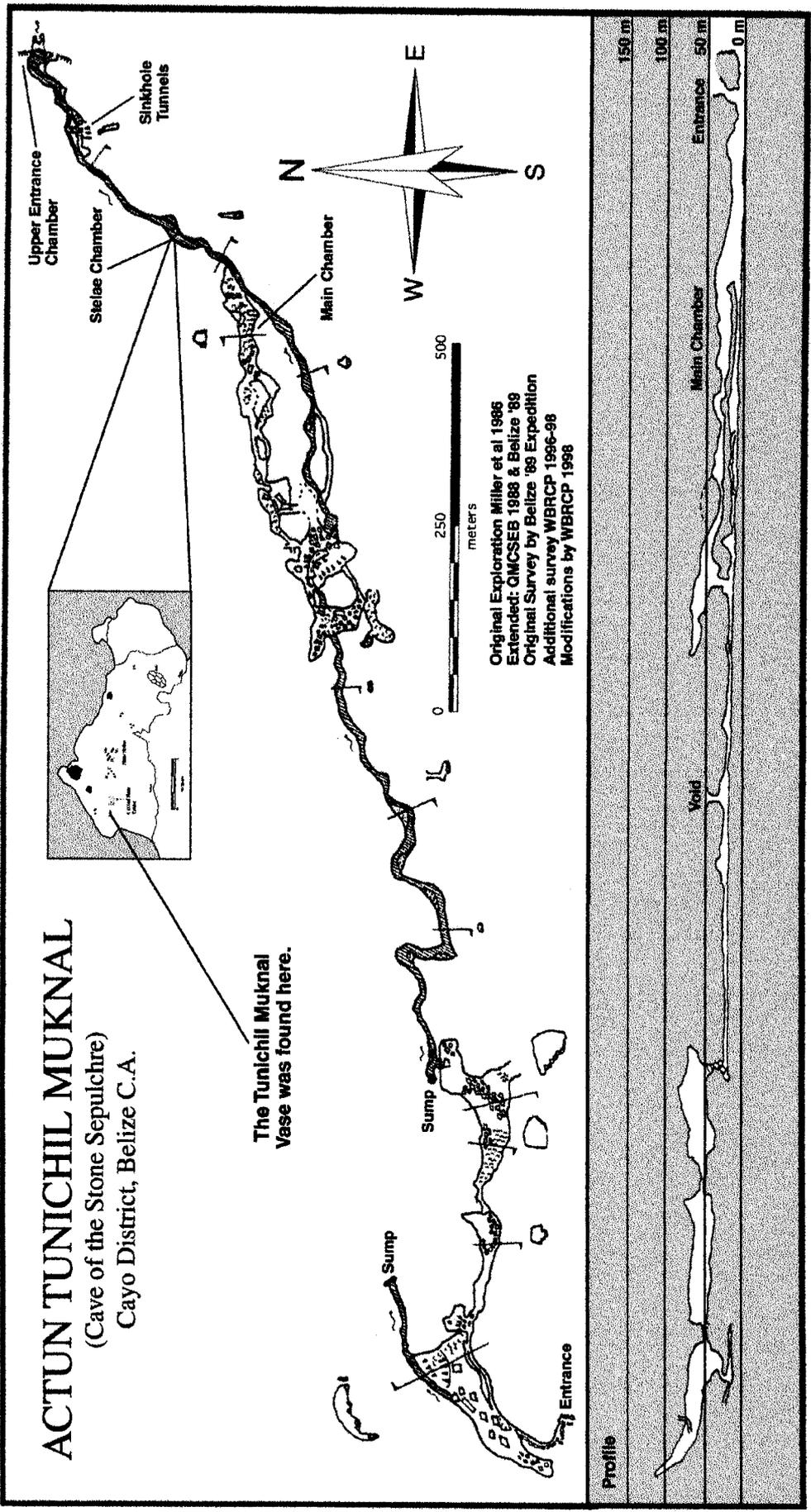


Figure 3: Map of Actun Tunichil Muknal with the location of the Stelae Chamber indicated. Inset: Plan of the Stelae Chamber showing the context in which the modeled-carved vessel was found.

cluster of other sherds and pots, approximately 6 meters away from the rest of the vessel. Within the same chamber it appears that fragments of a metate are located more than 25 meters apart from each other. In the case of the modeled-carved vase, the three largest sherds were found lying against a travertine dam, neatly placed next to each other. This suggests that once the vessel had been broken, several of the larger sherds were placed in the location where they were discovered. The absence of the base and several smaller sherds further indicate that the remaining fragments of the vessel were either thrown into the deep pool below the ledge, or deposited elsewhere in the cave.

Similar sherd disposal, and the apparent deliberate termination of ceramic vessels, has been documented at several other caves, including Eduardo Quiroz Cave (Pendergast 1971), Petroglyph Cave (Reents 1980) and Footprint Cave (particularly the Footprint vase) (E. Graham, et al. 1980). The practice of collecting the larger sherds of broken ceramics and their disposal in clusters at significant loci, such as axial alignments or structures, staircases, or the base of monuments has also frequently been noted in excavations of monumental architecture. Such "votive offerings" have usually been considered as termination rituals which may have coincided with renewal ceremonies, or important dynastic events. The evidence of such practices at both surface and sub-surface sites, indicates that they are most likely analogous in terms of their emic significance. Pendergast has suggested that the practice of smashing ceramics at cave sites may have occurred cyclically (Pendergast 1971: 112) as has been documented for period-ending rituals during early colonial times in the Yucatan.

COMMENTS ON THE TYPE-VARIETY-MODE OF THE BELIZE MODELED-CARVED VASES

The first published examples of modeled-carved vessels from Belize were specimens found in Chanona and Footprint Caves (see E. Graham et al. 1980; Pendergast 1982, 1990) , and at Caledonia (Awe 1985), all in the Cayo District. In their description of this pottery, Graham et al. (1980:164) and Awe (1985:) noted that while the Belize specimens shared limited similarities with Pabellon Modeled-carved vessels from the Pasion area of the Peten, there were several important distinctions between the pottery from the two regions. In the Peten, for example, Pabellon Modeled-carved pottery (originally established as a type by Smith and Gifford in 1966), was the product of a Fine Orange tradition. Its principal identifying modes are that it has fine, temperless, orange paste, it has modeled-carved designs, and there is substantial variation in vessel forms at the sites (e.g. Seibal and Altar) where they occur (see Adams 1971; Sabloff 1975:194-198). Slips of the Peten material range between orange, reddish brown or black. Vessels generally have flat or pedestal bases and designs rarely include glyph bands (rare examples have pseudo glyphs).

In contrast to Pabellon Modeled-carved pottery, Belize Modeled-carved ceramics are generally calcite-tempered, sometimes ash-tempered and have pastes that range from buff to orange. Slips are orange or orange-red in color; none have been found with black slips. Modes are consistently in the form of vases that taper slightly toward the rim and bases are flat or concave with three hollow oven foot supports. Designs on vessel exteriors include a band of glyphs, which predominantly function as a PSS, carved just below the rim and the body is decorated with two panels which consistently depict a relatively standard scene (details of the scene are presented below). Although the designs on most vases appear to have been carved then modeled, Graham (1980:164) previously suggested that a template or mold may have been used to imprint the scenes on a vase from Chanona Cave.

Thus far the Belize specimens have been tentatively referred to in the literature as Belize Modeled-carved vessels (see E. Graham 1987, Awe 1985). We support this designation because, given the major differences between the modeled carved pottery from the two areas, the Belize Modeled-carved vases cannot be considered Pabellon and neither should they be referred to as "imitation" Pabellon. The Belize valley pottery are a local product that vaguely resembles, not duplicates, Fine Orange ceramics. Their form and design are also strikingly different. The oven foot supports on the flat to concave bases of the Belizean specimens, contrasts with the flat or pedestal bases which support the Peten vessels. In view of these differences it is argued here that the Belize modeled-carved vessels represent a local, non-fine orange, modeled-carved ceramic type. We also concur with Graham that "The variety in execution of the scene and in pastes of the vessels indicates that (...) no mold was used to control execution, as was the case with Pabellon Modeled-Carved" (E. Graham 1987: 79). It is also important to reiterate that the iconographic theme on the Belize Valley modeled-carved vessels must have been shared by Belize valley potters because the vessels from this sub-region are almost identical in terms of their iconography and the hieroglyphic texts that decorate them.

The uniformity in shape and design of the Belize valley Modeled-Carved vessels, as well as the number of specimens that are represented justify their designation as a new type variety. We propose that this new type be referred to as "Belize Valley Modeled-carved" particularly since their distribution appears to be concentrated in the greater Belize River drainage. The variety under consideration in this paper is designated as the "Caves Branch" variety after the already published name attributed to the panels that decorate them (see Graham 1980; 1985). The other modeled-carved vessels that are found in Belize are of yet unspecified varieties, but future analysis of their pastes, slips and the patterning of their decorative panels will help to determine whether separate variety designations should be assigned.

An intensive study of the contexts, iconography and epigraphy of the Belize Valley Modeled-carved vessels may also shed light on the possible function of these vessels. Of particular interest is the fact that several of these vessels have been found in caves, always in fragmentary condition. The most recent specimen is the one discussed in this paper from Actun Tunichil Muknal (Fig. 2 & 3). Possible ritual actions have been suggested for their fragmentary and incomplete condition (e.g. E. Graham et al. 1980). The sacred nature of caves, and the location of these vessels within them, may therefore be indicative of special ritual or function, or the social stature of the ritual practitioners that used the caves.

As temporal markers, Pabellon Modeled-Carved ceramics from the western Peten are diagnostic of the Terminal Classic period (AD 800-900). A similar Pabellon-like vessel, bearing different panels, was discovered at Maintzunun (in the Stann Creek district of southern Belize; see Fig. 2) in "a cache deposit in Str. 1, post-dating occupation levels and radiocarbon dated to the late 8th century" AD (E. Graham et al. 1980: 165; 1985: 217, 229 no.1). The Belize Valley Modeled-carved vessels are contextually found associated with Spanish Lookout Complex types (Gifford 1976) thus have also been assigned a Terminal Classic date in this subregion.

SPATIAL DISTRIBUTION OF BELIZE VALLEY MODELED-CARVED VASES

Since the 1970s more than a dozen almost identical modeled-carved vessels have been recovered in fragmentary condition in Belize. Remains of four of these identical modeled-carved vessels were found in cave contexts, namely at Actun Tunichil Muknal (Awe et al in press), Chanona Cave, Footprint Cave (E. Graham et al. 1980), and in Waterfall Cave (E. Graham et al. 1980). A Modeled-carved sherd bearing part of the main hieroglyphic text and upper portion of a decorative panel that is identical to the vessels in question was also seen in a private collection and was said to have been found in a cave in the Caves Branch area (Kay Sunahara personal communication 1997).

In the Vaca Plateaux, fragments of other modeled-carved vessels were found in Actun Balam (Pendergast 1969), but the iconographic program of the vessel may differ from those of the Belize valley. North of Actun Balam, along the banks of the Macal River, investigations by Awe at the medium-sized site of Caledonia also recovered the remains of at least two modeled-carved specimens within the room of Structure A1 (Awe 1985:261, Fig. 100). Thus far, however, no 'Caves Branch' specimens have been reported in surface or sub-surface contexts in this area (Philip Reeder personal communication 1998). Judging by the distribution of modeled-carved vessels in the greater Belize valley area, however, one should expect to find other specimens in the Vaca Plateau.

Recently the most complete and finely carved of these vessels (see Figs. 4 and 6) was seized by Guatemalan authorities from looters near the modern town of Melchor de Mencos. According to Reents-Budet (personal communication, 1996) the looters claimed that the vessel was discovered at the site of Ucanal, located along the Chiquibul branch of the Mopan River (See Fig. 2). Another vase was seized by Belizean authorities in 1982 and interrogation of the looter indicated that it had been unearthed from a tomb at the site of Valley of Peace (approximately 15 km northwest of Belmopan, Belize). Sherds of roughly identical Caves Branch scenes, which represent at least nine vessels, were excavated at Altun Ha. They were discovered in middens that slightly predate the abandonment of the site, and within the collapsed debris of several residential and ceremonial structures in the periphery (Helmke n.d.a). Three modeled-carved vessels with panels decorated by scenes other than that of the Caves Branch type were also discovered at Altun Ha. Interestingly, not a single modeled-carved specimen was recovered from the more extensive excavations of the monumental architecture in the site core (see Helmke n.d.a.).

At Xunantunich, a specimen was discovered in overburden between two structures (Strs.22-2 and 22-3) at a formal patio group known as San Lorenzo (S. Chase 1992; LeCount 1996: 135-137, Fig. 5.4b, p. 141, 143). At Baking Pot, a rim sherd bearing two hieroglyphs was discovered in Terminal Classic overburden/collapse of an important residential structure (Str.193) that lies south of Group I and east of the causeway (Piehl 1997: 44). An exquisite example of a modeled-carved vessel was also recovered from the surface of Structure N10-15 at Lamanai, while other modeled-carved sherds have been found "as surface scatters over Late Classic buildings, and occasionally in Terminal Classic middens" (E. Graham 1987: 79-80). Modeled-carved sherds are also reported from residential structures in the periphery of Pacbitun (Kay Sunahara personal communication 1998). The significance of the context in which these modeled-carved vessels are found are beyond the scope of the present study, although Helmke (n.d.a) is currently in the process of examining the intersite contexts in which they have been found.

In summary, the fragmentary remains of at least four Belize Valley Modeled-carved: Caves Branch variety vessels have been recovered from caves, namely Chanona Cave (1), Footprint Cave (1), Waterfall Cave (1) and Actun Tunichil Muknal (1). A sherd from the Caves Branch area (in a private collection) may also derive from a subterranean site in this area. In comparison, at least 14 specimens of the same variety have been recovered at surface sites, namely Valley of Peace (1), one possibly from Ucanal (1), Baking Pot (1), Xunantunich (1), Pacbitun (1), and Altun Ha (9). Another 10 specimens bearing other decorative panels were recovered at Maintzunun (1), Lamanai (>1), San Jose (2), Altun Ha (3), Caledonia (2), and Actun Balam (>1).

Planned chemical analysis of the Belize Valley Modeled-Carved specimens will enable us to establish whether paste differences exist among these specimens. This will ascertain whether the near identical forms, surface treatment and decoration of these vessels are a result of inter-regional trade or whether they represent a widely shared tradition of vessel manufacture at several production centers. Tying the chemical profiles to those of local ceramics may determine in which areas they were produced. Fortunately, the majority of these vessels were excavated archaeologically and come from secure contexts. This will ensure accuracy for determining whether certain vases were indeed traded or not. The vessel which is said to have been discovered at Ucanal has already been sampled for petrographic analysis by Dorie Reents-Budet, but the results of the analysis are not yet available (personal communication to Jaime Awe). Petrographic analysis and neutron activation analysis of the fine paste ceramics excavated in the Tikal-Yaxha survey transect (Ford 1986), has demonstrated that these sherds bear a closer affiliation to the related Mars Orange type from Uaxactun (Bishop 1986: 168). This indicates that the specimens recovered were likely the result of local production rather than imports from the upper Usumacinta area as would have been assumed on the basis of the model of Putun diffusion of Fine Orange ceramics (cf. Thompson 1970). Results of the Fine Paste Ceramics Project under the direction of Jeremy Sabloff (1982), suggest that while Fine Orange and Fine Gray ceramics of the Usumacinta may have as prototypes ceramics from Tabasco and southern Campeche (Rands et al. 1982: 326-327), "it is no longer tenable to look to a limited set of production centers in Tabasco or adjacent Campeche for Fine Orange and Fine Gray ware" (ibid.: 334). This indicates that although initial 'diffusion' may account for their introduction to the upper Usumacinta-Pasion area, their subsequent production during the remainder of the Altar, Balancan, and Tres Naciones ceramic groups was localized, although limited trade between sites cannot be excluded. This data suggest that the Belizean modeled-carved vessels were also the result of local production at several centers. If this is the case, then different areas of raw procurement should be indicated in the chemical profiles. Since so many nearly-identical specimens have been found in Belize, it is possible that certain specimens may be found to have been imported to their place of discovery. Further discussion, however, will have to wait until analyses are conducted on all Belizean specimens.

1) ICONOGRAPHIC ANALYSIS OF THE TUNICHIL MUKNAL VASE

a) Panel A (see Figs. 1 and 4)

Panel A of the Tunichil Muknal vase depicts four people and a dog. To facilitate discussion, this panel can be divided into two main sections, the left and right sections. At the central axis of the panel is the main figure which stands facing to the right. Facing the main figure are two individuals, one standing and one kneeling, and a dog. The right section of the panel is more cluttered than the

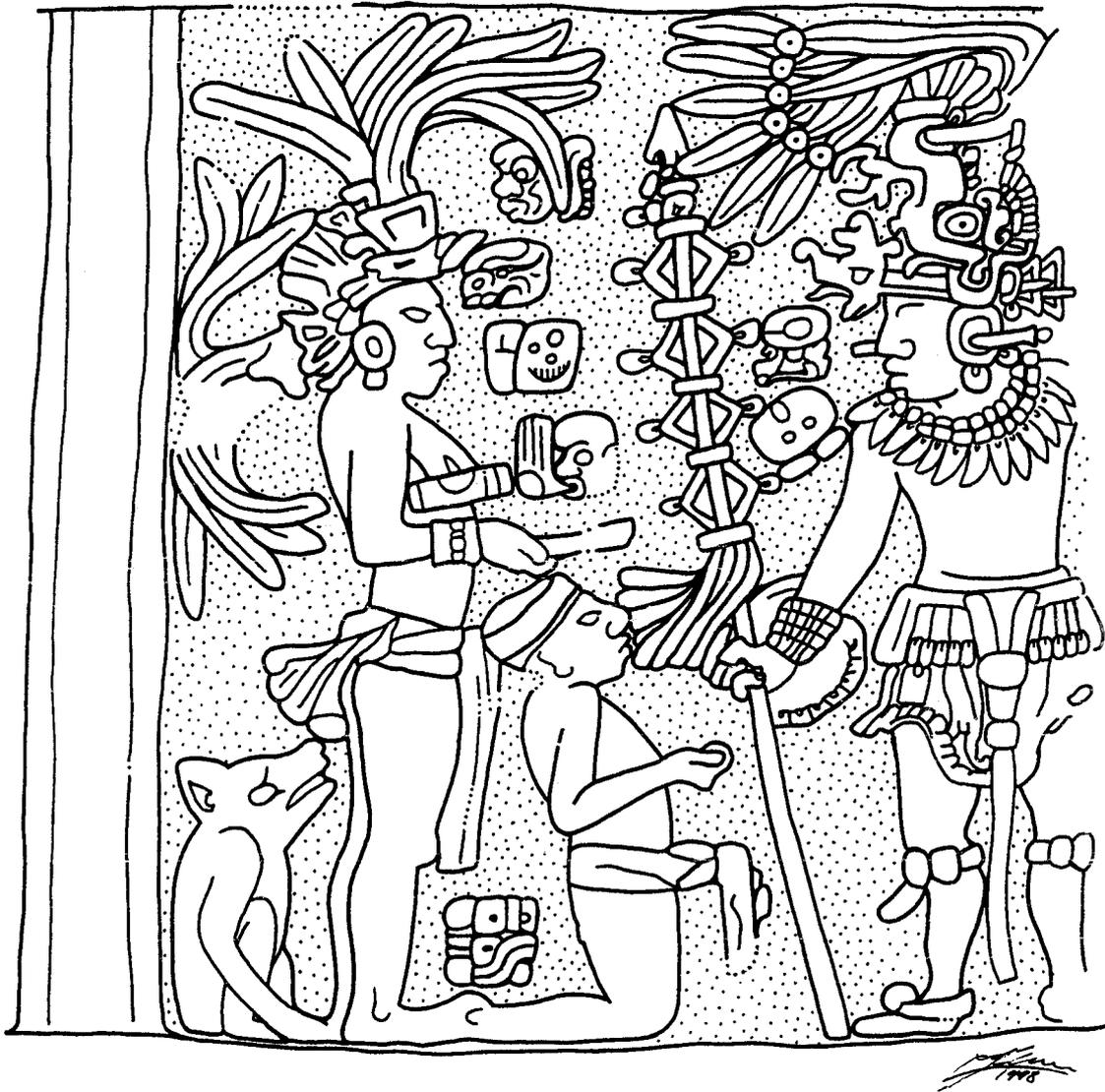


Figure 4: Detail of Panel A on the Ucanal vessel. The drawing was adapted from photographs.

left and is dominated by the headdress and the backrack worn by the central figure. In the lower right hand corner of the panel there is a solitary kneeling individual. This individual is separated from the central figure by complex iconography representing the intertwining feathers, regalia, and the vision serpent which emanates from the backrack of the central figure.

The dog is represented with almost human limbs, in an unnaturally-crouched position. The lack of realism in the depiction of the dog should not, however, be assumed to reflect poor talent on the part of the artist who carved the vase. The Modeled-carved vessels adhere to a strict iconographic program and the elements which were to be represented had to be placed on a limited space. Consequently a realistic portrayal of the dog may have been affected due to spatial constraints. The substitution of human limbs enabled the artist to represent the dog in a compact posture which natural canine anatomy does not allow.

The individual standing to the right of the dog wears a feathered headdress which is considerably more modest and realistic than that worn by the central individual. The most salient feature of his headdress is a trapezoidal design which has been associated with a Mexican Year Sign. Schele and Freidel (1990 : 416, 412) have interpreted this design when coupled with the goggle eyes of Tlaloc as an emblem of warfare that was shared by many contemporary Mesoamerican cultures, including Teotihuacán. Although the headdress of the figure does not feature the goggle eyes of Tlaloc, it may still indicate his function as that of a warrior. Since he is standing behind a kneeling captive, the interpretation of the figure as a warrior is strengthened. The jewelry worn by the figure is relatively modest in comparison to that worn by the main figure. He wears earspools from which a bead is suspended plus a large, possibly cylindrical breastplate. He also wears cloth wristlets which are secured by a beaded bracelet. In his right hand he holds an unidentifiable object. His loincloth is simple and fastened behind him in a knot from which swing cloth strips. The clearly represented protruding distal end of the fibula indicates that the person is barefoot, as high-backed sandals conceal this feature. All these characteristics suggest that the person is of non-royal status. The glyphs associated with this individual do not record purely royal titles either.

The kneeling captive is stripped of all his regalia and wears nothing but a simple loincloth and a turban. The stripping of captives is a well documented practice. This custom, unfortunately, makes it difficult for the modern iconographer to determine the social stratum to which captives belong, unless a glyph indicating the person's status accompanies the composition. The glyph which is associated with the figure will be discussed below. The captive's right hand is clenched into a fist. Many of the captives represented on the Bonampak murals also have their hands in the form of a fist. The blood dripping from their hands has been taken as an indication that their fingernails were torn from their hands and the fists are interpreted as an effort to alleviate the searing pain which they were suffering. On the Modeled-carved vessels there is no indication that blood is dripping from the captive's hand, although he may have suffered the same fate.

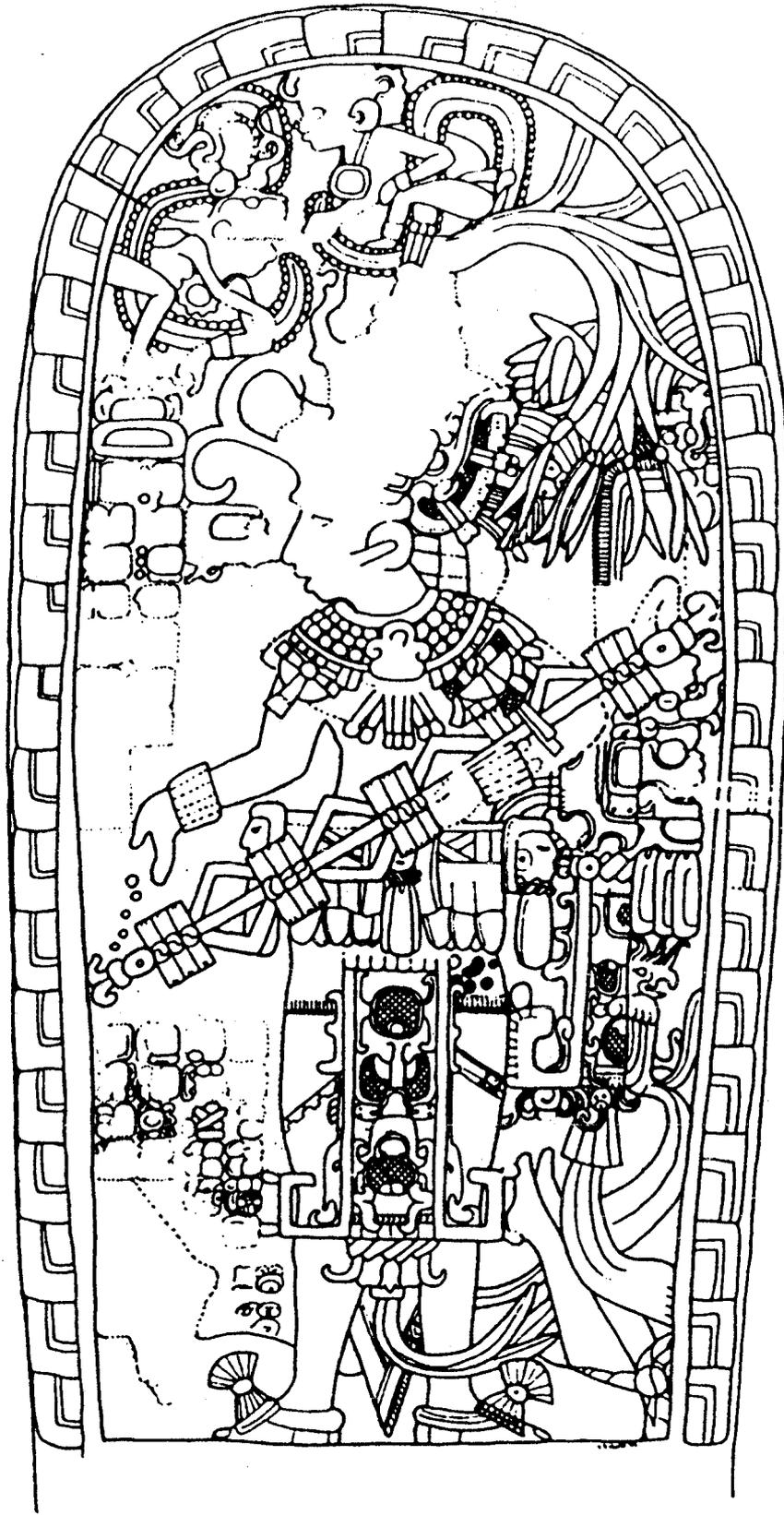
The main figure holds a war staff in his right hand and has a small circular shield tied to his forearm. Although the front of the shield is not visible, it may have represented god GIII of the Palenque Triad as the Jaguar God of the Underworld, since he is almost always represented on shields depicted on Late Classic art. This deity is also associated with warfare, and is generally considered to have been the patron of war (Schele & Miller 1986: 50). The most salient characteristic of that

variant of GIII is the cruller lining the lower edge of his eyes and extending between them. A good example of such GIII war shields is the one represented as the centerpiece of the “war stack” on the Tablet of the Sun from the Temple of the Sun at Palenque. Other examples of war staffs that are represented on Late Classic monuments are usually topped with a large spearhead, but this may be related to the Late Classic ceremonial bars (Fig. 5) carried by the rulers of Tikal (e.g. Stela 30, 16, 22, 19, and 11).

The war staff represented on an unprovenanced stela at the Reitberg Museum in Zürich, Switzerland, is tipped on both ends by asymmetrically side-notched eccentric flints (cf. Eggebrecht, Eggebrecht & Grube 1992: 356). The spearhead on Stela 8 of Naranjo is similarly notched on one side. The length of the lithics hafted to war staffs as well as the two examples of eccentrics hafted to them indicate that these staffs were not functional weapons. They were carried during ceremonial occasions as an emblem of the ruler as a warrior and represented his capacity in warfare. What is interesting with the lithics hafted to the war staffs represented on the Modeled-carved vases is the fact that they are relatively short when compared to other depictions on monuments. Furthermore, on the Ucanal vase the lithic is shaped more as an arrowhead and seems to be side-notched for hafting. If it is assumed that the main figure stood roughly 163.5 cm (the average height of Late Classic male elites based upon osteological data; see Haviland 1992; cf. also 1967), then the visible length of the lithic on the Ucanal vase would have been approximately 13.3 cm. This is considerably longer than the great majority of Postclassic basally-notched arrowheads, such as the ones that have been recovered in great numbers at the site of Santa Rita Corozal. However, the apparently side-notched lithic depicted on the Modeled-carved vases indicates outside influences to the Belize valley since previous examples of such lithics are not notched for hafting (Elizabeth Graham personal communication 1998). Affiliation between the lithics on the Modeled-carved vessels with Early Postclassic lithic traditions is, however, implied. Since Pabellon vessels are found in the Bayal complex at Seibal, and during the Boca complex at Altar de Sacrificios, the Early Postclassic date implied for the Belizean specimens on the basis of lithic side-notching is logical given that the Bayal complex lasted longer than the Spanish Lookout complex in the Belize valley. Thus the Modeled-carved vases may date to the transitional period between Spanish Lookout and New Town complexes, rather than being exclusively associated with the Spanish Lookout phase to which they have been previously assigned.

The fluttering cloth strips or feathers that are attached to the mid-section of the war staff, sway in a similar direction as the cloth strips of the warrior’s loincloth. The realism by which the flow of these ribbons or feathers is represented, suggests that wind traveling from the right to the left of the panel was intended to be portrayed. This implies that the scene in Panel A was represented outdoors. The fact that the few known depictions of dogs in Maya art represent scenes that take place outdoors further suggests that Panel A depicts an outdoor scene.

The main figure wears sandals and knee-guards that are attached to small overlapping discs. Unlike other representations of knee-guards on monuments from the Usumacinta the ones depicted on the Modeled-carved vases do not have rows of small beads hanging from them. The belt assemblage is relatively modest although a row of possible olive shell (*Oliva* sp.) tinklers may line the lower edge of the belt. The loincloth is long, narrow, and plain. Below the loincloth the individual wears a short skirt that is longer in the front than it is at the hips. The sides of the skirt seem pointed



Tikal Stela 11

Figure 5: Drawing of the recto of Stela 11 from Tikal. Drawing by Linda Schele.

and extend outwards, similarly to the pointed hipcloths represented at Yaxchilán (see Tate 1992). The pointed hipcloths have been interpreted by Carolyn Tate (1992) as being associated with bloodletting rituals and are sometimes worn by rulers in warrior costumes (e.g. Stela 31 and Stela 11 recto). The main figure wears on his wrists typical bracelets which are composed of four rows of beaded bracelets that are tied together. The beads composing these bracelets are usually interpreted as being made from jadeite or other semi-precious green stones.

The necklace is unusual in that it is composed of two rows of beads, to which is attached a third row of pointed elements. On Vessel 1 from lot RP 97 from Altun Ha this third row seems to represent feathers. On the Ucanal vase, however, the curved aspect of the elements composing the third row, as well as the little notches at the end of each of them may indicate that these elements were solid and drilled for suspension. It is possible that the necklace was composed of peccary tusks, although the absence of clear bone markings preclude this interpretation. The necklace worn by the main figure in Panel B is similarly composed of such pointed and curved elements. Stelae 11 and 21 from Naranjo both represent rulers wearing a long “chasuble” made of feathers. They hold small circular shields depicting GIII as the Jaguar God of the Underworld and hold a spear and a long staff to which are tied small strips of cloth in groups of three. Strips of cloth which are tied in groups of three has traditionally been interpreted as relating to bloodletting rituals (see Joralemon 1974). The ruler of Naranjo Stela 11 also wears a necklace that is identical to the ones worn by the main figures on the Modeled-carved vessels. The association of these necklaces with warfare costumes is implied by the fact that all individuals wearing them hold a small shield and either a staff or a war staff. Similar ‘chasubles’ to the ones worn on the Naranjo stelae are depicted worn on Stela 6 from Sacul and on the fragmentary Stela 34 at Tikal. It is possible that the necklaces under consideration are associated with these chasubles in the particular geographical area in which they occur (i.e. the eastern Peten); and thus obtaining a style date for these garments may provide a means of style dating the necklaces. These Naranjo stelae date between 9.13.15.0.0 and 9.18.13.3.13. A style date of 9.13.0.0.0 +/- 6k (i.e. 692 +/- 119: AD 573 - 811) has been suggested for Stela 34 from Tikal in the absence of a preserved date on this monument (Jones & Satterthwaite 1982: 75; 119, 120), but at the time the Sacul stelae had not yet been discovered. The Sacul Stela 6 records a calendar round date of 1 Ahau 18 Mol which corresponds to one of three long count dates: 9.13.6.8.0, 9.15.19.3.0, or 9.18.11.16.0. A possibly related chasuble is shown on Stela 9 from La Florida which is securely dated to 9.15.0.0.0. Taking all these dates into consideration, one obtains a range of AD 698 to AD 803 for the chasubles and possibly also for the necklaces.

The earflare worn by the main figure is similar to the one worn by the warrior facing him, although it is larger in size and perforated by a cylindrical tube for balance. A small bead also hangs from the depicted earflare. The figure also wears a noseplug.

The headdress is the most complex of all the regalia worn. To the front of it is tied a small Jester God, indicative of the figure’s high, and possible ahau status. An artifactual example of a similar Jester God was found in Pacal’s tomb at Palenque (see Schele & Mathews 1998: Fig. 3.29, p. 126; Ruz Lhullier 1973). The one from the Utah Museum of Fine Arts (see Schele & Miller 1986: Plate 11) although larger than the great majority of other Jester God pendants is almost identical in all respects to the one represented on the Ucanal vase. These Jester God pendants are “always carved from jade or some other precious green stone, and almost all are small and worn on cloth headbands”

(ibid.: 79). The headdress represents a jawless reptilian-like creature with goggle eyes, which is mounted over the cloth headband to which the Jester God is tied. This headdress is similar in several respects to the headdress worn by the main figure on Stela 3 from Itsimte-Bolonchen. The goggle eyes of the creature worn by the main figures on both the Modeled-carved vessels and the Stela suggest an affiliation with a Tlaloc monster. This interpretation is supported by the two overlapping trapezoidal shapes emerging from the rear of the headdress. As was seen above for the headdress of the individual facing the main figure, the headdress may also have connotations of warfare-related imagery. Small beads are attached to the long feathers which pour over the front of the headdress.

The rear portion of the headdress and the backrack which is attached to the back of the main figure dominate the right section of the panel, and constitute as much as half of the panel. The rear of the headdress is composed of shorter feathers which fan out in a regular fashion, to which are attached the same beads as the feathers on the front. Below these feathers, above the neck of the individual are attached longer feathers which flow down his spine and over his left arm. The backrack is fairly elaborate and the feathers attached to it even brush against the floor. The backrack worn by the main figure on Panel B is identical to the one on Panel A. Interestingly instead of showing the backracks from a frontal position, it is twisted sideways, so as to view the maximum of detail in profile. The same technique was used in depicting the backrack of the ruler on Stela 11 from Tikal (Fig. 5) (Schele & Freidel 1990: 390). Although the backracks on the Modeled-carved vessels are not crowned by a skeletal mask from which three celts are suspended as is the case with Stela 11, they are almost identical in other details. They represent a God C loincloth in profile view to which are attached feathers and small matted strips of cloth which are usually found in association with "personification heads" (cf. Schele & Miller 1986: 43-44). That both examples of backracks are almost identical and represented in the same manner, not only suggests artistic ties to central Peten polities, but also a temporal affinity. The Tikal stela dates to AD 869, a date that falls within the Spanish Lookout Ceramic Complex of the Belize valley (Gifford 1976) to which the vessels have been assigned. The Tikal stela also shares several other elements with both panels of the Modeled-carved vessels. Approximately at the height of the main figure's left shoulder, emerges from the plumage a vision serpent. From its gaping maw spurt long feathers, which add to the complexity of Panel A.

In the space left in the lower right corner, is a kneeling figure which faces left. He holds a short staff which he is pointing to a bundle of feathers that seem to be attached to the lower portion of the main figure's backrack. The kneeling figure also wears circular earflares and a headdress, but of considerably shorter feathers. The wristlets and breastplate worn by him are very similar to the one worn by the standing warrior figure at the opposite end of the panel. His loincloth is simple and does not appear to be decorated.

In sum, Panel A represents the presentation of a captive to a lord, who is dressed in a warrior's costume, and is associated with symbols of warfare and bloodletting. It is possible that prior to the conflict which resulted in the capture of the kneeling prisoner, the lord had undergone a bloodletting ceremony. Conversely the bloodletting may have occurred after the capture, which would explain the presence of the vision serpent in the panel. It is unclear what function the dog and the kneeling figure in the right portion of the panel serve. The scene appears to take place outdoors, although nothing can be said as to whether it takes place in a plaza or the battlefield. The elaborateness of the costume worn

by the main figure suggests that the scene may have taken place in a plaza. The dating of the regalia, when compared to other dated examples, suggest a strong continuation of Late Classic iconographic conventions, although certain elements indicate a range between the Terminal Classic, and even an early Post Classic period. The iconography of Panel A shows strong ties with central Peten artistic traditions. This counters the traditionally postulated “non-Maya” influence to which these vases have been associated in the Pasion.

b) Panel B (Fig. 6)

This panel will also be described by rotating from the left to the right side of the panel. Starting at the left, there is a dwarf-like individual who is apparently bald. He wears some sort of modest necklace which is similar in simplicity to his loincloth, although it is embellished by two small beads which are suspended off it. The second figure is a standing attendant who holds a mirror, into which the main figure appears to be gazing. The attendant is dressed simply and his hair is left unadorned. This is suggestive of the attendant’s lesser rank.

Floating above the dwarf and the attendant holding the mirror is a third individual. His forehead is pierced by a smoking torch that characterizes K’awil (GII of the Palenque Triad) and deified ancestors (cf. Copan Stela 11). The figure in question seems to have his feet bent upwards behind him. That this ancestor is floating amongst scrolls recalls the “Tlaloc warriors” and “Paddler Gods” which float in smoke scrolls above the protagonists of Stela 3 at Ucanal, Stela 1 and 2 at Ixlú, Stela 11 at Tikal (Fig. 5), and Stela 1 at Jimbal (Schele & Freidel 1990: 386-391 *passim*). These stelae have been dated between 10.0.10.0.0?? and 10.2.10.0.0, which corresponds to AD 840 and AD 879 respectively using the GMT correlation¹. This range is in keeping with the Terminal Classic date assigned to the Pabellon type-variety in the Peten and the Spanish Lookout date for the Modeled-carved vessels of Belize. The motif of an ancestor or deity floating above a scene amongst smoke scrolls is therefore congruent stylistically with the time-frame during which the Modeled-carved vessels were manufactured. The motif in question which was thought to be restricted to late monuments of the central Peten and Ucanal, is more widespread since it is represented throughout the entire Belize valley to the east, although on the more diminutive scale of ceramics.

Between the attendant and the main figure is a kneeling individual that is almost identical to the attendant. His attire coupled with the fact that at first sight he appears to be fastening the right sandal of the main figure, suggested that he may be another attendant who is helping the main figure to get dressed. The hieroglyphs above the kneeling figure indicate, however, that he is a captive. The fact that mirrors are never shown on monuments which are displayed in public settings, as well as the simple attire of all individuals, with the exception of the main figure, indicates that the scene in Panel B is probably taking place indoors. Additionally when dwarves are represented on public monuments their attire is very elaborate, which is clearly not the case on Caves Branch scenes. As such this scene likely represents a palace scene, similar to ones represented on painted vessels (see Reents-Budet 1994 for examples).

¹These stelae have been dated chronologically: **Ucanal** Stela 3 (10.0.10.0.0 ??); **Ixlú** Stela 1 (10.1.10.0.0); **Tikal** Stela 11 (10.2.0.0.0); **Ixlú** Stela 2 (10.2.0.0.0); **Jimbal** Stela 1 (10.2.10.0.0).

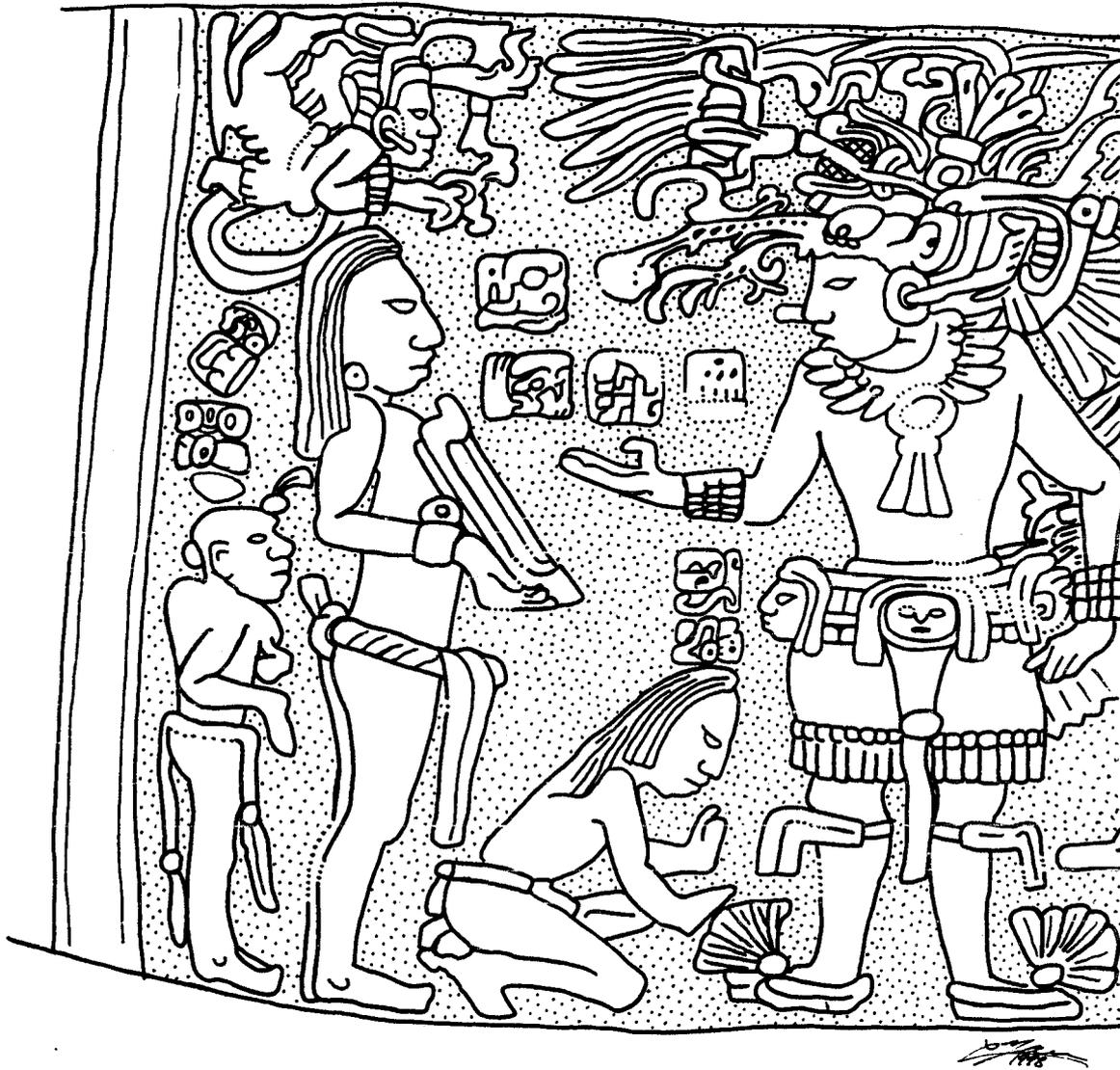


Figure 6: Detail of Panel B on the Ucanal vessel. The drawing was adapted from photographs.

The main figure wears the pointed necklace, discussed above, which is embellished by a central pendant from which hang three tubular beads. The wristlets worn by him are composed of three rows of smaller beaded bracelets. He also wears knee guards and sandals. His loincloth is simple and undecorated. The belt is decorated by three miniature ahau masks (see Schele & Miller 1986: Pl. 15 p. 80, Pl. 19 & 21 p. 81). He wears a short skirt the edge of which is embroidered with tassels. He wears a variant of the Water Lily Monster as his headdress (Schele & Miller 1986: 46). Attached to the front of the headdress is the blossom of a water lily which is tied around the headdress to a water lily pad with its stem. The flayed area in the headdress is the water lily pad. Usually when a ruler is represented wearing a water-lily in his headdress, a small fish is shown nibbling at the flower. On the Modeled-carved vases the fish has been omitted. The water lily is frequently shown attached to headdresses during the entire Late Classic period, but is geographically restricted to the upper Usumacinta and southern Peten, at sites such as Dos Pilas, Xutilha (see Satterthwaite 1961: 192; Fig. 63-64) and Machaquila. The presence of this motif on the Belize Valley Modeled-Carved vases suggests influences from these areas.

The backrack worn by the main figure is similar to the one described worn on Panel A. Another vision serpent emerges from the plumage also and reaches towards to right section of the panel. The plumage, backrack, and vision serpent take up as much space in Panel B as they do in Panel A. Standing behind the main figure is another dwarf which faces left. Completing the panel is another kneeling figure which is also shown in the lower right corner.

Panel B thus likely represents an indoor, palace scene in which the ruler seems to be preparing himself for a public appearance. The simplicity of the regalia worn by rulers in other palace scenes indicates that Panel B does not represent the ruler simply holding audience. The presence of a deified ancestor, a vision serpent, and two dwarves suggest ties to bloodletting ceremonies which may actually be taking place in the scene. Although the fate of the captive is unclear, it is possible that the ceremony will culminate in his sacrifice. The iconography of the panel indicate a Terminal Classic date that is, however, like Panel A, firmly rooted in Late Classic artistic conventions. Elements of regalia point to Pasion and southern Peten influences.

2) EPIGRAPHIC ANALYSIS OF THE TUNICHIL MUKNAL VASE

Above the decorative panels of the Tunichil Muknal vessel is the main hieroglyphic text which circles the circumference of the vase (see Fig. 1). The text on the Tunichil Muknal vase is composed of 15 glyphs (A1-O1), but on the Ucanal text is composed of 14 glyphs. Other glyphs composing auxiliary texts lie within the panels. There are 9 glyphs (P1-4, P7, Q3-4, R5-6) on the "front panel" (Panel A) (in this case the panel that lies under the introductory glyph at A1), and comparing these panels to those of the similar Modeled-carved vases we can assume with a high degree of confidence that there once were 10 glyphs (S3-4, T2-3, U3, V3, V5-6, W1, X1) on the "rear panel" (Panel B). While only five remain today (S3-4, T2, W1, X1), the edge of two others (U3, V3) are still visible (Figs. 1 & 7).

Stylistic differences exist between the vessels as it appears that all were manufactured by different artists/scribes and presumably at different workshops, yet the high degree of similarity suggests that they all used the same template or drawings as prototypes (E. Graham 1987: 79). The

text of the Ucanal vase is finely carved, and is very similar to glyphic renditions on monumental stone sculpture. The Ucanal vase therefore served as the blueprint for the decipherment of the Belize Valley Modeled-Carved vessels, which are more crudely incised. Hence the decipherment of the Tunichil Muknal vase would have been quite difficult and precursory, had the Ucanal vase not been seized by Guatemalan authorities. This testifies to the information which is lost on a regrettably regular basis due to the extensive and on-going looting of archaeological sites.

The glyphic elements will be referred to in the text according to Kurbjuhn's (1989) catalogue of Maya hieroglyphs, which is in fact an updated version of Thompson's (1962) catalogue. Kurbjuhn's catalogue follows the Thompson numbers initially suggested, and are thus prefixed by "T", but certain rearrangements exist in the numerical designations. Zimmerman numbers will not be used in this report. Alvarado's interface catalogue (1998) on the World-Wide Web was used for reference of the most recent and up-to-date readings.

a) The Auxiliary Texts (Fig. 7)

Auxiliary texts in Maya art, are usually more diminutive glyphs which are distinct from the main text in that they are incorporated into the figurative scene, instead of being separated into distinct panels. The auxiliary texts of the Modeled-carved vessels are composed of 19 hieroglyphs which flank the individuals represented in Panels A and B. These captions describe the individual, his/her titles, or their names. The fact that all the glyphs in Panels A and B are associated with individuals, further suggests that they represent the nominal glyphs of the individuals represented.

In Panel A there is a total of 9 hieroglyphs. Seven are found to the left of the main figure while the other two are on the right. The first four hieroglyphs are stacked in a column in front of the leftmost standing figure, and most likely designate that individual's name. Behind the kneeling captive is another collocation. In front of the main figure are two stacked glyphs which likely designate his name. The last two glyphs of Panel A are stacked in front of the kneeling figure of the lower right-hand corner. The first of four glyphs (P1) designating the standing warrior is composed of two elements, a main sign representing the profile of a human face that is postfixed by T116 **ni**. The main sign represents a thick-lipped figure with large orbits, and marked cheekbones. Unfortunately there are not enough iconographic elements to assign this element to a particular logograph, but it may represent a variant of T231. All that can be said is that it represents a word which ends with the consonant **??-n(i)**. The second hieroglyph (P2) represents the head of a zoomorphic figure, with two marked front incisors protruding from the maxilla. This suggests that the glyph represents some sort of unidentified rodent. The glyph is fully logographic and in the absence of more defining characteristics, or phonetic complements, no reading can be suggested for this glyph. The third glyph (P3) is fully-phonetic and is composed of two syllabic elements. The prefix was not carved intricately enough in order to identify it, although the upper element may represent a scroll. The main sign is a T82 which stands for **li** or **lu**. The transcription of this glyph is therefore largely incomplete as **??-l(i)**. The hieroglyph may stand for the verb *tal*, "to arrive" (Harris 1993), since renditions of this glyph on monumental sculpture are morphologically very similar to the collocation in question. The fourth glyph (P4) is the *kelem* glyph, which is prefixed by a T220e-semblant, a hand with outstretched fingers. This suggests that this figure is of elite status since this title is usually reserved to persons which are closely related to, but of lesser status than the ruler (MacLeod & Reents-Budet 1994: 134).

P

Q

R



Figure 7: The auxilliary texts on the Ucanal vessel. The designations of the columns follows the structure of the Actun Tunichil Muknal text. Columns P through R are on Panel A, while S through X are on Panel B.

S

T

U

V

W

X



The glyph behind the kneeling captive (P7) is composed of a prefix, suffix, and a main sign. The prefix is a T12, or **ah**, a male article. The suffix is unclear, but generally resembles a T74, **ma**. The main sign represents T601 read **chu**, the root of Knorosov's *chukah* the word for captive. The collocation thus reads: **ah ma? chukah**, which roughly translates as "he the captive." The function of the suffix in the collocation is unclear, especially since it cannot be discerned accurately. In any case the collocation confirms that the kneeling individual represents a captive.

The main figure is only designated by two stacked glyphs. The topmost glyph (Q3) is composed of a logograph, that is similar in outline to calendrical **tun** cartouches, below which is affixed a long-nosed zoomorphic skull. These suffixes do not seem to have a phonetic value, but are commonly suffixed to particular collocations, such as the *och buts' / och k'ak'* dedicatory verb, *tun* glyphs in a calendrical context (i.e. T1031abcd, T1032, and T1035), or toponymic glyphs (e.g. lower register of Stela 15 of Dos Pilas). The zoomorphic skulls in question are usually jawless, and are frequently depicted attached to regalia. These latter zoomorphic skulls are referred to as 'personification heads' and denote that the objects to which they are attached are sacred or *ch'ulel* (see Schele & Miller 1986: 43-44). The second glyph (Q4) is fully phonetic and is composed of a T534 variant (**la**) main sign, that is suffixed by a possible T178, which is also read as **la**, yet this second identification is less secure. This glyph might thus yield a reading of **lal**; no satisfactory translation could be offered for this glyph. What is intriguing is the fact that the warrior has the title of *kelem*, yet the nominal glyphs of the main figure (apparently a ruler) do not designate him by a title, of lesser or higher status than the warrior facing him. Invariably, individuals of the title of *ahaw*, are designated as such. The absence of royal titles on the Belize Valley Modeled-Carved vases suggests that the main figure may not have been of royal descent. The presence of a Jester God on the headdress of the main figure on Panel may simply denote his status as ruler. Additionally the nominal closure section of the PSS does not include royal titles either, yet records the female title of **na** (T1000b). This implies that the patron of the vase as well as the main figures of figurative panels, although of elite status, were not directly related to royal lineages.

The last two glyphs of Panel A, designate the kneeling individual to the right of the main figure. The upper glyph (R5) is composed of two phonetic elements, T586 **pa** and a postfix which cannot be clearly made out, although it is marked by two small circles. The lower glyph (R6) may represent the upended head of an iguana or T740, which is the main sign for the glyphs for "birth," "arrival," "iguana," and "his white headband" (Harris 1993). Taken as a phonetic sign this glyph has been read as **hu**. The lower glyph appears to have a phonetic complement affixed to the T740, suggesting that it is not the glyph for 'birth', but another collocation. The two glyphs taken together do not yield a pertinent reading, although they most likely record a name in which the head of an iguana serves a function.

The auxiliary texts of Panel B are composed of 10 glyphs. Once again the majority of the glyphs are restricted to the left of the main figure. Eight glyphs are to the right of the main figure and are associated with four individuals and one supernatural. The last two glyphs are associated with another kneeling figure which is also sitting in the lower right hand corner of the panel (W1, X1). The two glyphs associated with that individual were carved into the upper right hand corner of the panel. These two glyphs are so crudely carved on the Actun Tunichil Muknal that they resemble a "C" and an "S" shape. Interestingly one of the vases recovered at Altun Ha during the Royal Ontario Museum

excavations is almost identical to the Tunichil vase, in terms of paste, color, size, and execution. This vase, designated as vessel 2 from lot RP 97 also represents the two glyphs in question as a C and an S shape. Such similarities are probably far from coincidental. Examination of photographs of the Ucanal vessel in that section, indicate that the C-shaped glyph (W1) represents the profile of a parrot (possibly a macaw), as T743, which is read **a**. The second glyph (X1) is composed of two superimposed phonetic elements. The upper element is indistinct but may represent T105 **u**. The lower element looks akin to the suffix of glyph E1 of the PSS, and may thus either represent **a** or **tu**. The glyphs did not generate any particularly successful readings.

Behind the standing figure holding the mirror and above the dwarf standing behind the former, are two stacked glyphs (S3, S4). The glyphs in front of the attendant that seem to float above the main figure's right arm, probably refer to the main figure. The two glyphs to the left of the panel thus must refer to either the dwarf, the attendant, or the supernatural, or any combination of two individuals, if each glyph refers to one person. The upper of the two glyphs (S3) appears to be fully-phonetic yet none of the constituents could be discerned from the photographs of the Ucanal vase. The lower glyph (S4) is composed of two glyphs, the lower clearly representing T59 **ti**. The upper glyph represents two circular shapes that are spanned by a curving line. Taking into account the T93:T59 collocation which has been read as **ch'at(i)**, or "dwarf" in Cholán (see Harris 1993: 25 no. 11; Houston 1987: 106-117), it appears as though the upper element of the collocation on the Modeled-carved vessels may also be a T93. Since the lower glyph is associated with the dwarf, it is possible that the upper glyph refers to either the attendant or the supernatural. It is also possible that the upper glyph serves as a qualifier for *ch'at*. The lack of alignment in the stacking seems to suggest that the upper glyph refers to a figure other than the dwarf.

The four glyphs in front of the main figure represent a more complete set of nominals than the ones referring to the main figure on Panel A. The uppermost glyph (T2) is the macaw head T743 seen in the upper right hand corner of the same panel, except here the glyph appears to have a T116 **ni** suffix. Below it (T3) is another *kelem* glyph that does not appear to be associated with the attendant, and thus must refer to the main figure. Once again it is significant that the main figure does not have a royal title but instead has the *kelem* title. The following glyph (U3) is difficult to discern although it seems to be composed of several phonetic elements. Only the prefix can be identified as T12 **ah** ("he") or T9 **u** ("his"). The last glyph (V3) is an imix-like glyph T501, possibly blackened as a T556, read **nab**, which means "lake," "water lily," and even "plaza" in certain contexts. In this instance **nab** most likely refers to water lilies, since the blossom of a water lily is tied to a water lily pad with the stalk of the plant around the headdress of the main figure. The T501 originally had an additional suffix, although it spalled off the sherd upon which it was carved.

The last two glyphs of Panel B are stacked on top of each other (V5, V6) above the head of the kneeling captive. The lower glyph (V6) clearly represents T601 (**ch'u**), and two additional postfixes can be seen, with the uppermost element being smaller. These proportions are in keeping with the manner in which **ch'u-ka-h(a)** is written since **ka** T25 is smaller than T181 **ha**. The upper glyph must therefore record the name of the kneeling individual. It is composed of three elements: a cartouche-shaped main sign, a suffix, and a postfix. The details of the main sign or the postfix cannot be determined, but the suffix may be T120 **ne**.

The nominal glyphs of the Modeled-carved vessels were compared to the ones recorded in the inscriptions of Naranjo, Ucanal, and Seibal in order to see if the scenes in Panel A and B represent historical events, or could be tied to historical individuals. These three sites were selected since two are in the immediate vicinity of the sphere within which the Belize Valley Modeled-carved vessels occur and Seibal, since it is a famous participant in the greater lowlands tradition of fine paste ceramics. Furthermore the iconography of these sites bear affinities to the program represented in the panels of the Belize Valley Modeled-carved vessels. None of the names recorded on the Modeled-carved vases were repeated in the inscriptions of the sites in question. This may be due to the fact that the individuals represented are not of royal status. It should be noted however that the iconography of the Modeled-carved vases bears a great deal of affiliation with central Peten sculpture, in particular with Naranjo, in terms of the style and the regalia represented. The majority of the sculptures at Ucanal are too weathered to suggest similar ties, yet it seems they would have had a comparable amount of similarities in antiquity, when the stelae of Sacul are considered as analogs.

b) The Main Text (A1-O1)

The main text which circumambulates the vessel is a Primary Standard Sequence. The first efforts at deciphering these texts was undertaken by Michael Coe (1973), who not only gave them their name but also defined a structure of substitutions that demonstrated the syntactic integrity of these texts, although he did not believe that they represented fully viable glyphs (MacLeod 1990: 3-5; MacLeod & Reents-Budet 1994: 108). The Tunichil text is composed of 15 glyphs (Fig. 8), a length that is in keeping with the minimum of 4 and maximum of 22 glyphs that compose various PSSes (MacLeod 1990: 7). The Tunichil text follows the general structure of the PSS as analyzed by Barbara MacLeod (1990) and as summarized in Dorie Reents-Budet's *Painting the Maya Universe* (MacLeod & Reents-Budet 1994: 109-121). The PSS is a single grammatical sentence which focuses on the vessel which bears it (MacLeod & Reents-Budet 1994: 121). Although scholars have tried to tie the PSS with the pictorial themes depicted on vessels, these efforts have remained unsuccessful (MacLeod 1990: 6; MacLeod & Reents-Budet 1994: 121). Consequently the iconographic program described above bears no direct relation to the linguistic content of the glyphs. In many cases the names and titles represented in the PSS are not duplicated in the auxiliary texts which designate the individuals represented on the circumference of the vessel.

There are five generic sections within the PSS: 1) the presentation section, 2) the surface treatment section, 3) the vessel type section, 4) the contents section, and 5) the closure section, also referred to as the nominal section (MacLeod 1990; Reents-Budet 1994: 109-121). As many other researchers have done before us, we will analyze the PSS in terms of the introductory section (which represents the canonical PSS as defined by Coe), and a second nominal section which ends the text. The first section is always the most standardized, and follows strict rules of substitution that are regionally-specific (and to a certain extent temporally restricted), while the second section always displays more variability since it deals with particular historical patrons and/or owners of vessels. As we will see below, the Belize Modeled-Carved vessels display only subtle variability in the nominal section. This represents a rare occurrence that is only paralleled by the Codex-style vases of the northern Peten (cf. MacLeod & Reents-Budet 1994), and a few other vessels. Explanations for such standardization as opposed to the expected variation may provide added information to the socio-economic context in which these vessels were manufactured.

Ucanal PSS



Actun Tunichil Muknal PSS



Valley of Peace PSS



Baking Pot



Altun Ha



Lamanai

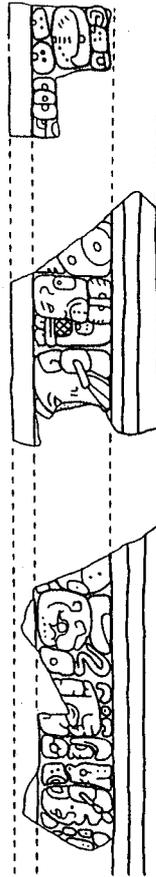


Figure 8: Examples of the Primary Standard Sequence which is inscribed upon the Belize Valley Modelled-Carved vessels. This figure shows that the introductory section is consistent on all the vases, while the nominal or closure section displays minor variations.

The Presentation Section

All known examples of PSSes begin with an “Initial Sign”, of which several allographs exist (MacLeod 1990: 36). The texts on the Belize valley Modeled-carved vases all begin with a rare allograph in which the mirror main sign is replaced by the head of GI (T1011) of the Palenque Triad (Fig. 9) (see MacLeod & Reents-Budet 1994: 109, 124). Interestingly the PSS of the Modeled-carved vessel from Lamanai and the Jauncy Vase PSS both begin with the same GI allograph (Fig. 9). Thus the text begins with an introductory glyph which has a GI main sign that is usually prefixed by T228, T229, or a T238 (“macaw head”) all of which have been assigned the phonetic value **a**. In most cases this allograph is not suffixed by **ya** (T126). In our case however the GI main sign is prefixed by T15 **a** and is suffixed by T126 **ya**. The mirror main sign is the most common Initial Sign, and has been read as *ay-(a)* by MacLeod (1990: 52), or *a-tsuki* by Schele and Grube (Schele personal communication 1991, in MacLeod & Stone 1995: 179; see also MacLeod & Reents-Budet 1994: 162, no. 22). The former reading has been translated as “it happened”, or “it came to pass” (MacLeod 1990: 53), while the latter suggests a not too insightful commentary by the Maya, since the second reading means something akin to “start here” (ibid.). Although it is evident that allographs play a similar syntactic role in the PSS, it is not always clear whether they represent exactly the same word. Clearly the GI allograph does not corroborate the *a-tsuki* reading. In the case of the GI allograph, MacLeod suggested that the main sign stands for the **YE**, since T785a (**ye**) is an alternate name of GI-Prime on the Tablet of the Cross at Palenque (MacLeod 1990: 40). This suggestion, when coupled with an **a** prefix, lead to a reading of **a-Y(E)**, which yields **ay** (MacLeod 1990: 41). This reading explains why the **ya** (T126) is commonly deleted, since it is redundant. However, on the specimens in question T126 is present, which leads to an **a-YE-ya** transcription. MacLeod suggested that the GI allograph therefore read **ay** rather than **ay-a**, which is the reading obtained for the mirror initial sign (ibid.). In our case the GI initial sign may still be read **ay-a**, if it read as **a-(YE)-ya**. Although such reading would be surprising, since the main sign would be deleted from the reading, it is still possible that GI stands for another value, which incorporates the suffix into the reading.

MacLeod altered the proposed reading slightly four years later and now prefers a reading for *ay-a* as “it came into being” which refers to the creation of the vase and its ritual “activation” by the act of inscribing the vessel with a PSS (MacLeod & Reents-Budet 1994: 124). The authors also favor this newer paraphrase given the formulaic nature of PSSes. Despite the variations in the main sign of the initial glyph (the three allographs have been respectively dubbed: GI, Mirror, and Loincloth Apron God), the affixes are generally a prefixed **a** and a suffixed **ya** making a strong case for the *ay-a* reading. Also in several instances the suffix is omitted, which suggests that the main sign ends with the phonetic value of **yV**. As has been mentioned above Schele and Grube have suggested a reading of *a-tsuki*. Stephen Houston and David Stuart have independently discerned a value of **tsu** and/or **TSUK** for the Mirror main sign. These readings suggest a reading of *a-tsuk-ya* or *a-tsuk-i*. However, MacLeod and Reents-Budet point out that “on the stone monuments, Initial Sign frequently introduces Distance Numbers or Calendar Round Dates [also on short painted texts on ceramics], as well as introducing secondary clauses in sequence with known verbs such as ‘birth’. Its position in these stela texts and in the PSS strongly suggests that it is a verb” (MacLeod & Reents-Budet 1994: 162 no. 22). This argument in conjunction with the associations with “birth” verbs again favors a reading of “it came into being”. Possibly the strongest case for the *ay-a* reading is a rare collocation in which the main sign is T181 that is usually read **ha** (cf. MS1118 MacLeod & Reents-Budet 1994: Fig. 4.15,

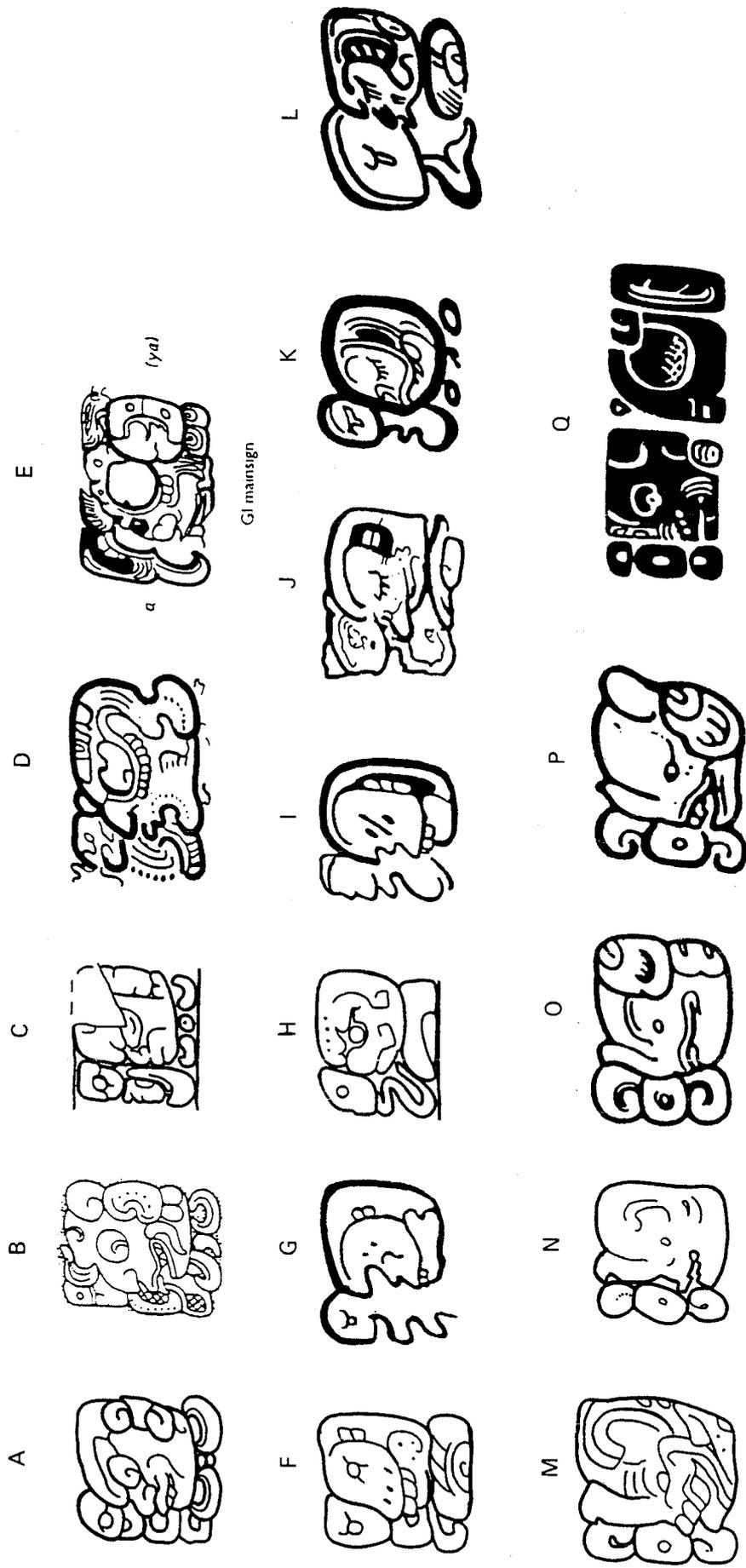


Figure 9: Allographs of the first three collocations in the PSS of Belize Valley Modelled-Carved vessels. A-E: GI main sign allographs of Initial Sign. A) Ucanal vessel, B) Tortuguero Stela 6 (D2), C) Lamanai vessel OLA 661/1, D) Buenavista vase (a.k.a. the “Jauncy Vase”) MS1416, E) vessel MS1126. F-L: Cimi-semlant main sign allograph of the God N verb. F) Ucanal vessel, G) MS/Kerr no. unknown, H) Lamanai vessel OLA 661/1, I) MS/Kerr no. unknown, J) vessel MS1446, K) vessel MS1373, L) vessel MS1525 (there are two more examples on this vase), see also MS1398 for another example. M-Q: Examples of the Lu-Bat glyph. M) Ucanal vessel, N) Baking Pot vessel from Str. 193, O) Site Q stela, P) Piedras Negras Stela 3 I, Q) no MS/Kerr number.

p. 124). This collocation is peculiar not only for the selected main sign, but also because the main sign represents a case of phonetic reversal in which the **ha** is read **ah**, but with the consonant being deleted (ibid.). This produces a transcription of the Initial Sign as **a-a(h)-ya**, which is read *ay-a*. This fully-phonetic rendition of the Initial Sign confirms the reading proposed by MacLeod (1990), and verifies the assumption that if the T126 suffix is frequently deleted, the value of the suffix most likely is already represented by the main sign. As a result, the phonetic reading of the Initial Sign appears to be more or less secure, when the existing examples of this collocation are taken into account.

The second glyph at B1 has been transcribed by MacLeod (1990) as *huy-i* or *hoy-i*. This has been translated as “was blessed” or “was [ritually] activated”. This glyph is commonly found in PSS texts following the Initial Sign. For glyph B1, MacLeod and Dorie Reents-Budet have proposed reading a similarly rendered glyph (glyph (B1) on MS 1446, MS 1525 (B1), MS1373 (D1), MS1398 (B1); (Fig. 9)) as *huy-i* (MacLeod & Reents-Budet 1994: Fig. 1.9, 4.13, 4.17, 4.26). Note especially the *cimi* variant main sign, since it is fairly rare as opposed to the God N or Step main signs which usually compose this glyph. Once again the main signs of the first two glyphs on the Belize valley Modeled-Carved represent rare examples of substitution.

MacLeod pointed out in her doctoral dissertation that Naj Tunich displayed several painted PSS-like texts on walls (1990: 492) and later confirmed this through her analysis of the texts (MacLeod & Stone 1995: 173, 177, 179). One of these texts is Drawing 49 (MacLeod & Stone 1995: Fig. 7-25), which begins with the customary *ay-a* glyph at A1. She transcribed the second glyph A2 as **ko-ho-yi** (T110.T??:T17) states that it is a verb that is also seen in Drawing 88 at G6 (MacLeod & Stone 1995: Fig. 7-3), and also comments that it is “structured like an eastern Cholan completive intransitive, but for which we can posit no confident interpretation” (MacLeod & Stone 1995: 179). She fails to notice that the glyph might be a phonetic rendering of the *hoy-i* glyph which in this case is prefixed by **ko** (T110) in Drawing 49 and by **IWAL-ko** ([T679a].[T110:T??:T17]) in Drawing 88. In Drawing 51 the Initial sign is omitted and starts off with a God N main sign that is postfixed by **yi** (T17), also yielding *hoy-i*. Such an interpretation would confirm the reading of the God N verb and the position of this glyph after the Initial Sign is customary in PSS texts as has been mentioned above. Additionally **IWAL-God N** can be seen incised on the verso of a small jadeite mask from Comayagua at B1 (Schele & Miller 1986: 81). This verifies that God N can indeed be viably prefixed by T679a. Phonetic renditions of logographic glyphs has been noted in texts at Naj Tunich as early as 1981 when David Stuart identified a phonetic rendering of the month-sign *Pax* as **pa-x(a)** (Coe 1992: 237-8; MacLeod & Stone 1995: 169; see also Stuart 1989) at G3 in Drawing 65 (MacLeod & Stone 1995: Fig. 8-65, Fig. 8-65c; pp. 218-9). In this instance *ko* might mean “muesca” or “mortise”, but would denote a surface or space on the cave wall which would receive a painted text, rather than a hole or notch which would receive another conjoining part such as a tenon. The special nature of the cave wall as a writing surface might explain the presence of *ko* within the dedication segment of the texts. The whole reading could thus be *ay-a ko hoy-i* (Drawing 49) and *ay-a iwal ko hoy-i* (Drawing 88). This yields the loose translations of: “it came into being, the mortise/space, was blessed” and “it came into being, and then, the mortise/space, was blessed”. A similar structure is found in PSSes when *hich* (“curved page”, i.e. the surface of the vessel) is found inserted between *ay-a* and *huy-i*.

The Surface Treatment Section

It is customary for the PSS to shift to the surface treatment section, after the presentation section which was covered above. It would be expected to find a Lu-Bat glyph designating the surface treatment, since this glyph has been found on other carved vessels, and it is also the initial sign of the “signatures” that are found on stelae (Fig. 9) (e.g. Houston 1993: Fig. 3-20 & 3-21, pp 87; Schele 1986: Chart 22; Montgomery 1995). This is of particular importance since the designs of the vases in question are at least partially carved. Glyph C1 starts with a T61 (**yu**) “bow” prefix which is shared by both the Wing Quincux and the Lu-Bat glyphs, which functions as the prevocalic pronoun *y-*. The main sign which represents the profile of a leaf-nosed bat (T756) is not clearly discernable on the Tunichil vase, but is readily discernable on the Ucanal vase. The Ucanal rendition of T756 has more accentuated features than the other more usual renditions, such as the ones depicted on Piedras Negras monuments (see Schele 1982: Chart 22; Montgomery 1995). The infixed scroll which most likely represents T568b (read **lu**; Landa’s “L”), which is generally infixed, is clearly apparent on both the Tunichil and Ucanal vases. During the 1997 excavations of a residential plazuela at the site Baking Pot designated as Structure 193, a Modeled-carved sherd was found in overburden (Jennifer Piehl personal communication 1997; see also Piehl 1998). This small sherd bears two glyphs. These are the *Cimi* main sign *huy-i* and Lu-Bat glyphs, and are identical collocations to the ones found on the Tunichil and Ucanal vases. Although in this case the glyphs have lost their finely incised detail the outline of the Bat, the prefix, and infix are still clearly visible (see Fig. 8).

Of all the elements represented in the Lu-Bat glyph, the main sign is the one which has been the least securely deciphered. Initially Stuart proposed that it may stand for the phonetic value **ts’i** based on its interchangeability with T563a of the Fire Quincux glyph on painted ceramics, but rejected that reading soon thereafter (Montgomery 1995: 30 no. 6). Stuart (1986) did, however, suggest that the collocation could be “understood as ‘carving’, based on its complementary distribution with **ts’ib** ‘writing’ ” (MacLeod 1990: 187). Based on occurrences in other collocations MacLeod suggested in her Ph.D. (1990: 187-248) that the Bat may stand for **yu**, yielding a reading of **yul**: “its / his engraving-and-polishing” (ibid.: 212-213). She did remark that the bat does not replace T61 in other contexts, a mention which does not corroborate the proposed **yu** reading. Additionally Grube tested a **xu** reading for the bat main sign and found it to be productive in several environments (MacLeod 1990: 208-212). In order to account for the discrepancy in the two suggested readings, she proposed that there may be two Bat glyphs which are only partially graphemically distinct, a possibility which is worth pursuing. Furthermore “MacLeod’s extensive arguments point to apparent Lu-Bat variants on Chochola vessels, where “bat” is omitted altogether, suggesting that it does not carry a distinctive phonetic value of its own in this context” (Montgomery 1995: 30 no. 6). This argument not only supports her **yul** reading, but furthermore suggests that the Bat in Lu-Bat differs from the one which yielded productive readings with a **xu** value. However, taking Grube’s reading into account the Lu-Bat collocation would transcribe as **yu-xu-l(u)**. The first consonant is the third prevocalic pronoun, thereby leaving us with **uxul**, and “citing the Colonial Tzeltal Ara-Guzman dictionary, which gives *ux*, “to scratch or scrape on bricks”, Grube has argued that the entry can be extended to mean “his carving” and “carver” as translations of *yuxul* and *ah yuxul*, respectively” (Montgomery 1995: 6). This reading is in keeping with the semantic domain “carving” originally suggested for this glyph (see Stuart 1986).

Recently, MacLeod has revised her reading of the Lu-Bat to **yu[l]xul** accepting Grube's reading of T756 as **xu** (MacLeod & Reents-Budet 1994: 125). In instances where T568b is not infixed in the Bat, the sign may precede as well as follow the main sign, yielding both **yulxu[l]** and **yu[l]xul**. It is possible that the final consonant of one of the roots may have only been targeted but could be inferred by the reader to whom the conventions were known. Another possibility is that in this reading the infixed T568b may have been duplicated so that both roots may end in **-l**. In any case, MacLeod and Reents-Budet have proposed a translation of "finished its carving" (ibid.). The possessed ancient Cholan **y-ul* was reconstructed from modern Chorti and Tzotzil from words for "engrave" and "scratch", while *xul* means "finish." This implies that this collocation was intended to signal the completion of the act of carving/engraving/polishing, all of which are part of production procedure of Modeled-carved vessels. The authors favor this last reading but acknowledge that this collocation still has not been decisively deciphered. Since this collocation has frequently been found introducing the apparent signatures that are carved upon monuments at several sites (e.g. Montgomery 1995; Helmke n.d.b: 9-24), the "finish carving" semantic domain may be in order for the Lu-Bat expression, particularly since it is assumed that, like Western signatures, they terminate a document or the production of a work of art.

C1 is followed by a combination of T1000b.T181:T139, which is transcribed as **na-ha-l(a)**, yielding *nahal*. The glyph is composed of a prefix which is a profile head and stands for the female article **NA**. The main sign (T181) has been read as **ha**, and the suffix as **la**. The reading is thus fully-phonetic. *Nahal* usually does not follow *yul xul* but *u ts'ib*. Its presence in the PSS of the Belize Valley Modeled-Carved vases is therefore surprising. On the other hand, *nahal* appears in virtually hundreds of PSSes on ceramics from distinct workshops all over the Maya area. Even in a very rare example of a PSS written in a mirror image (MS 1131) the inscription **ts'ib-naha(l)-yich** appears (Reents-Budet 1994: 138). As space does not allow to show all examples and contexts of the **nahal** glyph we refer any interested reader to MacLeod (1990), Reents-Budet (1994), and Justin Kerr's multiple-volume *Maya Vase Book*. It has long been thought that the **nahal** glyph represents the Moon Goddess, especially since T1000b resembles the head of the goddess (cf. Grube 1985). However, in light of new decipherments, another conclusion has been reached. As Reents-Budet stated (1994: 113), the "Fire Quincux [appears] plus its verbal suffixes (*bal, naha, or nahal*)". As has already been stated above, the Yucatec verb *xul, xulah, xulub* is being translated as "fenecer o acabar" (Martínez Hernández 1929: 932). Thus, if **nahal** is connected with **xul**, the verb would become **xul(nahal), xulnahi, xulnahac**. Grammatically speaking *nahal* is a derivational suffix which transforms a transitive verb into an intransitive verb (Smailus 1989: 36) which is also called an absolute verb. *Xul* itself is a transitive verb which has to be directed towards an object. *Xulnahal* becomes absolute and thus is not directed towards an object. *Xulah* therefore means "to finish something", whereas *xulnahal* means "to finish". Thus, the sequence **yul xul-nahal** could be read as "its carving finished". The reader might be confused by the transitivity of the translation but in Yucatec *xulnahal* grammatically did not correspond to *yul* but stood as an absolute. What is more important is that we have on the Tunichil Vase a very common glyph that functions as a verbal suffix and thus can be placed into context.

Although **nahal** usually does not follow **yul xul**, two other examples have been noted. The sequences **u-T756-lu-nahal** and **yu-lu-T756-nahal**, have been recognized in PSS-like dedication texts on stone lintels from Chichen Itza (MacLeod 1990: 189; Fig. 6-5 a, b, c). This suggests that the

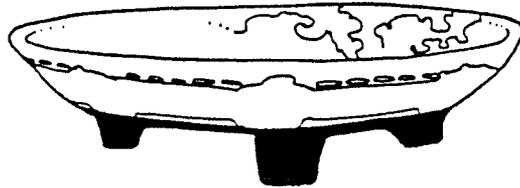
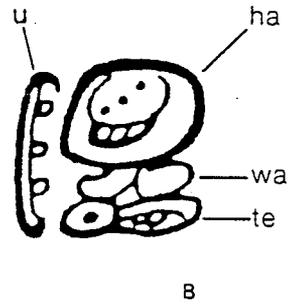
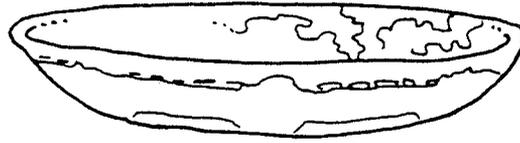
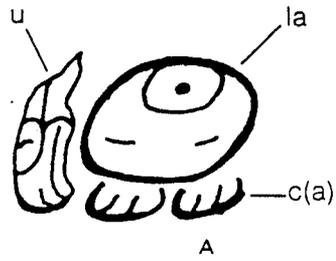
Lu-Bat-nahal sequence may be a Yucatec dialect that is temporally restricted to the Terminal Classic. Its presence on Belizean vessels supports the theory that Yucatec was the primary language of that area in the Late Classic.

The Vessel Type and Contents Sections (Fig. 10)

Glyph E1 is difficult to transliterate on the Tunichil vase, and even with reference to the Ucanal vase the suffix is still hard to make out. Thus far we have transliterated the glyph as **ya-k'u-?-u**, and have been unable to offer a strong reading due to the indistinct nature of the suffix. On the Tunichil vase the prefix and postfix are clearly the same as on the Ucanal vase, but the main sign is only vaguely discernable. Unfortunately the suffix is impossible to make out. Although the postfix most surely stands for **u** (T13), we are leaving open the possibility that it stands for **ah** (T12), since we are dealing with a new collocation. Because the glyphs following glyph F1, on the Tunichil specimen, and after E1 on the Ucanal one, are nominals, it is possible that E1 (on both vessels) indicates the type of vessel. As will be argued below glyph F1 on the Tunichil vase which is omitted from the Ucanal text may stand for the contents of the vase, although another more likely possibility exists. The Belize Valley Modeled-Carved vessels are thin-walled, barrel-shaped vases with three oven feet. If the glyph was to refer to the vessel type then we should be expecting a reading denoting its function or its appearance such as "tripod vase" or "thin-walled vessel" (Fig. 10) or expressions like *u haay* or *u k'at*, which both translate as "his clay object" (Alfonso Lacadena personal communication 1997). Vessel type glyphs which are represented on other types of vases have been deciphered as **y-uch'ab** or **y-uch'ib** in proto-Cholan. Since the Belize valley seems to have been an area in which proto-Yucatecan was spoken rather than proto-Cholan, it is not surprising in itself that a Cholan Wing Quincux glyph is not present on the Modeled-carved vessels. This is especially true since the Yucatecan substitutions of the Wing Quincux are more varied than their Cholan counterpart (see Grube 1985; MacLeod 1990: 336-362). Decipherments suggested for the Yucatecan substitutions are: **yu-k'(i)-naab** or **y-uk'-ha**, and **y-uk'-ib** (MacLeod 1990: 352-353). The Yucatecan substitutions are also more restricted geographically, in particular to ceramics of the "Ik Site" (possibly identified as the polity of Motul de San José), and to other central Peten sites, such as Tikal. The glyph under consideration may greatly increase the sphere in which Yucatecan substitutions of the vessel type glyph for the Wing Quincux occur, since examples of the particular collocation are found on vases that have been found between Ucanal and the Caribbean coast at Altun Ha.

It is possible that **ya-k'u-?-u** is a phonetically variant form of **y-uk'-ha** or **y-uk'ib**. This could be demonstrated if the suffix was read as bV. However, thus far the suffix most likely stands for **tu** (T89), yielding a transcription of **ya-k'u-tu-(u)**. Although the substitutions are not phonetically equivalent, they may still be semantically equivalent. In an admittedly speculative vein Nikolai Grube suggested that **k'u** may have been duplicated by **ch'a** (Grube personal communication 1997 to Colas). If this is the case the collocation in question may yield **ya-ch'a-tu-(u)**, which could be read **y-ach'atu'**. The **k'u** versus **ch'a** substitution was not tested extensively by the authors. As a result we have abandoned trying to associate the substitutions phonetically as allographs. It may be cautious to leave this glyph in a transcribed form, and suggest that valuable decipherments may be offered, when readings are investigated in light of the vessel type/vessel function.

The consonant **y-** substitutes for the possessive prefix **u-** when a word begins with a vowel.



Wing-Quincunx

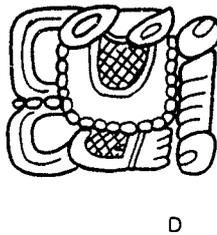
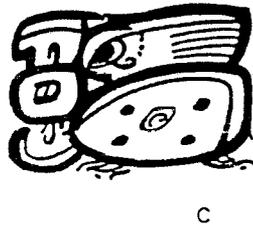


Figure 10: Glyphs for vessel shapes in Primary Standard Sequences. A) *u lac*, “his plate”, B) *u hawa(n)te*, “his tripod dish”, C) *y-uch’ib / y-uch’ab*, “his drinking cup”, D) *y-ak’utu*, glyph for Belize Valley Modelled-Carved vessels? Illustration adapted from M. Coe 1992: Fig. 59, p. 246.

This possessive can represent either “he” or “she” when preceding a verb and “his” or “hers” when preceding a noun. Only the grammatical context or other more gender specific prefixes such as the articles *ah* or *na* can offer an insight as to which gender was implied. Since we are dealing with a vessel type or a contents glyph the consonant *y-* of T126 may stand for a possessive. As a result it would be reasonable to assume that the noun possessed is **ak’utu’**. No satisfactory association could be made with a colonial Yucatec noun. It is unclear whether **ak’utu’** may stand for the vessel contents. It is very likely, nonetheless, that it represents a vessel type collocation. Additionally, the vessel type glyph is never deleted in favor of the contents glyph. The following passage by MacLeod, illustrates the predominance of the vessel type glyph in PSSes:

When one considers the entire corpus of PSS examples, one must conclude that [the Wing Quincux] is the central glyph of the sequence. It is presented in even the shortest representations of the PSS. With the exception of PSSes that employ its allograph or a glyph denoting another vessel type, Wing Quincux appears in nearly all other examples of the PSS on ceramics (MacLeod 1990: 313).

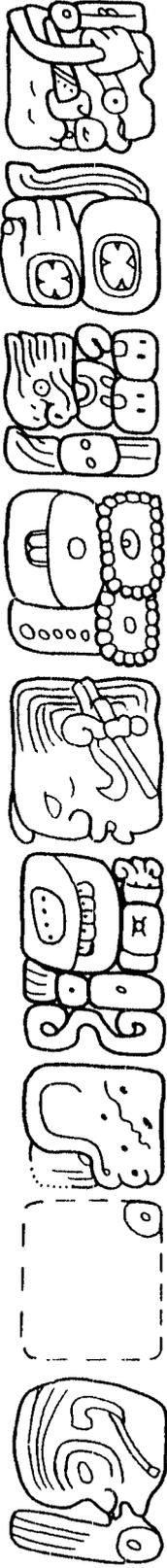
“Recipes” or contents of vessels are usually prefixed by a preposition, *ti* or *ta* (MacLeod 1990: 457), which are read as “for [contents]”. These prepositions are clearly absent from glyph E1. Although the **y-ak’utu’** substitution may indicate the type of substance contained within certain Belizean Modeled-carved vases, the absence of the prepositions (*ti* or *ta*) indicate that this glyph did not function as a contents glyph. On the other hand, the absence of an expected instrumental suffix following **ak’utu’** preclude the interpretation of the E1 collocation as recording a noun, designating the vessel type.

The Closure Section (Fig. 11)

The following glyph is deleted in the Ucanal PSS and is only represented in the Tunichil version. The collocation is composed of two superimposed signs. The upper glyph represents the profile of a zoomorphic figure. Although it cannot be made out clearly, it was initially thought to represent the profile of a vulture similar to the rare vulture head which precedes the glyph for contents. It has been suggested that it stands for the preposition **ti** (YUC: “to, for, at”) (MacLeod 1990: 512: no. 41). Thus it may simply stand for “vessel/contents for ...” since it follows the likely vessel type/vessel contents glyph. A more likely possibility is that the glyph represents *ch’ok* since in PSSes *ch’ok* when present always precedes *kelem*. However, it is usually *ch’ok* (T758b:110) which is represented and *kelem* which is frequently deleted, and not vice versa. Consequently it is hard to explain its deletion on the Valley of Peace and Ucanal vases if indeed glyph F1 on the Tunichil vase represents *ch’ok*. If the collocation represents the contents of the Tunichil vase or a preposition, its deletion is more easily explained.

Glyph G1 clearly represents the glyph dubbed by Coe (1973) as “Hand Monkey”. The main sign of the glyph represents the head of a monkey (possibly a spider monkey) which is preceded by a hand with outstretched fingers (T202? / T711?), the thumb pointing to the mouth of the monkey. Although the reading of T202 hand prefix is not certain, MacLeod (1990: 427) has argued that the T711 of the Hand Monkey glyph differs from other occurrences of this hand sign. A full reading of the collocation as *kelem* has been proposed though, as reading “youth” (glyph F1), which is a generic

Nominal section of the Ucanal PSS



Nominal section of the Actun Tunichil PSS

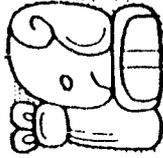


ch'ok



lineage member

tz'abal



Caracol Altar 12

k'owal



Xcalumkin

Figure 11: Comparison between the closure sections of the Ucanal PSS and the Actun Tunichil Muknal PSS with examples of similar collocations.

descriptive epithet that is commonly found in PSS closure sections (MacLeod & Reents-Budet 1994: 120; 161 no. 19). The prefix (the hand with outstretched fingers) probably has a phonetic value of **ke** and enables us to anticipate the reading of the entire logograph as *kelem*. When “Hand Monkey” is preceded by a glyph in the closure section, it is usually the “Rodent Bone” glyph, which has been read as *chak ch’ok / bak ch’ok / ch’ok* and has been translated as “great lineage member” or simply as “lineage member” when the qualifier is deleted. In this case the *kelem* glyph may not be preceded by “Rodent-Bone”, and consequently this is the glyph that securely introduces the nominal section on the Modeled-carved vessels.

Generic nominal phrases predominate on the Classic Period painted period pottery. The most common generic nominal is the combination of Rodent Bone and Hand Monkey. Rodent Bone reads *ch’ok* and means “youth, offspring, lineage member” in modern Cholan languages. In its standard usage in Classic Period stela texts, *ch’ok* seems to refer to members of the ruling lineage other than the king. [...] Hand Monkey appears to read *kelem*, whose meaning as recorded in modern Maya languages is “youth”. The consensus opinion among Maya epigraphers of the meaning of *chak ch’ok kelem* is that the phrase records the status of the person as closely related to, but of lesser status, than the king (MacLeod & Reents-Budet 1994: 133-134).

Glyph H1 only remains in the Tunichil PSS. On the Ucanal vase the sherd representing this glyph was not recovered and consequently any decipherment relies entirely on the Tunichil example, especially since it is not discernable on the Valley of Peace vase and no sherd representing this collocation appears to have been discovered for the Altun Ha specimens. The collocation is composed of three elements: a prefix, a main sign, and a suffix. None of these elements are easily discerned. Nevertheless, the prefix is clearly composed of three elements: an elongated rectangular shape that is surmounted by a smaller perforated element that in turn is crowned by bristle-like component that may be split into two or three streaks. Many of the smaller deciphered syllabic signs that frequently prefix collocations display similar characteristics, namely **ch’a** (T93), **si** (T57), **ta** (T51), **ti** (T59), **tu** (T89; 90; 92), and **ts’a** (T50). The main sign may represent a zoomorphic head variant glyph judging by the cleft in the lower left-hand corner which possibly represents the nostril.

In the corpus of Maya texts the collocation that is morphologically most similar to H1 is a hieroglyph represented on Altar 12 at Caracol. The reader is referred to the drawing published in Beetz and Satterthwaite (1981: Fig. 23) and a redrawing by Nikolai Grube (1994: Fig. 9.7). The lack of detail in the rendition of glyph RR2 in the 1981 publication is due to two causes: 1) the state of erosion at the time the altar was inspected and 2) the ability of the illustrator to render non-calendrical glyphs. When comparing that illustration to that produced by Nikolai Grube (1994: Fig. 9.7, p. 96) it is clear that the latter reason is predominantly at fault. Grube did not suggest a reading for that glyph, but the collocation apparently stands for **tu-ba-l(i)** or *tubal* (T89.757:24). Judging by the placement of H1 in the closure section of the PSS, after *ch’ok* and *kelem*, it is more than likely that this collocation also represents a title. The possibility that the collocation represented the title of *tubal* is the only reading that can be suggested. This is especially true in light of the mostly non-viable elements that constitute glyph H1 of the Tunichil text. It is important, however, to indicate that the usage of *tubal* title is more or less contemporaneous with its possible rendition on the Belize Valley

Modeled-Carved vessels. Naturally if the speculative reading of H1 as *tubal* is not accepted, no other reading can be proposed.

It should be noted that a similar collocation, that has been read as *tubah* (T89:757 or T89.757) is represented in other texts (see Harris 1993: Fig. I.5, I.11). This collocation is represented in texts recording accession statements. These examples omit the phonetic suffix that is represented on the collocation represented on Caracol Alt. 12. It seems likely that the *tubah* collocations should be read *tubal* using its rendition on the Caracol monument. The closest gloss found in the Cordemex dictionary records *tu bail* as “así se está” or “so it is” (Barrera Vázquez 1991: 811).

Glyph I1 is a logographic main sign whose phonetic prefix has not been recovered from the Ucanal vase. On the Tunichil vase the glyph is too crudely incised to determine any additional details. It does seem apparent that there was a phonetic prefix though. The main sign bears similarities with the “bone” main sign of the Palenque emblem glyph. This glyph thus may read **BAK** and may be part of a name. On the other hand the outline of the glyph resemble that of T512 **chu**, a glyph which is very common in many contexts. Unfortunately there is no way to be sure whether **BAK** or **chuh** is represented. *Chu(h)* alone means “burned” or “cooked” (Martínez Hernández 1929: 317). This is an interesting transcription as it may relate with an interpretation of the following glyph at J1.

The following glyph J1 is fully phonetic and is written **wo-ti-ha-ts’a** or (T67.T59.[T683:T50]). This glyph is found in the PSS of Ucanal, Tunichil, and on Altun Ha specimens (e.g. vessel RP 97/29). We were unable to find any productive glosses in the Yucatec dictionaries, but believe that it may be transcribed as *wot hats’*. *Hats’* translates as “to hit” or to “punch” which would fit with I1 since it represents the *u bak* expression. Thus *hats’* may stand for a name, or a qualifier for the name. In the latter case this glyph may function as a title. However, we cannot be sure to which person this title refers. It too may stand for a name, or a qualifier for the name. In the latter case this glyph may function as a title.

Nevertheless, another possibility comes to mind. The T67 **wo** sign may in fact represent a T122 sign for **K’AK’** which means “fire” in Yucatec. This might be of particular interest in light of the **chuh** reading for J1 which means something along the lines of cooked or burned. Maybe **chuh k’ak’** features a title such as “the burning fire”. However, we cannot explain why this title should be written in two separate hieroglyphs. Thus we offer the reading of **bak wo ti hats’** and **chuh k’ak’ ti hats’** for the I1 and J1 pair. The differences between both readings cannot, however, be resolved at this point. We hope that examples of the glyph in J1 will be found in other contexts which may clarify its intended meaning.

K1 is a portrait head that has been nicknamed “IL Face” by Coe (1973) due to the “IL” design that marks the cheek of the profile. This T1000b or T1002b portrait head has since then been recognized as representing the profile of a woman and has been read logographically as **NA**. This glyph functions as a female article and has been translated as “she...” or as “Lady” which is a more titular form when found preceding an emblem glyph or other titles.

The following glyph (L1) is composed entirely of phonetic elements. It has been transcribed as T280.T580b:T582, yielding **o-lo-m(o)**. This word is found glossed as “lineage” or “bloodline” in

Yucatec. In the Motul dictionary it is translated as “sangre” (Martínez Hernández 1929: 719) and in the Cordemex as “linaje, por sangre o consanguinidad” (Barrera Vásquez 1995: 605). Undoubtedly this glyph functions as a title that is related conceptually to *ch’ok* and *kelem*, as well as the *ah lats* title. The latter glyph has a probable reading of “he of generations” (MacLeod & Reents-Budet 1994: 120). It may actually be a substitute for the *olom* glyph on the Modeled-carved PSSes, particularly since on the Lamanai Modeled-carved vessel *ah lats* appears in the nominal section. Furthermore this glyph is also usually found following Hand Monkey. We cannot be certain that *olom* has to translated as “lineage”, but syntactically it functions as the title of an individual. As the lineages to which individuals belong, or define their status, the reading of *olom* as “lineage” is very attractive.

The next glyph (M1) has been transcribed as **u ka-wa-l(a)** (T204.[T738a:T130:T139]), which in Yucatec has been recorded as “proud” (Barrera Vásquez 1995: 305). The T738a fish is similar to other renditions of it in collocations recording the contents of vessels as **ka-ka-w(a)**. The T204 **u** prefix, changes the word “proud” into “the proud” which could refer to the preceding “lineage” (L1). Thus the L1 M1 sequence would be read “lineage the proud” as someone may say “Alexander the Great”. This glyph has been deciphered independently from the only other known example of this glyph. The site where this title is also recorded is Xcalumkin where it too is presented syllabically as **ka-wa-l(a)** without the prefix (Davoust 1995: 128). The occurrence of this title on the Belize Valley Modeled-Carved greatly increases the examples of this title which until recently was thought to be restricted to Xcalumkin. The fully-phonetic rendition of this collocation in both areas suggests at least ties between the dialect(s) spoken in the respective regions.

The translation of **kawal** as “proud” is, however, a little problematic. As noted in the Cordemex (Barrera Vásquez 1995: 305) the entry *kawal* derives from a dictionary compiled by Morris Swadesh (Swadesh et al. 1970). The Swadesh dictionary uses the colonial orthography, so **kawal** should be found under *caual*. However, *caual* can neither be found in the Swadesh dictionary nor in the Motul. In the Swadesh only *kawal* is found glossed, which due to the colonial orthography is equivalent to more recent spelling as *k’awal*. Swadesh himself admits having copied the entry from the Motul dictionary. In the Motul dictionary *kawal* (i.e. *k’awal*) is glossed, but it too uses the colonial orthography (Martínez Hernández 1929: 500). In the Cordemex *kawal* is translated as “hombre muy grave y arrogante” (Barrera Vásquez 1995: 386), while in the Motul it is “hombre muy grave y arrogante” (Martínez Hernández 1929: 500). Both entries can be translated as “proud”, since an ‘hombre arrogante’ always is proud. Thus, although the combination of **ka-wa-l(a)** could not have been found in an original dictionary we can be sure that the glyph has a meaning that is related to ‘arrogant’ and ‘proud’, and we propose that it refers to the lineage title in L1.

The last two glyphs of the PSS are frequent occurrences on monumental and other more diminutive texts. They are not only frequently encountered titles but are also long recognized glyphs, although there are still some disagreements as to their exact reading and their exact meaning. In non-titular contexts glyph N1 has been deciphered as the glyph for “west”. The glyphs for the world directions were recognized by Léon de Rosny as early as 1876 (M. Coe 1992: 116-7), but at the time the glyphs were not assigned particular readings. It was read as *chik’in* or “sunset” in Yucatec, and by extension as “west” by Cyrus Thomas and was one of the first phonetic readings (Thomas 1893: 258). That reading remained accepted by Knorosov (1982: 269) and other researchers, until very recently. On the basis of new readings of collocations containing the T218 hand suffix, Stuart has

found that the hand leads to more productive readings with an **OCH** value rather than the older **CHI** value (Davoust 1995: 82; Schele & Grube 1997: 44). The **chi** value is still retained for the so-called manik hand (T221) renditions of the suffix in the Codices. Using this new value, the glyph can be transcribed as **OCH-K'IN-n(i)**. The **och** reading means something like “entry”, therefore *och k'in* may mean “entry of the sun/day” (Davoust 1995: 82). The meaning of this glyph is still unclear in its titular form or in nominal contexts. It may not refer literally to a cardinal direction, but its translation as “west” in other contexts seems to remain valid semantically.

Although the last glyph (O1) has also long been recognized as a titular glyph, its reading, as well as its meaning, has remained elusive. It is a title that is held by both males and females. It is composed of the profile of Chak's head (T1011), and a left arm that is shown holding an axe (T190). This main sign is then either suffixed or postfixed by the syllable **te'** (T87) which frequently stands for “tree” or “wood”, but sometimes acts as a phonetic complement. Some examples of the female allograph of this glyph have the “IL Face” (T1000) replacing Chak's head (Jones & Jones 1997: Fig. 92 & 94, p. 94-2, 94-3). In 1958 Heinrich Berlin associated this collocation with the colonial period title of *batab* based on ethnohistoric sources. The first decipherment of this glyph came in 1977 when Schele studied post-emblem glyph titles (Schele 1977). She read it as **MAH cu-ch(u)**, or “big burden”. More recently Stuart suggested a reading of **mah CHAK-te'** based on a literal reading of T1011 as **CHAK**. In Copan Note 58 Stuart, Grube and Schele mention a phonetic rendition of that glyph on Copan Stela 19 and Naranjo Stela 33. Following **och k'in**, the syllabic rendition being written as **ka-lo-m(a) te'**, read **kalom te'** (Davoust 1995: 125). This newest reading is only briefly mentioned in an article by Simon Martin (1995: 44). Additionally Elisabeth Wagner has found that other examples of the so-called Chak-te title are suffixed by either **ka** or **ma** (Wagner 1994). This provides a strong argument for associating the phonetic and logographic renditions of this title. The final T87 sign has been interpreted in this context as a logograph for “wood” or “tree” rather than as a phonetic complement (Wagner 1994; Copan Note 58). This is particularly interesting when this is considered in light of the fact that the rain god used an axe to open portals from which rain was released (Wagner 1994). The Cordemex lists the root **kal** as “to make a hole” and “opening”, while **kalom** is recorded as a type of opening such as a window. Thus the glyph apparently refers to an opening in a tree (Davoust 1995: 125), but suggests that Chac was perceived as the opener of portals. Whether the **kalom te** title, with its meaning of opener, is in any way connected to rains coming predominantly from the west cannot be sufficiently elaborated upon in this context. **Kalom te** is surely a title, and maybe even the title for a certain office, because at Tikal there exist examples of an accession into **kalom te** (i.e. Stelae 21, 22). Unfortunately no office or rank could be firmly associated with this title.

The PSS on Belize Valley Modeled-Carved vases can thus be read in full as: “ay-a, huy-i, yul xul-nahal, y-ak'utu', ch'ok, kelem, tu bail???, bak??? wo ti hats'/?/chuh??? k'ak ti hats'?, na, olom, u kawal, ochk'in, kalom te”. This may be paraphrased as: “It came into being, was blessed, its carving was finished, [on the vessel], lineage member, young, progenitor lord, title?, title?, Lady of the proud lineage, western, title”.

Summary of the Actun Tunichil Muknal main text

Order of Transcription and Glyph Structure	Transcription	Reading
A1: 1.([2]:3)	T15 . T1011 : T126	= a-YE-ya
B1: 1.([2]:3)	T15? . T736 : T17	= a??-HUB-yi
C1: 1.([3].2)	T61 . T756 [T82]	= yu-lu-xu / yu-xu-lu
D1: 1.([2]:3)	T1000 b . T683 a : T178	= na-ha-la
E1: 1.([2]:3).4	T126 . T604 : T89 . T13	= ya-k'u-tu-u
F1: [1]:2	T758 b / T759?? : T110	= ch'o-ko?
G1: 1.[2]	T1028c / T220 (ke?) . T1028 c	= KELEM / ke-KELEM
H1: 1.([2]:3)	T89 . T757 : T24	= tu-ba-li???
I1: 1.[2]	T??? .T570??? / T512???	= BAK??? / CHUH???
J1: 1.2.([3]:4)	T67 . T59 .T683 a : T50	= wo-ti-ha-ts'a /
	T122 . T59 . T683 a : T50	= K'AK'-ti-ha-ts'a
K1: [1]	T1000 b	= NA
L1: 1.([2]:3)	T280 . T582 : T582	= o-lo-mo
M1: 1.([2]:3).4	T204? . T738 : T130 : T178	= u-ka-wa-la
N1: ([1]:[2]).3	T218 : T544 . T116	= OCH-K'IN-ni
O1: [1].2	T1030 l,m	= KALOM te'

PSS sections	Transliteration	Translation
1) presentation section	A1: ay-a	it came into being
	B1: huy-i	was blessed
2) surface treatment section	C1: yul-xu[1]	its carving finished
	D1: -nahal	verbal suffix
3) vessel type section?	E1: y-ak'utu'	vessel type
5) nominal section	F1: ch'ok?	lineage member
	G1: kelem	young lord
	H1: tu bail?	so it is?
	I1: bak? / chuh?	name? / title?
	J1: wo ti ha-ts'(a) /	name?
or	k'ak' ti ha-ts'(a)	title?
	K1: na	Lady [of]
	L1: olom	lineage
	M1: u kawal	the proud
	N1: ochk'in	west
	O1: kalom te'	tree-opening

3) Comparison Between the Tunichil Text and Other Modeled-Carved PSSes

The glyph which was identified as the introductory glyph on the Ucanal vase by Reents-Budet (Awe personal communication 1996) is also present on the Tunichil vase. On the Ucanal vase this glyph lies approximately over the center of the “rear panel”, while on the Tunichil vase it lies at the same position but on the opposite side (i.e. over the ‘front panel’, Panel A). As was argued by MacLeod and Reents-Budet (1994: 121) “the pictorial images and the PSS text are independent artistic and conceptual units with separate semantic and informational domains”. This difference, therefore, has no bearing on our analysis of the five Modeled-carved vases, and can be attributed to the apparent fact that they were made by different artist/scribes, who presumably worked at different times, locations, and under different patrons.

The absence of Cholan linguistic indicators, as outlined by MacLeod (1990: 478-498) (with the exception of the tentative reading of S4), on the Modeled-carved vessels suggests that the PSSes of the Modeled-carved vessels were written in Yucatecan. Additional variation from the typical Cholan PSSes, further support the Yucatecan interpretation of the Modeled-carved PSSes. These vases are unique in that the Bow-Bat glyph is followed by *nahal* which is usually only found following Wing Quincux. The fact that there are at least two examples of **-nahal** following T756 at Chichen Itza suggest ties or similarities between the dialects spoken in Belize and Yucatan during the Terminal Classic. The presence of the *kawal* title at Xcalumkin, in northern Campeche and in central Belize, indicate similar ties. Since Yucatec would have been the spoken language at Chichen Itza and Xcalumkin, the presence of *xul-nahal* and *kawal* on the Belize Valley Modeled-Carved vessels indicate that the PSSes were likely read in Yucatek also.

The rare allograph for the introductory glyph is also found on introducing the PSS of the Buena Vista vase which was given to a local lord by a ruler from Naranjo (MS 1416). The PSSes then continue with an allograph of the God N verb which is also very rare. The examples of this allograph which have been found (i.e. Ucanal, Baking Pot, Actun Tunichil Muknal, Lamanai), are all restricted to Belize or the eastern Peten. The surrogate for the Wing Quincux also differs from the Yucatecan examples of the central Peten. The geographical restriction, of the Belize Valley Modeled-Carved vessels would seem to indicate a well-defined regional tradition of PSS dedications in Yucatec. The consistency of the vessel shapes, and designs, as well as the almost identical renditions of the narrative panels, further support this interpretation. That the texts on the Belize Valley Modeled-Carved vessels were recorded in Yucatec, stands in stark contrast to the great majority of PSSes. MacLeod (1990: 491-492), states that the available linguistic data on painted vessels from Belize present no clear evidence as to whether Yucatecan or Cholan languages were spoken in that area. However, she uses the stylistic distinctiveness of Belizean God N verbs and the anomalous renditions of Wing Quincux as evidence for a “local or regional PSS dialect” (ibid.). This local 'dialect' does however share similarities with PSSes from Naranjo, and Lamanai. The patterns outlined by MacLeod for painted Belizean vessels are thus in keeping with the anomalies (and their geographical restriction) of the Modeled-carved vessels. The distinctive nature of the PSSes on the Modeled-carved vessels can therefore not be directly or entirely attributed to the distinctive and discrete characteristics of that type-variety.

The full-length Primary Standard Sequence only survives on 3 of the 15 Modeled-carved vessels. The Primary Standard Sequences of the Chanona and Footprint cave vases have not survived or have not been recovered. The glyphs from the Valley of Peace vessel are even more crudely incised than those of the Tunichil Muknal vessel, and hence resemble typical Terminal Classic pseudoglyphs rather than viable ones. Certain of the attributes of the Valley of Peace PSS glyphs can be made out though. It seems that there were fifteen glyphs composing the text, just as on the Tunichil Muknal vase. It can not be made out though whether the *ch'ok* glyph precedes the *kelem* glyph (as in the Tunichil text), whether another glyph is substituted, or whether the closure section is otherwise altered. The presentation, surface treatment, and vessel type sections can be discerned though and appear to be identical to the Ucanal and Tunichil Muknal texts. The comparison of the PSS of these five vases thus rests upon the comparison between the Ucanal, Tunichil Muknal, and the fragmentary Altun Ha and Baking Pot vases. Overall three surviving and full-length PSSes have the same structure: the closure section taking up most of the text which is introduced by a short conventionalized and canonical Primary Standard Sequence, which takes up five glyphs. The rest of the text are nominals which constitute the closure section. The consistency of the text's structure and glyphs employed suggest that the PSS on these vases represents a specific version of the Primary Standard Sequence that is distinctive of these Modeled-carved vessels.

CONCLUDING REMARKS

The similarity between the vessels represents a case similar to the Holmul-type vases that are decorated with almost identical iconographic programs which have been referred to as the "Holmul dancer theme" (Reents-Budet 1994: 294). These vases are also decorated with a specific PSS that is restricted in use to these vases. The same is also true of the Chochola style vases. In both cases the only major textual variation occurs in the closure section where the name of the patron or owner is recorded. However, unlike the Holmul vases, the Belize Valley Modeled-Carved vessels do not record different names, although minor variations do occur in the nominal section. This is not due to the fact that the PSSes record the name glyphs and titles of the Lord that is represented on the Panels. A more likely scenario is that the prototypes or the earliest examples of these vessels recorded the name of the historic patron or owner, but with rapid diffusion of the model or template the PSSes were maintained without alteration. That the artist/scribes used the same or similar models for their work is undeniable and their geographic distribution suggests a socio-political interaction, similar to that which the sites of Holmul, Naranjo, Ucanal and Buena vista del Cayo maintained in the distribution of Holmul-type vessels. That this region is more or less adjacent to and separate from the Holmul dancer theme vase region, furthermore suggests that the manufacture, trade and distribution of certain specialized wares clustered around certain polities with few overlaps between areas of distribution. Since there is evidence that the Maya exchanged certain vessels as gifts during important political visits, the geographic distribution of elite vessels inevitably suggest not only economic but also political affiliations. Thus the distribution of the Belize Valley Modeled-Carved vessels that have similar iconographic programs and a specific PSS might suggest the range of influence of an important polity or group of polities. It seems that this polity or these polities were centered in the Belize Valley and has/have thus far remained undetected due to the few numbers of inscriptions in this area of the Maya world. The absence of emblem glyphs further complicates this matter. The consistency of the PSS on the Modeled-carved vessels may be an indication that the original producer of the vessels was literate, but with the manufacture expanding into non-literate areas the original

example was followed in all details. The dearth of inscriptions in the Belize valley, relative to other areas, may be an indication of the level of literacy of the elite in this area.

The rise of the Altar and Balancan ceramic groups in the southern lowlands was very rapid and widespread which probably began around AD 830 (Rands et al. 1982: 326). Secure associations exist between these ceramics and the 10.1.0.0.0 (AD 849) period ending at Seibal (Rands et al. 1982). The distribution of the upper Usumacinta Fine Orange ceramics over time and space after their initial appearance appears to be analogous to the rise and distribution of the Belize Valley Modeled-Carved vessels. It would thus appear that all these ceramics represent a rapidly changing production as well distribution scheme. The fact that Fine Orange ceramics are found throughout the entire southern lowlands, a few decades prior to the abandonment of many centers suggests that they are intimately tied to rapidly changing social organization. At Altun Ha, none of the Modeled-carved vases have been found in the site core, yet were found associated with smaller ceremonial structures and lesser elite residential structures, immediately preceding or ensuing the "abandonment" of the site (Helmke n.d.a; see also Pendergast 1982, 1990). Their lack of association with contexts or artifacts that are typically associated with the ruling elite, suggest that they were made for the consumption of the lesser elite. The absence of *ahau* titles in the PSS or the auxiliary texts suggest similar conclusions. Their discovery at certain sites would therefore not only be diagnostic of a particular time frame but also of a particular social context. The near identical nature of the vessels would have served as a status marker by all those who owned one, and would have served to materially express a class unity that would have been unrivaled by the ruling lineages of the time. These vases may therefore express the increasing importance of the lesser elite in the Terminal Classic, as opposed to the lessening power of the ruling lineages. The *kawal* glyph in particular may be a testimony to the desire for class unity on the part of a competitive lesser elite. In the Terminal Classic at Caracol, non-royal elite who resided in outlying, non-epicentral groups were erecting plain and carved stelae and paired altars, without any reference whatsoever to the ruler of the "site core" or to the Caracol emblem glyph (Chase et al. 1991: 13). In the Usumacinta area, Ruler 7 of Piedras Negras (the last documented ruler at the site) commissioned his sculptors to erect a stela at the site of La Mar² to honor the *sahal* who governed the site (Montgomery 1995). Similar data exists for the Copan valley, particularly under the reign of Yax Pasah, the penultimate ruler of the dynasty. These examples seem to illustrate the decreasing status of royal rulers in the Terminal Classic and consequently the relative increase in power of these lesser elite individuals. It is in fact possible that the power of the ruling royalty had decreased to such a point that the lesser elite were in fact competing for rulership. The monuments found erected in the Stelae Chamber of Actun Tunichil Muknal may represent a similar social instance to the Caracol example, whereby the lesser elite of the valley erected not only their own monuments but tried gaining control of the rituals conducted in the cave. The association between Belize Valley Modeled-Carved vessels and the monuments of Stelae Chamber or the sculpture of Footprint Cave may therefore be no coincidence.

²Stela 2 of La Mar has been dated to 9.18.15.0.0 a date equivalent to AD 805, using the GMT correlation.

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PRELIMINARY ANALYSIS OF THE PICTOGRAPHS, PETROGLYPHS, AND SCULPTURES OF ACTUN UAYAZBA KAB, CAYO DISTRICT, BELIZE

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INTRODUCTION

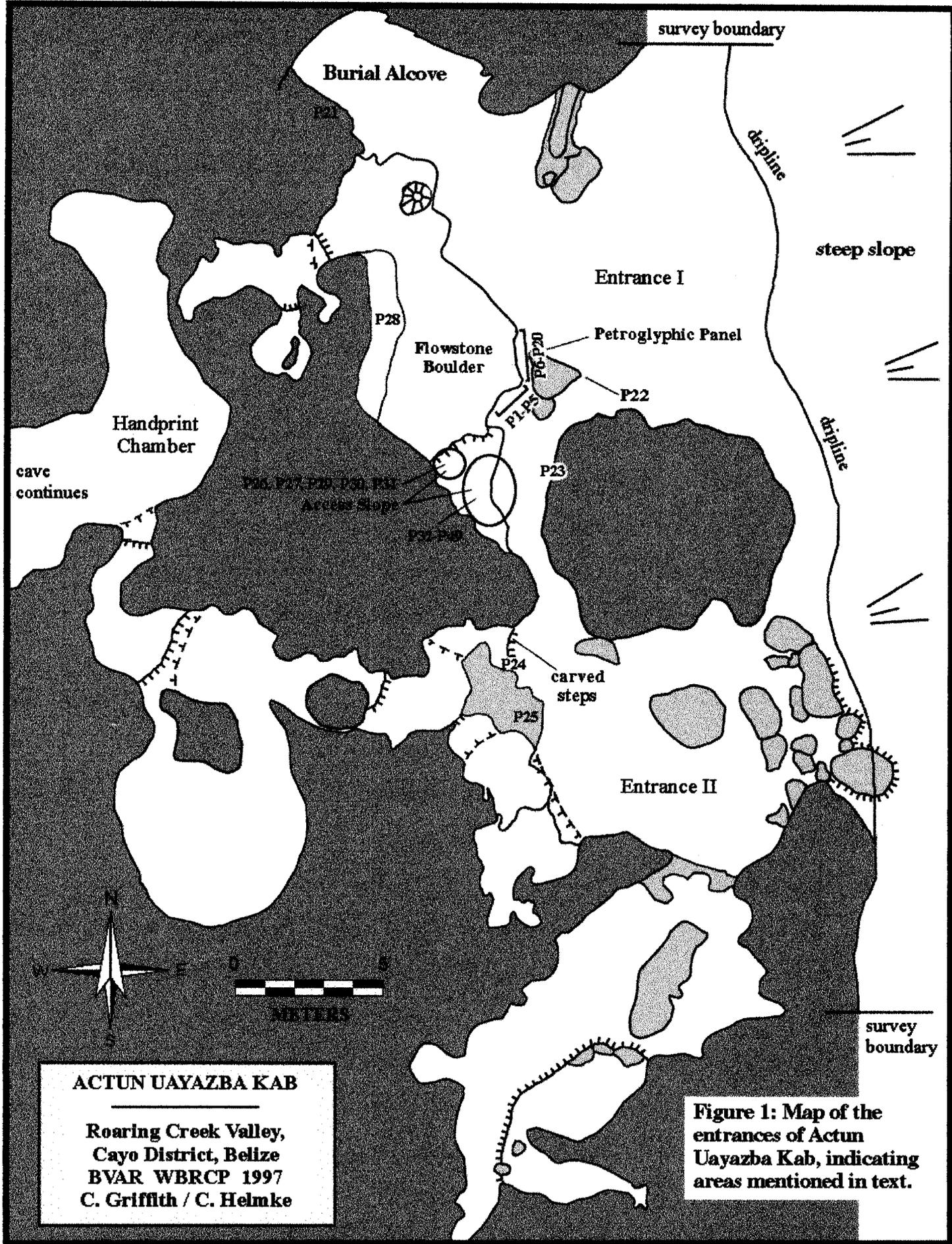
Investigations by the Western Belize Regional Cave Project in 1996 documented a previously unreported cave in the upper Roaring Creek Valley. Designated as Actun Uayazba Kab, the site contains one of the most complex corpuses of prehistoric Maya cave art presently known for Belize. The art consists of pictographs, petroglyphs, and a variety of simple and partly sculpted anthropomorphic faces. This paper provides a description and interpretation of the iconography recorded at Actun Uayazba Kab, and compares it with prehistoric art from other sites in the Maya lowlands. The dating of the artwork, as well as its iconographic significance, are also employed for elucidating the ritual function of the cave and for examining the relationship between Actun Uayazba Kab and other caves and surface sites in the area.

DESCRIPTION OF ACTUN UAYAZBA KAB

Actun Uayazba Kab, which loosely translates in English to Handprint Cave, is located just over 500 m south of Actun Tunichil Muknal, and approximately 400 meters west of Cahal Uitz Na (for location see Fig. 2 in Awe, this volume). The latter is a large surface site containing several slate and limestone monuments. All these sites are presently under investigation by the Western Belize Regional Cave Project (WBRCP) under the direction of the junior author. Specific reports dealing with these and other sites are included in this volume.

The entrance to Actun Uayazba Kab consists of two interconnected "chambers" which are subdivided by a large stalagmitic column (Fig. 1). One "chamber" lies to the north and the other to the south of the column, and were designated as Entrance I and II respectively. Both entrances face east. Since Entrances I and II penetrate less than 10 m into the cliff and since their ceilings are over 12 m high, most of the entrance area, save for a few recessed alcoves and tunnels which are penumbral, are illuminated by daylight. Given the small surface area of the entrances, the cave also resembles a rockshelter more so than a cavern. The only area of the cave that is devoid of all light is a chamber (the Handprint Chamber) that lies west of the stalagmitic column that divides Entrance I and II.

Both entrances, particularly the north entrance, were decorated with a variety of petroglyphs, sculpted faces, and architectural modifications (see Griffith, this volume). In contrast, the walls of the small, dark, Handprint Chamber contains several pictographs that include schematic drawings, four



negative hand prints, charcoal "smudgings", and a possibly modern graffito.

The concentration of cultural remains in the entrances to the cave suggests that this area of the site was the focus of most prehistoric activity. Apart from the charcoal drawings and a cluster of faunal remains, few artifacts were discovered within the Handprint Chamber. The absence of artifacts in this area may be the result of the intensive looting at the site in the years preceding our investigations. The faunal remains may also represent natural deposition rather than cultural imports, thus reinforcing the hypothesis that prehistoric cultural activities were concentrated at the entrance to the cave. This situation contrasts significantly with Actun Tunichil Muknal (see Moyes & Awe, this volume), where the majority of the cultural remains were discovered deep inside the cave, several hundred meters from daylight. The differences in artifact deposition at the two sites may represent distinctions in their ancient function and consequently in their emic conceptualization (see Gibbs this volume). This may or may not have been influenced by differences in the geomorphology, size, and location of the caves vis a vis the large center of Cahal Witz Na. Possible explanations for cultural differences at the sites will be examined, in a preliminary fashion, below.

At the beginning of the 1997 season of the WBRCF, several new looters' pits were observed in the entrances to Actun Uayazba Kab. The presence of a fresh campfire in the northern end of Entrance I, indicated that the latest looting occurred only a few weeks prior to our arrival in early May. Machete scars on the walls inside the cave, and on the "Flowstone Boulder" (Entrance I) on which the majority of sculptures and petroglyphs were carved, suggested blatant vandalism. A faintly incised graffito was also observed on the floor inside the Handprint Chamber. This destruction had not been noted in 1996 and it is possible that the graffito was executed by the looter(s) who pillaged the cave before and between both seasons of investigations. A significant portion of the rock on which the Petroglyphic Panel was carved shows signs of exfoliation as a result of the natural fragmentation of the flowstone. This may have served as an impetus for the looter(s) to experiment, as it were, to see if the petroglyphs could be removed by cutting the flowstone off the bedrock. Since then we have been notified that the flowstone bearing the petroglyphs has suffered from further destruction. If the destruction of the site proceeds at the same rate, these unique carvings could eventually be completely lost from the archaeological record.

DESCRIPTION OF THE PICTOGRAPHS AT ACTUN UAYAZBA KAB

The pictographs (paintings on rocks) of Actun Uayazba Kab were all discovered in the Handprint Chamber. The paintings include hand prints (Fig. 2), triangular prints (Fig. 3), a schematic drawing (Fig. 4) and charcoal smudges. The only other possible artwork in the chamber includes an incised design on flowstone that has been interpreted as graffito and is possibly of recent origin. The graffito appears to have been incised on the wall of the chamber with a sharp object, possibly a machete.

Handprints:

There are a total of four (maybe five) handprints (Fig. 2), in the small chamber. All are painted in black and in negative style. Three are right hands, one is a left hand and the possible fifth specimen is too vague to determine. For study purposes they were numbered in ascending order (1 to 4) from left



Figure 2: Three of the four handprints on the eastern wall of the Handprint Chamber at Actun Uayazba Kab.

to right. Handprint No. 1 is a right hand whose tip of the middle finger is 88 cm above the floor of the chamber. The tip of the middle finger of Handprint No. 2, also a right hand, is 92 cm above the floor. That of Handprint 3 (right hand) is 96 cm above the floor and that of Handprint 4 (the only left hand) is 77 cm. The possible fifth handprint is located above Handprints 1 to 4.

Napier (1993:129): reports that depictions of human hands “constitute the earliest examples of cave art”. They have been recorded at Upper Paleolithic cave sites in France and Spain and dated to ca. 22,000 to 28,000 b.p. At Gargas, in the Franco-Cantabrian region of Europe, the depictions are predominantly negative handprints that are “outlined in black manganese oxide or in red ochre”. Napier (1993:129) also notes that Paleolithic, negative handprints “are usually of the left hand and positives of the right.”

Within the Maya area, painted handprints are predominantly found in the Yucatan Peninsula and have been dated between the Terminal Classic and the Early Postclassic periods. Presently, the largest single collection of handprints have been reported at Acum Cave which is located southwest of Oxcutzcab. At Acum, Strecker (1982) recorded a total of 135 handprints of which 79 were positive and 56 were negative. All were painted in black. The second largest collection of handprints are found in Loltun Cave. At the latter Strecker (1976) recorded 88 negative prints, two positive and a single negative and positive footprint. All were painted in black. The site of Actun Tixkuytun: (Stone 1995: 70) contains both positive and negative handprints, mostly painted in red, with some ringed by a black circle. Other cave sites in the Yucatan with positive and/or negative handprints include Xkukican near Oxkutzcab, Tres Manos cave, Balankanche, and possibly Actun Kaua. Xkukican has approximately 15 positive and 15 negative types, Tres Manos has prints ringed by a circle, Balankanche has positive handprints painted in red, and Kaua contains both red and black handprints (Bonor 1989:78; Stone 1995:86).

In Guatemala, Stone (1995:97-98) notes that handprints are found at San Miguel and Pusila Cave. The latter has both positive and negative handprints, and a small child-size footprint. All were painted with a black pigment. Another cave near Machaquila, north of Poptun, has two panels with more than 20 “brownish-red handprints” (Stone 1995:98). Naj Tunich also has positive handprints (Stone 1995:187, drawing 1; fig. 8-1). Drawing 86 has about 6 positive handprints, and Drawing 93 has two positive handprints that were painted with “ochre-colored mud from the cave floor” (Stone 1995:229).

Triangular Prints:

Three of the pictographs (Fig. 3) at Actun Uayazba Kab can be described as negative triangles that were undoubtedly produced by joining the thumbs and index fingers of the left and right hands. The triangles are 3 cm apart and their bases are 1.62 m above the floor of the chamber. Because they are all about 8 cm from base to apex and 7 cm wide at their base it is possible that a single individual's hands were used as the “stencil” for this art form.

At the site of Caactun, Yucatan, where similar negative prints were found, Stone (1995:72; fig. 4-58, 59) noted that:

While some negative handprints show the full hand or part of one hand, others employ



Figure 3: Triangular pictographs on the northern wall of the Handprint Chamber.

both hands to create patterns... One recurrent form of negative handprint at Caactun was made by joining the index fingers and nearly joining the thumbs of both hands, then painting the resultant triangle as well as a line extending down between the thumbs.

Schematic Drawings:

The schematic drawings (Fig. 4) at Uayazba Kab include two figures that were painted on the wall of the chamber, midway between the handprints and the triangles. Both figures were painted in black. The figure on the left is slightly oval in shape and approximately 3.5 cm in diameter. The figure to the right is more complex and resembles a simple tree. No comparisons with these forms were found in the available literature.

Smudges:

Numerous smudges (or torch tappings) in all shapes and sizes were found throughout the chamber. A substantial number of them were noted on a column with limited but active dripwater at the rear of the room. All the smudges black in colour and could have been made with the burnt end of a torch.

COMPARISONS AND FUNCTION OF PICTOGRAPHS IN CAVE SITES:

Pictographs are a rare form of cave art in Belize (McNatt 1996:89). Presently there are only three known sites where pictographs have been discovered. These include Actun Dzib, Roberto's Cave and Bladen 2 Cave, all located in the Toledo District (McNatt 1996:89). (For a more detailed description on the pictographs from these caves see Stone 1995). None of these caves, however, contain painted handprints.

In contrast to Belize, numerous impressions of positive and negative handprints, plus a wide variety of handprint designs, have been discovered throughout the world. They range in date from the upper Paleolithic in Europe to contemporary times in Australia. Despite the fact that much has been written on painted handprints in caves, however, the meaning and/or significance of these representations remains an enigma in the study of cave art (Bonor 1989:77). According to Sanchez Montanes (1985:28), the location of handprints in chambers of difficult access and their regular association with other types of cave art (whose function is clearly ritualistic and symbolic), invalidates any suggestion that they represent meaningless symbols. She argues that their context and association indicates that they may be related to rituals of identification and that they serve to chronicle visits to religious or pilgrimage sites. She suggests that they represent a registry or testimony of personal access to sacred places where ritual activities were conducted. In Australia, where handprints continue to be painted in sacred spaces, she argues that they convey this special meaning and that they actually represent the signatures of those individuals that participated in the rituals conducted at these sacred sites.

Strecker (1982) disagrees with the interpretation of handprints as signatures of ritual participants, noting that in the Yucatan handprints of children are also found in several caves. If, however, these handprints are of children that were sacrificed as part of cave rituals, or of children



Figure 4: Schematic pictograph on the northeastern wall of the Handprint Chamber.

who represented "Chac assistants" as in present day Chachac rituals, then Sanchez Montanes hypothesis could be valid. Bonor's (1989) supports the latter view and suggests that the practice of painting handprints in caves may be related to rites of passage or initiation. He proposes that at the end of these rites, participants may have painted impressions of their hands as a form of signature that they had completed the right of passage. We support Sanchez Montanes hypothesis but note that the Terminal Classic date and limited distribution of these (handprints) pictographs in Belize suggest that this practice was either introduced quite late to the western Belize subregion, or was simply more popular in the Yucatan.

THE PETROGLYPHS AND SCULPTURES OF ACTUN UAYAZBA KAB

The large number of discrete elements represented by the petroglyphs and sculpture make them the most complex and variable sample of the artwork portrayed at the cave. Their restriction to the entrances appears to be significant and may either represent a cognitive distinction as to what they were meant to portray, or they may represent a distinct period of utilization. In this paper a "petroglyph" is defined as any two-dimensional carving that was rendered on a nearly plane surface, composed mostly of linear elements or other simple geometric forms, and for which no effort at depicting depth or three-dimensionality is evident (cf Brady n.d.: 13). Consequently the individuals who executed the petroglyphs had to rely on iconic markings and other iconographic attributes to imbue their creations with meaning. Conversely, although "sculpture" may represent simple geometrical elements similar to petroglyphic ones, a deliberate effort at representing three-dimensionality and depth are apparent. In the case of the sculptures from Actun Uayazba Kab, rock outcrops which possessed some of the attributes desired of the finished sculpture were selected and then carved. All sculptures were carved on three-dimensional forms and on bedrock, unlike the petroglyphs which for the most part were carved into the layers of flowstone which cover most of the walls in the northern entrance. Although a distinction is made between petroglyphs and sculptures in terms of subject matter, rendition, and execution, all were labeled as "Petroglyphs." All discrete elements which are not connected to another have been designated in a sequential fashion from 1 to 49. This first section will be entirely descriptive leaving the analysis of the carvings to the sections on chronology and interpretation below. In this paper when discussing elements which are to the "left" or the "right" of one another, the viewer's 'left' and 'right' are systematically denoted.

The Petroglyphic Panel

The Petroglyphic Panel (Fig. 5) refers to a group of petroglyphs that were carved on the eastern surface of a flowstone-covered boulder which is the dominating feature of the northern entrance (Entrance I). The Petroglyphic Panel was predominantly carved on the eastern side of the boulder, but extends over to a small section of the flowstone that faces south. There are at least 20 separate petroglyphs that were carved on the vertical face of the boulder. These range in intricacy from a simple notch to a complex set of intersecting spirals, coils and lines. A section of the boulder is covered with flowstone and may conceal more carvings. Another section has suffered considerable erosion and exfoliation which may have destroyed or limited the iconographic program at that point.

The Petroglyphic Panel has been subdivided into five nearly equal-sized sections in order to facilitate the discussion of the carvings found on that panel. These have been dubbed, from south to

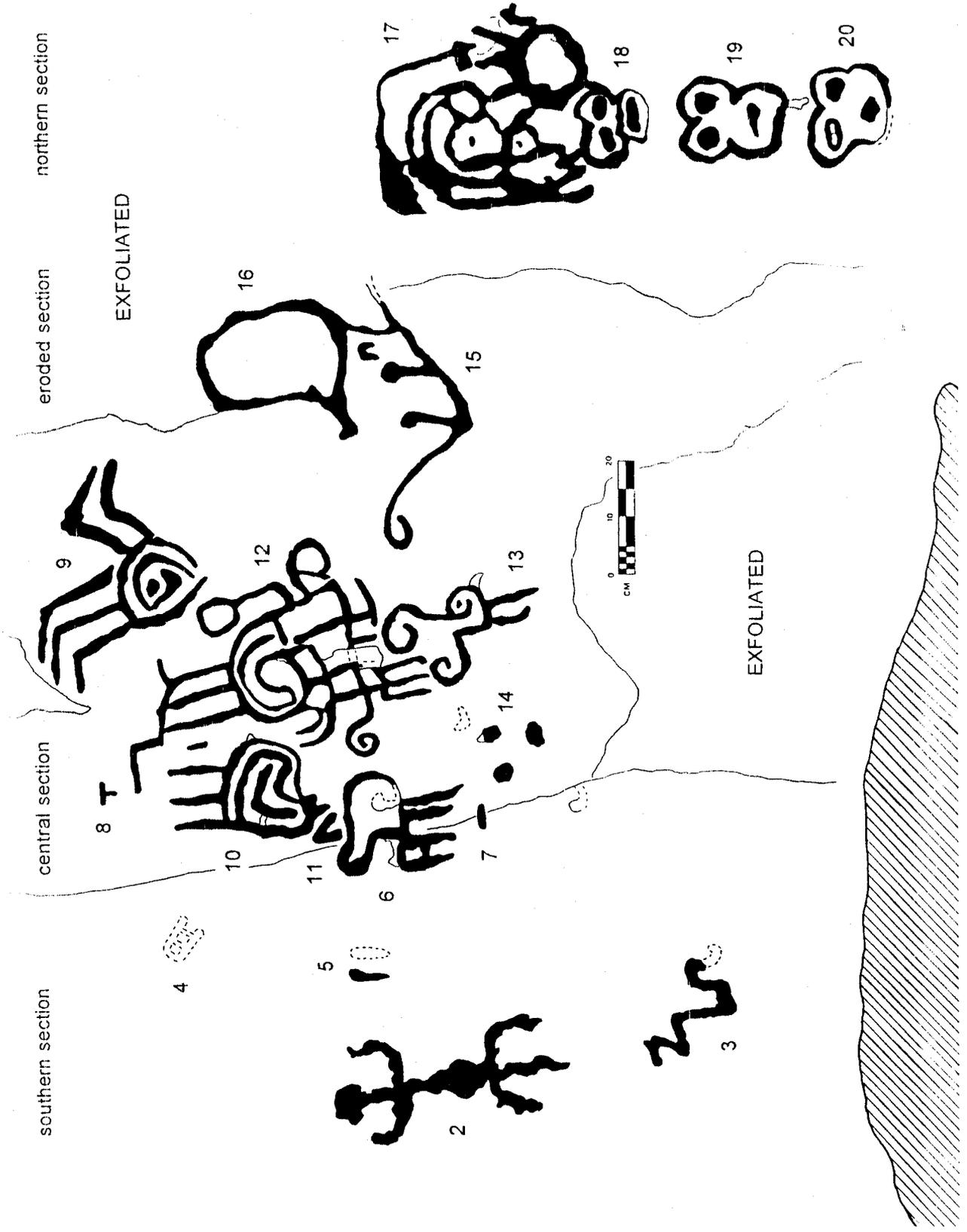


Figure 5: 'Fold-out' of the Petroglyphic Panel, Entrance I, Actun Uayzba Kab.

north, as the flowstone section, the southern section, the central section, the eroded section, and the northern section. Petroglyphs can be discerned in all these sections, except in the flowstone section. South of the Petroglyphic Panel lies another section on the Flowstone Boulder which also displays a large concentration of petroglyphs plus two sculptures. That section will be discussed separately from the Petroglyphic Panel since they are distinct in terms of their geographical location, the clustering of petroglyphs and the elements they represent. The carvings of the Petroglyphic Panel were carved on the nearly vertical eastern face of the Flowstone Boulder while the petroglyphs and sculptures of the southern end of the boulder were carved on a sloping surface. The area where petroglyphs and sculptures were carved on the sloping section was dubbed the Access Slope. That section lies between the point where the southern end of the Flowstone Boulder meets the western wall of the northern entrance. At that point the summit of the boulder slopes down to the floor as opposed to the rest of the boulder whose face is nearly vertical. The sloping section on which several petroglyphs were carved provides the easiest access to the summit of the boulder, hence the name that has been used to designate that portion of the boulder.

The first section of the Petroglyphic Panel is located between the petroglyphs on the Access Slope and the southernmost carvings that were executed on the vertical face of the boulder. This section is the southernmost section of the panel, and is covered with flowstone. Dripwater was observed on that section during the rainy season in 1997 and it is possible that this hydraulic action has been occurring for several centuries. Since petroglyphs are found on either side of the flowstone covered section, it is very likely that the flowstone is concealing several other petroglyphs. No attempt was made to remove the flowstone in order to uncover the possible petroglyphs for fear of destroying active formations and the suspected carvings.

The second section of the Panel is defined by the edge of the drip/flow formation and the corner of the boulder. Because it faces south it was dubbed the southern section (Fig. 5). It measures approximately 55 cm wide. On this section at least 6 separate carvings can be observed with an additional petroglyph extending over the corner of the boulder, and is therefore included into the southern section and the central section as well. The petroglyph dominating that section (Petroglyph 2) represents an anthropomorphic figure with a circular head, arms outstretched in the form of a U, while the legs form an upside-down U shape. Extending downwards between the legs is a long tail, suggesting that this petroglyph may represent a monkey. It is however possible that the sculptors intended to represent a more reptilian form, although that possibility seems less likely. An almost identical figure was painted in the center of Panel 1 at Actun Dzib (Stone 1995: Fig. 4-98, p. 92), although the figure was placed upside-down. Below this figure is a contorted line possibly representing a snake (Petroglyph 3). Above the anthropomorph is a ladder-like petroglyph (Petroglyph 4) which looks like a "U" placed sideways with two vertical lines connecting the sides of the U. To the right of the anthropomorph are two short vertical lines (Petroglyph 5). Next to these lines is the petroglyph that extends over the corner (Petroglyph 6). It is formed by a spiral-shaped scroll that emanates from a comb-shaped design beneath it. A small horizontal notch (Petroglyph 7) was carved on the corner of the boulder which delineates the southern section and the central section. To the left of the anthropomorph is a faintly incised spiral out of which sprout several lines (Petroglyph 1). That petroglyph was partially covered by a thin coating of flowstone which concealed attributes of the design. Due to the indistinct and faint character of the design it could not accurately be recorded.

The central section of the Panel is in alignment with a large fallen speleothem that lies directly in front and east of the panel (Fig. 1 & 6). This section contains the most elaborate and greatest concentration of petroglyphs, suggesting that it represented the focal part of the Petroglyphic Panel. It is possible, however, that this is simply the best preserved section, which could explain the concentration and elaborateness of the petroglyphs found on it. The large speleothem found in alignment with that section of the Panel, shows signs of having been altered in two ways by deliberate human action. The eastern point of the speleothem juts out and faces nearly due east, and was decorated with a simple, but three-dimensional face (Petroglyph 22) (Fig. 6). Furthermore the upper surface of the speleothem is nearly flat and along the southwestern edge of the speleothem a sequence of drip formation layers can be observed (Fig. 6). This suggests that the speleothem was deliberately flattened by pecking and gouging. As such it appears that the speleothem may have served as an altar and thus its alignment with the central panel is significant; particularly when assessing the significance of the central section in relation to the other petroglyphs represented.

The central section of the panel is defined by a prominent corner of the boulder on the south and the eroded section of the boulder on the north (Fig. 5). The central panel measures approximately 60 cm wide. Apart from the scroll-comb design mentioned above (Petroglyph 6), 7 separate petroglyphs decorate the central section. The uppermost carving represents a small T (Petroglyph 8) that lies directly above the left end of another winding line which is part of Petroglyph 12 and which delineates the upper edge of the central section. To the right of this line is a spiral shape (Petroglyph 9), whose center is decorated with a small dot, and out of which five V-shaped and parallel lines emerge. Three of these lines point left (south), while two point to the right (north). The center of Petroglyph 9 is 1.78 m above the surface of the speleothem/altar, suggesting that the individual who executed that petroglyph was standing on the speleothem/altar. Since the level surface of the speleothem/altar is on average 48 cm above the floor, the uppermost petroglyph (Petroglyph 9) of the Petroglyphic Panel is approximately 2.26 m above the floor. Below the line and the spiral design are the two most complex petroglyphs (Petroglyphs 10 and 12). The one to the left (Petroglyph 10) represents two concentric circles filled with a sideways-placed L-shaped design. Three parallel and vertical lines emerge from the circle and another fourth and fainter line can be seen to the right of these. Below it a small notch emerges as a continuation of one of the concentric circles, alongside of which is placed an upside-down V (Petroglyph 11). Directly below is the scroll-comb design (Petroglyph 6). To the right of these designs is the most complex petroglyph (Petroglyph 12). The central section of the design is composed of concentric lines, out of which emerge three parallel and vertical lines (which meet up with the winding line mentioned above), thereby mirroring, more or less, the design to the left of it. Extending to the left of the design are two superimposed and widened U shapes that appear to extend to Petroglyph 10. No connection between Petroglyphs 10 and 12, however, was noted during the recording of this feature. To the right, Petroglyph 12 has a line which extends into a square-cornered and upturned U which terminates in a circle. Four lines extend downwards from the concentric lines above. The two on the left extend downwards, the right one of the two then bisects the other at a right angle before terminating in a spiral. The spiral faces the scroll/spiral of Petroglyph 6. The left line extends downwards and terminates as the central line of a down-turned comb design. The two lines on the right also bisect each other in a similar fashion. A scroll-like element extends from the westernmost of the four lines. This is comparable to the scroll on the left. Below Petroglyph 12 is a set of 3 intertwining spirals which end in three little lines. Petroglyph 13 seems to emanate from the lower center of Petroglyph 12. These spirals may represent



Figure 6: Contextual drawing of the fallen speleothem/altar in the foreground and its relation to the Petroglyphic Panel in the background.

the continuation of the spirals of Petroglyph 12. Between Petroglyphs 6, 12 and 13 is a simple face (Petroglyph 14), with two small circles representing the eyes and a small horizontal line for the mouth. The center of Petroglyph 14 is 1.15 m above the surface of the speleothem/altar and the lowest petroglyph of the central section is 1.63 m above the floor.

The eroded section of the panel is approximately 58 cm wide and displays limited evidence of carving. The petroglyphs in this section (Fig. 5) are heavily eroded and were particularly damaged by exfoliation of the flowstone. The preserved carving is represented by an elongated V (Petroglyph 15) with three lines extending from its right side. Two of the lines end in knob-shapes. The left side of the V-shaped design extends over to the central section and ends in a scroll to the right of Petroglyph 13. Above these lines is a square like design (Petroglyph 16). Between both elements is a small upside-down U. The upper and right edge of Petroglyph 16 border a large section of exfoliated flowstone, thus it is possible that this petroglyph may have been more extensive. Given this state of preservation, it is difficult to provide an interpretation for these petroglyphs. According to a local inhabitant of the valley this section of the Petroglyphic Panel was still in pristine condition "several" years ago (personal communication to Cameron Griffith, 1996). There were, however, no clear signs of deliberate defacement, modern or prehistoric, to that section of the Panel in 1996 or 1997. The indistinct nature of this section of the panel must therefore be attributed to natural rather than malicious causes.

The northern section of the Petroglyphic Panel is composed of two groups of petroglyphs (Fig. 5). The first and uppermost group (Petroglyph 17) is represented by a dubious set of interconnected concentric lines forming small polygons. The center of the design is a small rounded rectangle that is decorated by a dot at its center. The lower right section of that petroglyph is a circle from which five short lines emerge. This element may represent a "paw" or "hand." Its relation to the other lines cannot be ascertained, however, and consequently the "paw" element may have been intended to represent something quite different. Located below this design (Petroglyph 17) are three stacked faces (Petroglyphs 18-20) that are similar in appearance to the simple face (Petroglyph 14) of the central section. These three faces are described below.

The simple faces

The numerous simple faces that adorn the entrances of Uayazba Kab are similar in many respects to other such faces, in terms of context, execution and style, throughout the greater Maya area. Strecker (1984: 21) has suggested that such pecked faces are one of the most common forms of cave art in the Oxkutzcab area of Yucatán (also Brady et al. 1997a: 736). In an article dealing with the artwork, associated artifacts and architecture of Cobanerita and Jobonché caves in the Petén, Brady et al. (1997b: 92) and Brady (n.d.) noted a similar pattern. The most salient features, that are systematically represented, of these faces are the circular orbits and a small ovoid-shaped mouth. At Uayazba Kab there are ten definite recognizable faces, and two additional loci of carving that most likely represent the remains of two weathered examples. These faces were numbered, from north to south in clockwise fashion, as Petroglyphs 21 to 28 but exclude the four faces on the Petroglyphic Panel (i.e. Petroglyphs 14, 18, 19, 20). Petroglyph 21 was carved on a rimstone dam on the northern wall of the Flowstone Boulder; Petroglyph 22 was carved on the eastern extremity of the flattened speleothem/altar; the face carved on the western side of the stalagmitic column dividing Entrances

I and II as Petroglyph 23; the face on the southern side of the passage leading to the Handprint Chamber as Petroglyph 24; the face on a protruding section of stalagmite, south of the latter carving, is Petroglyph 25. The two fairly weathered but elaborate faces that decorate the western side of the petroglyphic footprints leading up to the summit of the flowstone boulder are Petroglyphs 26 and 27 (the lower one being Petroglyph 26); and Petroglyph 28 is a face that was carved on the western wall at the summit of the flowstone boulder. The description of these faces follow the numerical designations described above, except for Petroglyphs 26 and 27 which will be described in the section dealing exclusively with the petroglyphs decorating the Access Slope of the Flowstone Boulder.

The faces of the northern section of the Petroglyphic Panel (Petroglyphs 18, 19, 20 from top to bottom) differ from Petroglyph 14 in that the edge of the face is delineated by a line. The lines therefore form a sort of three-leaved clover inside which are the two small circles representing the eyes, and the short line forming the mouth. The lowest face (Petroglyph 20) was carved 1.15 m above the floor. All three faces are similar in design and execution and were probably carved during the same episode of carving.

Petroglyph 21 is a face that was carved on a small rimstone dam (Fig. 7) which faces north. The face is composed of two circular orbits and an ovoid mouth. The jaw and chin of the face were delineated by a U-shaped line. The edge of the forehead is formed by the edge of the small rimstone dam on which it was carved. The stream of water which formed the series of rimstone dams which are adjacent to the petroglyph and on which the petroglyph was carved, emanates from a fissure between the bedrock forming the western wall of Entrance I and the northwestern corner of the Flowstone Boulder. It is of note that the majority of rimstone dams are partially filled with matrix that is mixed with charcoal fragments. The area between the northern edge of the flowstone boulder and the northern wall of the entrance forms a small alcove in which significant amounts of matrix has been deposited and in which human burials were discovered during the course of excavations (see Gibbs, this volume). Interestingly, during the height of the rainy season in 1997, we observed water flowing over the rimstone dams and pouring down toward the area where the burials were later encountered. Although it was apparent that this petroglyph was associated with a hydraulic feature (i.e. the rimstone dam upon which it is carved), it was interesting to note that the carving was actually associated with flowing water which was also contextually associated with human interments. The possible relation of this face with water, interments and charcoal will be explored below.

Petroglyph 22 is the face that was sculpted on the easternmost edge of the fallen speleothem/altar in front of the Petroglyphic Panel (Fig. 6). The orbits of the face connect on either side of the corner as they were carved through the speleothem in a straight line. The mouth is represented by an elongated oval shape that was carved on the corner of the speleothem. Although it is less pronounced than the orbits, the carving of the mouth is at least 2 cm deep. Between the orbits and the mouth, the speleothem projects out over the floor, thereby giving the appearance of a nose or snout to the face. Of all the faces represented at Uayazba, the only other petroglyph which represents a nose is Petroglyph 28, which depicts a distinctly human nose, unlike Petroglyph 22. The upper surface of the speleothem is triangular in shape with its point facing due east towards the site of Cahal Uitz Na (see Awe & Helmke, this volume). It is upon this corner that the three dimensional face was carved. The approximate north-south alignment formed by the two other corners of the speleothem is more or less parallel to the vertical surface of the central section of the Petroglyphic



Figure 8: Contextual view of the face (Petroglyph 21) carved in the Northern Burial Alcove of Actun Uayazba Kab, looking at an azimuth of 250°. Note the rimstone dam upon which the face was carved.

Panel. The east/west alignment of the speleothem/altar bisects the “monument” and the Petroglyphic Panel. The fact that the speleothem/altar and petroglyphs face east may also be related to the location of the surface site or to the rising sun, but either possibility should be considered hypothetical.

The western wall of the column which divides the two entrances of Handprint Cave, is composed of several stalagmitic columns which merged together and reach up to the ceiling of the cave. One of these columns has a simple face (Petroglyph 23) carved on it. The face (Fig. 8) consists of an ovoid mouth and two circular eyes. Algae growing within the carving helps to accentuate the face. It is reminiscent of Edward Munch’s 1895 painting called *The Scream*, and hence has received that field name. The carving is situated approximately 3 meters above the modern floor level of the cave and thus would have required the sculptor to partially climb the column.

The incorporation of the dripstone formation as a frame for the face and body of the figure is ingenious, and testifies to the fact that the ancient users of this cave paid close attention to geological formations prior to carving the petroglyphs. This further supports the hypothesis that the carvings were not placed haphazardly but are the result of some sort of reasoning. The shaft of the column can therefore be seen as forming the body of the carved face. Consequently it seems that the simple faces are represented by more than orbits and mouth although details may sometimes be difficult to discern. The three stacked faces on the northern section of the Petroglyphic panel (Petroglyphs 18, 19, 20) all have the outlines of their faces marked by a line which encircles the orbits and mouth, thereby giving them a cranial appearance. This is reminiscent of certain renditions of skulls from Copán. The face in the Northern Burial Alcove (Petroglyph 21) also has the chin and jaw represented by a line, while the forehead is delineated by the edge of the small rimstone dam upon which it was carved. A simple face that is almost identical in every respect to the Uayazba Kab faces was carved on a wall at Jaguar Paw Cave (Fig. 18), which lies to the east of Caves Branch Cave, Belize. Two other similar petroglyphic faces, which were carved/painted, are reported from Xcosmil 8 km south of Oxkutzcab, Mexico (Stone 1995: 69). Other non-petroglyphic examples representing simple faces whose outlines are clearly indicated can be found at Dzibichen (Stone 1995: 75, 79) and Naj Tunich (Drawing 55). The Jaguar Paw face combines features that are characteristic of two types of faces from at Uayazba Kab, in that the manner in which the orbits are delimited are similar to that of Petroglyphs 18, 19 and 20, but the chin and jaw are more similar to that of Petroglyph 21. Thus, although most faces are represented as a simple configuration of three dots, the frequency with which they are represented with the contour of their face emphasized, suggests that these faces were meant to be seen with the outline of the face in mind. This principle of *pars pro toto* has been briefly discussed by Joralemon (1976) in light of Olmec representational conventions, which also apply to the conventions utilized by the Maya and several other Mesoamerican cultures.

Petroglyph 24 is a very eroded carving that lies to the lower left of the western wall of Entrance II adjacent to the tunnel leading to the Handprint Chamber. The two orbits are still visible but the mouth is eroded. It does, however, seem that the mouth is in the form of an upturned crescent shape. This face is larger than most faces at Uayazba Kab and measures more than 20 cm in width.

Petroglyph 25 is the southernmost carving in Uayazba Kab. Only a few of the incisions which originally constituted the carving are still visible today. As is the case with several other petroglyphs, in particular petroglyphs representing faces, the morphology of the rock outcropping on which they

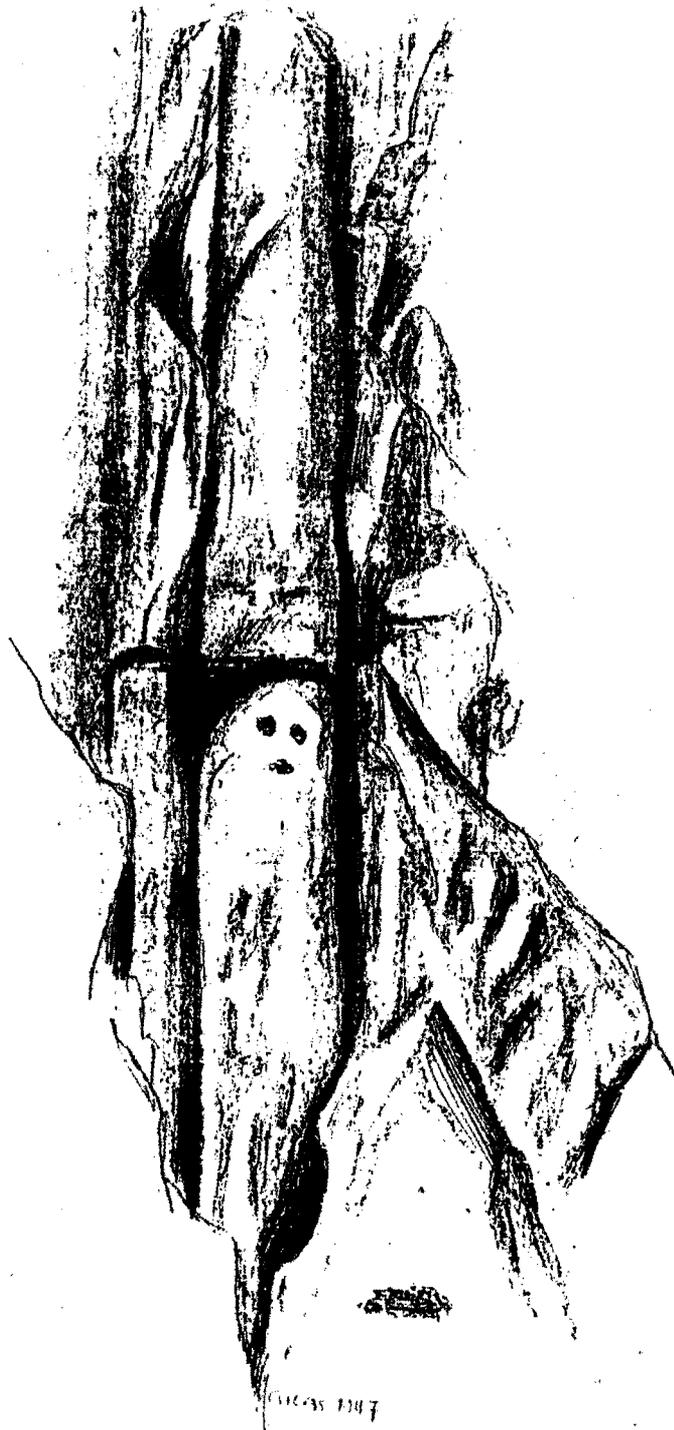


Figure 9:
Contextual drawing of Petroglyph 23 ("The Scream") which is carved on the northwestern side of the stalagmitic dividing column. Note the stalagmitic shaft upon which it is carved.

are carved is generally incorporated to enhance the faces (and sometimes bodies) that were being represented. In this case a protuberance of flowstone which caps a section of the western wall of the southern entrance (Entrance II) was carved to form a simple face. The most distinctive feature of this face is a horizontal groove which circles around the protuberance. This line most likely represents the slit of a skeletal mouth. The orbits are not clearly visible although there are signs suggesting that the area above this line was deliberately altered, possibly to represent the orbits. The linear groove is particular to this face at the cave, but similar faces have been discovered carved on a stalactite in Calketo'k cave in Yucatán (see Bonor 1989: Fig. 31, p. 116), and on a slate monument at the nearby surface site of Cahal Uitz Na (see Awe and Helmke, this volume).

Petroglyph 28 was carved on the western wall of Entrance I above the summit of the Flowstone Boulder (Fig. 9). It is unique in several respects. First it is the most complex petroglyphic face discovered at Uayazba Kab and secondly, it is one of only two carvings found this high up on the walls of the cave (the other carving is Petroglyph 23). It is also the only "simple" face which portrays a nose as well as orbits and a mouth. A crescent with ends pointing downwards was carved above the eyes. From this crescent emerge two convex lines that run upwards to the wall, although the convex line on the left is very indistinct. Between these two curved lines is a shorter but straighter line that runs approximately out of the center of the crescent, perpendicular to its tangent. On either side of the mouth there are two small downward-pointing U shapes.

It is interesting to note that the source of water which flows over the "Flowstone Section" of the Petroglyphic Panel originates near Petroglyph 28. The water flows from a fissure between the summit of the Flowstone Boulder and the western wall of Entrance I-- a point that may be geologically-related to the source of water which flows near Petroglyph 21 (see above). The surface of the Flowstone Boulder comprises a series of small rimstone dams which are fed by the source near Petroglyph 28. The water flows off the edge of the boulder down the area of high flowstone growth, which was designated as the "Flowstone Section" above. This hydraulic activity was only observed for a few days during a high point of the rainy season in 1997. However, the fresh appearance of the flowstone near that source seems to indicate that water flows from that source more frequently, or in greater quantity than in other areas of the entrance. It has been suggested elsewhere that such crude faces are typically associated with water or sources of water, and this possibility will be evaluated further below.

The Access Slope

The Access Slope comprises a complex set of overlapping petroglyphs which appear to represent several carving episodes. This set of petroglyphs is clustered sufficiently enough to classify it as a locus separate from the Petroglyphic Panel and the other loci which are represented by the simple faces (Fig. 10). As was previously hypothesized, the fact that these specific carvings, like Petroglyph 28, were purposefully executed upon a sloping section of the flowstone-covered boulder, constitutes another criteria suggesting the discrete nature of the Access Slope. Another element supporting our hypothesis that the Access Slope petroglyphs should be considered as a wholly separate unit is the fact that 15 out of the 23 petroglyphs (65 %) represent footprints. These footprints are associated with carved depressions which most likely acted as diminutive yet functional "steps". There are only a few petroglyphs (22 %) representing things other than footprints and steps (78 %)

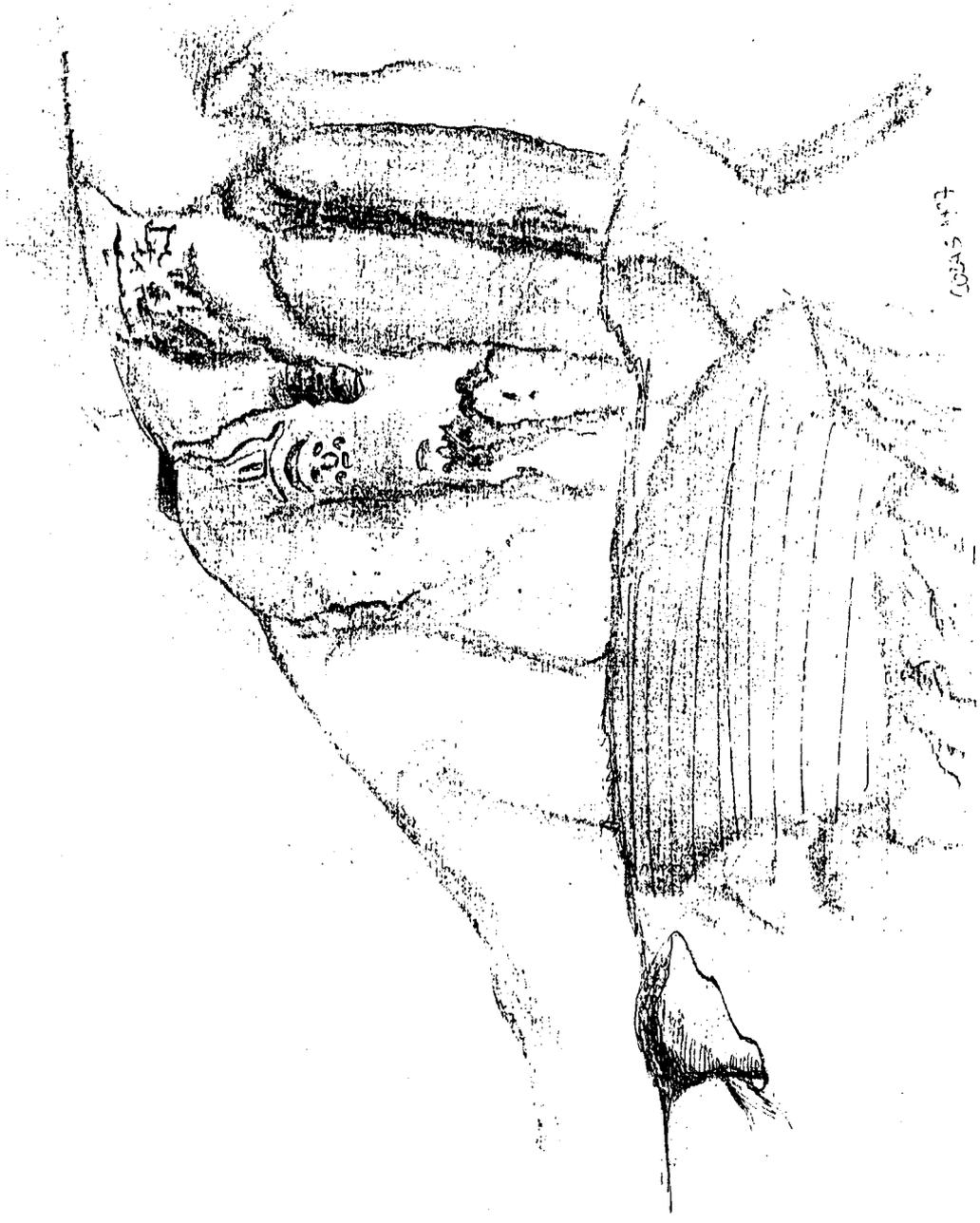


Figure 10: Contextual drawing of Petroglyph 28 which is carved on the western wall of Entrance I.



Figure 11: Contextual view of the southern section of the Flowstone Boulder, looking north. The Access Slope is represented on the right-hand side, while the southern section of the Petroglyphic Panel is on the opposite side depicting Petroglyph 2 most predominantly.

on that slope, of which two faces (Petroglyphs 26 and 27) represent 9 %. All the petroglyphs of this loci were carved into the flowstone which covers the bedrock. The majority of the carvings are fairly shallow in terms of relief, with few exceeding ca.1.0 cm in depth. In contrast, the 5 small “foothold step” cavities are approximately 5 cm deep, and expose a portion of the bedrock at their base. These holes were spalled out of the flowstone down to the bedrock, thereby piercing the entire thickness of the flowstone that had accumulated in that locus of carving. Three similar steps were spalled out of the small wall forming the eastern edge of the antechamber of the tunnel leading to the Handprint Chamber.

Petroglyphs 26 and 27 represent the two most complex faces with Petroglyph 28 at Uayazba. Both faces were sculpted on rock outcropping on the western side of the Access Slope at a point which would have been more difficult to ascend than the section to the east, especially when considering the steepness of the slope at both points. Petroglyphs 26 and 27 differ from all other faces at the site in that they were sculpted, rather than simply pecked or incised (Fig. 11). These faces are, therefore, sculptures rather than petroglyphs (as defined above). They also differ significantly in that they depict the orbits, mouth, and contour of the face in a more complex arrangement than the simple triangular arrangement of depressions which usually signal the two orbits and the mouth. The eyes of Petroglyph 26 are represented by two circles, similar to the Tlaloc “goggles” worn by the Central Mexican deities and Early Classic Maya analogs. The mouth is represented by a small ovoid carving. The contour of the face is highlighted by a rounded rectangular shape. The face was carved in bas-relief, and the orbits protrude from the background representing the surface of the face proper. Similarly, the contour of the face and the eyes of Petroglyph 27 also protrudes from the background. The eyes are represented by “coffee bean” shapes that may be the result of an effort to reproduce the pupils. The lips of the mouth are represented with a horizontal slit in the center signaling the mouth. The chin area is accented by a few downwards-pointing grooves— possibly indicating a beard. The ears or earspools are also indicated by protuberances on either side of the face, although the minor details have not survived, and the distinction between ears or earspools is not clear.

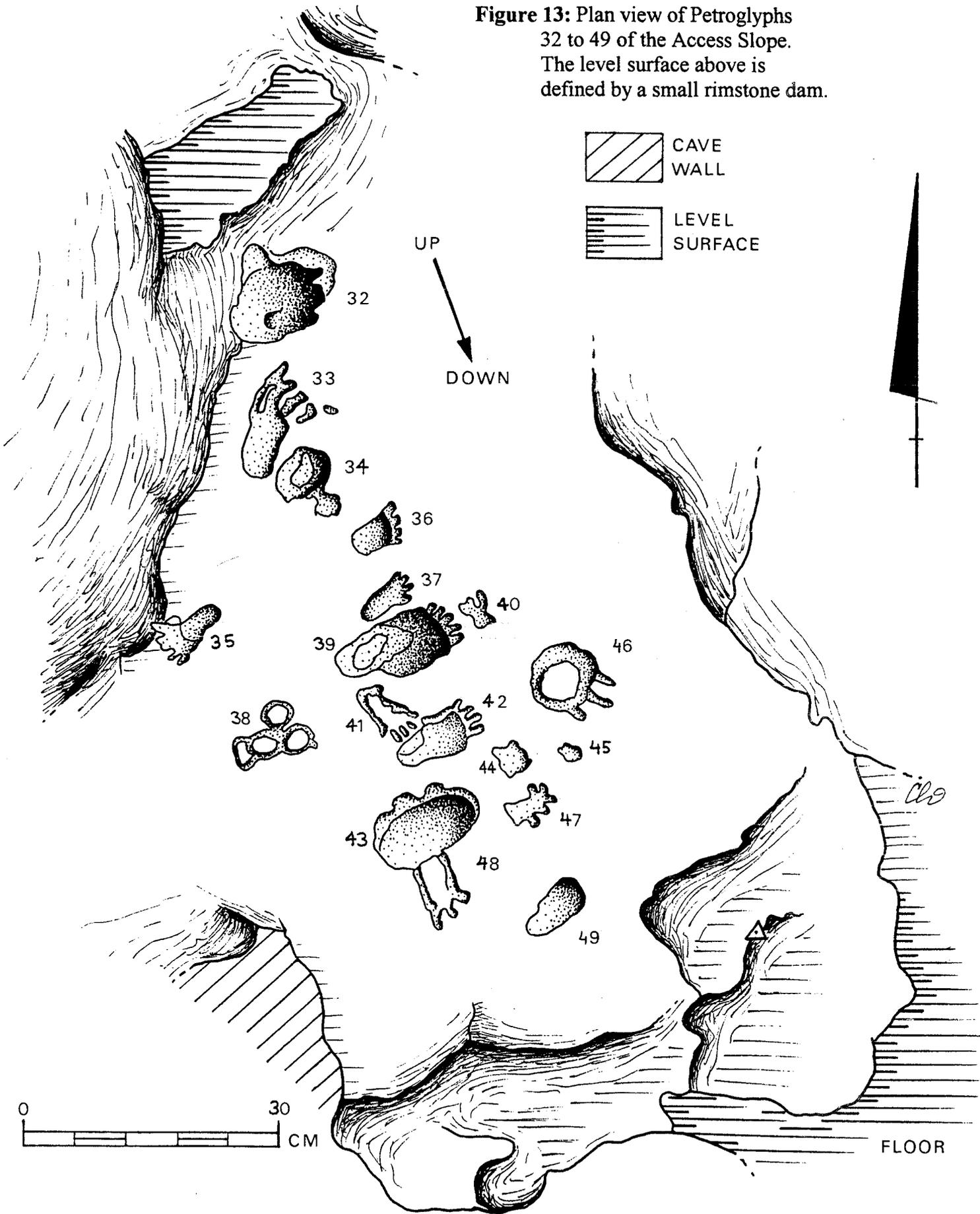
There are only three petroglyphs representing neither steps, footprints, or faces (Fig. 12). Their description will be quite brief since they represent very simplified elements. Geometrically, the most intricate of these carvings is Petroglyph 38. Petroglyph 38 depicts another triangular configuration of three circles, one of which has a smaller appended protrusion. What this petroglyph was intended to portray is unclear, and therefore can not be suitably analyzed. Although composed of three circular elements arranged into a triangular shape, it does not appear to represent a face. Petroglyphs 44 and 45 represent two spallings that are more or less quadrangular in shape. The distinct edges of these two elements suggests that these were cultural, rather than natural patches of exfoliation. Once again no possible interpretation for these elements can be given at present.

Three of the 5 steps were not embellished by other attributes (Petroglyphs 32, 34 and 49), unlike Petroglyphs 39 and 43 which have 5 and 3 “toes” (respectively) (Fig. 12). The other three steps were examined for signs of carving which could suggest that they too once had parallel and linear appendages, but no such signs were evident. Three of the 15 footprints (Petroglyphs 41, 48, and 46) were represented by grooves delimiting their outlines— rather than spalling out the impression of the foot. Interestingly, all three feet point down the slope towards the floor, and terminate in three toes. Petroglyphs 33, 36, 37, and 42 have four toes each and face east— towards the entrance. Three



Figure 12: Detail of the Access Slope. The two carved faces were designated Petroglyphs 26 and 27 (the lower one as 26). The carved foot above is Petroglyph 29, while the paired feet next to Petroglyph 27, are Petroglyphs 30 and 31 (from left to right). The sketched outlines to the right are the countours of the other petroglyphs of the Access Slope.

Figure 13: Plan view of Petroglyphs 32 to 49 of the Access Slope.
 The level surface above is defined by a small rimstone dam.



more feet were carved on a nearly vertical section of rock (Petroglyphs 29, 30, and 31), two of which (Petroglyphs 30 and 31) point upwards to the ceiling. These latter two appear to represent a left and a right foot respectively, and were carved next to the elaborated sculptured faces. Petroglyph 29 is stylistically similar to Petroglyphs 30 and 31, and also points upward. All three of these footprints are very shallow in relief, and were pecked from the flowstone, rather than carved.

CHRONOLOGY

During the 1997 investigations of the site, a thorough surface collection of all cultural materials was conducted. Simultaneously, all looter's pits were plotted on the site map in order to determine which areas had been most severely disturbed. The surface collection and six units that were excavated in the two entrances recovered several thousand potsherds. An unlooted ledge, 12 m above the floor of Entrance I, was also investigated. The latter contained several complete vessels and numerous potsherds.

Although the ceramic material has not been formally analyzed, a substantial number of diagnostic ceramic types were recognized during the investigations. Type-varieties in the collection span from the Late Preclassic through Terminal Classic (A.D. 300 - A.D. 900) periods. Quantitative frequencies of ceramic types have yet to be tabulated, (this data will serve as an index of the intensity of site usage), but the majority of diagnostic types appear to be of the Late and Terminal Classic phases (see Gifford 1976 for diagnostic types). Early Classic pottery represents the next largest group, and only a small fraction of the total assemblage is Late Preclassic in date. This tentative dating of the ceramics indicate that prehistoric activity at the site was most intensive between 800 and 900 A.D.

Establishing a definite correlation between the artwork and the artifacts is a delicate and tenuous undertaking. It seems reasonable to assume that the time spans represented by the artifacts also represent the sequence of general site usage. The most secure link between the artwork and the archaeological material could be obtained by dating the charcoal drawings using the Accelerator Mass Spectrometry (AMS) method, but this would definitely result with the destruction of these pictographs. The petroglyphs cannot be dated by an absolute method either because the age of the flowstone is most likely not contemporaneous with the carvings. Consequently, we have had to rely on relative methods of stylistic appraisal and an examination of contextual association to determine the likely age of the artwork. Results of these applications are described below.

The Relative Chronology

The width and depth of the lines forming Petroglyph 17 are almost identical to those forming the petroglyphs of the central section. The complexity of Petroglyph 17 also suggests that it was executed during a similar time frame as the Petroglyphic Panel. This is indicated by the complexity of certain petroglyphs as compared to the simplicity of the faces. It would thus seem possible that the elaborateness of elements are temporally significant. The lines delimitating the edge of the three faces below Petroglyph 17 (Petroglyphs 18, 19, 20), are wider and are not as deeply carved as those forming the central panel and Petroglyph 17. Furthermore the line delimitating the skull of the uppermost face (Petroglyph 18) overlaps the lower section of Petroglyph 17. Since the lines are of

different widths and depths, and since the petroglyphs are formed by a set of lines that are each markedly different, it is suggested that the faces and the elaborate petroglyphs represent two distinct episodes of carving. Here the overlapping of carved lines from Petroglyph 17 and 18 indicates that the three stacked faces and Petroglyph 17 were executed at different times. Since Petroglyph 14 assumes a more subordinate position in the central panel, and since Petroglyph 18 overlaps over the lower section of Petroglyph 17, it is suggested that the faces were carved subsequent to the elaborate Petroglyphic Panel. Furthermore the distribution of both types differs markedly. The elaborate petroglyphs are clustered on the flowstone-covered boulder of the northern entrance, while the simple faces have been found in both entrances. Of the 10 or 12 faces, only 4 were found carved on the Petroglyphic Panel. This attests to its importance when the faces were carved. One face was carved on top of the boulder, another in the Northern Burial Alcove (formed by the northern end of the boulder and the northern wall of the northern entrance), and one on the northwestern section of the large stalagmitic column forming the division between Entrance I and II. Two more were carved on the western wall of the southern entrance near to the point of access into the real cave component. Thus it is clear that the faces are distributed more widely across both entrances, while the elaborate petroglyphs are restricted to the flowstone-covered boulder of the northern entrance. This situation indicates that the faces represent a subsequent phase of carving, if the elaborate petroglyphs had already been carved upon the flowstone boulder. Unfortunately, if it is assumed that the distinct distribution represents episodes of carving, the possibility that the meaning of the faces differs from that of the elaborate petroglyphs can not be properly evaluated. In order to counter that, hypotheses accounting for the distribution of faces will be evaluated below.

Although it seems clear that the faces and the elaborate petroglyphs represent two very different categories of illustrations, and possibly ideologic significance, this discrepancy cannot readily account for their differential distribution prior to their iconographic evaluation. If the flowstone-covered boulder had been covered by petroglyphs prior to the execution of the faces, their distribution beyond the boulder and beyond the northern entrance could be accounted for. Stylistically, the faces are also very similar to faces found at other sites, and this might indicate a distinct style of execution that was shared by the Maya in general. As will be demonstrated below, the occurrence of these faces is restricted chronologically rather than geographically. Thus, at the very least, the faces represent a tradition of carving that does seem to be diagnostic of the time-period during which it flourished. Their contexts within sites cannot be readily assessed due to inter-site differences in geomorphology, size, and history of investigation. It would be tempting, however, to suggest that these faces are restricted to the entrances and penumbral areas, although this can not be verified in all cases. At the same time, the elaborate petroglyphs are more or less unique-- being only superficially similar to other such carvings. Possibly the most similar example found at another cave is the petroglyphs decorating a large boulder in the center of Chamber 3 at Loltún cave in the Yucatán. The artwork of Actun Dzib, although rendered in schematic drawings, is also similar in several respects to the elaborate petroglyphs from Uayazba. The predominance of scrolls, and simplified renditions of fauna, are attributes shared by the artwork of both caves.

The lowest of the three stacked faces of the Petroglyphic Panel (Petroglyph 20) was carved 1.15 m above the floor. This echoes the height of the lowest carving of the central section (Petroglyph 14), which also represents a face and was carved 1.09 m above the surface of the speleothem/altar (see Fig. 6). The main difference between the two is that the measurements of Petroglyph 14 were

obtained by measuring from the surface of the altar to the lower edge of the mouth, while Petroglyph 20 was measured from the ground to the line running below the mouth. The similarity of those measurements suggests that the individual(s) who executed Petroglyph 14 were/was standing atop the level surface of the speleothem/altar, however, this is speculation. This could imply that the surface of the fallen speleothem was leveled prior to the execution of the faces of the Petroglyphic Panel. If the face decorating the fallen speleothem was carved when the surface was leveled, then Petroglyph 22 may have been executed prior to Petroglyphs 14, 18, 19, and 20.

The petroglyphs of the Access Slope can be more readily applied for assessing relative chronology since they are more or less iconographically consistent in terms of subject matter. The minor variations in execution, such as the depth of relief, the particular manner in which the footprints were represented, the direction in which the feet were oriented, and their relation to the "steps" can all be taken as elements which are significant in terms of their position within a relative sequence. By contrast, determining a relative chronology between the elaborate petroglyphs and the faces is more complicated, since both represent a distinct set of meaning, and their differences may not necessarily be temporally sensitive.

As stated above, the most salient carvings of the Access Slope are the 5 steps, since these were carved with the deepest relief. It is interesting that the second step from the floor (Petroglyph 43) bisects the heel of Petroglyph 48. A footprint that is almost identical to Petroglyph 48 in terms of its size, execution, and the direction in which the foot is oriented is Petroglyph 41. Both footprints are represented by three toes, and the outline of the foot is marked by a groove, rather than hollowing out the entire footprint impression. Since Petroglyph 41 represents the heel, it may be assumed that when Petroglyph 48 was originally carved, its heel was also represented. However, once the step was carved a portion of the heel was spalled off. If this is the case, then it can be assumed that Petroglyphs 41 and 48 were carved prior to the second step (Petroglyph 43). Petroglyph 46 represents a circle from which emanates three downwards-pointing grooves. In this context it may be interpreted as representing another footprint. Since Petroglyphs 41 and 48 both represent the grooved outline of footprints and three downwards-pointing toes, Petroglyph 46 may have been executed at the same time as the latter two petroglyphs-- although Petroglyph 46 represents the base of the foot in a circular rather than an oblong fashion.

If it is assumed that the steps were all carved at the same time, then Petroglyphs 32, 34, 39, 43, and 49 are all contemporary. Evidence supporting this hypothesis is the three steps leading to the antechamber of the Handprint Chamber tunnel in Entrance II. These three steps were carved during the same time interval, and were not embellished by a more elaborate concentration of petroglyphs. This, suggests that the steps are all temporally discrete.

Of the 5 steps on the Access Slope, only Petroglyph 39 and 43 were elaborated by the addition of five sideways-pointing and three upwards-pointing toes (respectively). Since the three other steps (Petroglyphs 32, 34, and 49), as well as the three steps from Entrance II, were left plain, it seems plausible that when the steps were first carved their edges were left plain. Thus the addition of toes seems to represent a subsequent phase of carving. Next to Petroglyph 39 (a step and a sideways-pointing footprint) are three other sideways-pointing footprints (Petroglyphs 36, 37, and 42). These 3 feet have only four toes-- in contrasts with the five of Petroglyph 39. The size, relief, and the

number of toes of these 3 feet are consistent enough to suggest that they too represent a single episode of carving. If the direction in which they point is significant, then the toes added to the third step from the floor (Petroglyph 39), may be contemporaneous with Petroglyphs 36, 37, and 42. If this is the case, then Petroglyph 33 may also date to that episode-- although its execution differs quite distinctly because approximately half the length of the foot is represented by the toes.

More similar to Petroglyphs 36, 37, and 42, in terms of size and execution, is Petroglyph 35. However, the latter points in the opposite direction. Since Petroglyph 35 is contextually associated with the two carved faces (Petroglyphs 26 and 27), it may be related to an episode subsequent to the carving of the faces, as opposed to an association with Petroglyphs 36, 37, and 42. The three footprints which point upwards vertically (Petroglyphs 29, 30, and 31) must have been carved subsequent to the carving of the faces. This hypothesis is based on two observances, (1) they were carved next to the faces in a more subordinate position, and (2) they were carved in an area where very little flowstone had accumulated-- making their execution more exacting. This suggests that the faces were necessarily carved first since the location of the three vertical feet is in a less desirable position.

The smaller petroglyphs (Petroglyph 38, 40, 44, 45, and 47), which surround the central axis of footprints, were probably carved subsequent to the elaboration of that linear clustering of footprints. This hypothesis is suggested since they were carved in areas bordering the row concentrating the most significant amount of carving. The similarity between Petroglyphs 40 and 47 would seem to support this interpretation, since they were most likely contemporary.

Apart from the above outline of elements suggestive of a relative chronology, no other elements could be distinguished. Tying all these little relative sequences together into a unified sequence is another complicated matter. Determining the relative position of episodes during which petroglyphs were executed, such as those of the Access Slope and their relation to the elaborate petroglyphs of the Petroglyphic Panel, is impossible in absolute terms since no direct overlay or juxtaposition exists. This is due to the fact that both loci are separated by a few meters that are devoid of carving. It would also be conjectural to suggest whether the speleothem/altar was carved and leveled prior to the execution of the steps or the footprints.

In order to proceed with the chronological assessment of the petroglyphs, an analysis of similar carvings will be undertaken below in order to arrive at a possible date of the petroglyphs based on style. The simplicity and crudeness of the faces at Uayazba, and others sites, would seem to preclude a stylistic analysis. However, the frequency at which such faces occur at other sites would seem to indicate that the crudeness is the shared stylistic characteristic. An investigation of the artifacts associated with these carvings may aid to determine the time span during which they were executed. This approach assumes that the crudeness of the faces is more temporally significant than the meaning they were meant to convey. However, it is acknowledged that their wide distribution, and the consistency of their execution, are also meaningful in terms of their iconographic message. The point to be made is that, although they may be found at some sites due to the presence of criteria (such as water [see Bonor 1989, Bonor & Klemm 1995; Bonor & Sanchez 1991]), the practice of carving them within caves should be temporally restricted since most religious activities are also variable sequentially and diachronically. Unfortunately petroglyphic footprints are unknown from

other cave sites in the Maya area, and therefore a correlation between the footprints at Uayazba, and other sites' petroglyphs and the associated artifacts is not possible. Painted footprints do exist, but may have different meaning. Consequently, the footprints from Uayazba cannot be dated with any accuracy. All that can be suggested, based on ceramic diagnostics, is that they were executed sometime during the Early to Late Classic. Theoretically, the act of carving does not necessarily require the deposition of temporally diagnostic artifacts, and, as such, the petroglyphs may have been carved before or after this time period.

Intersite comparison and dating

A sample of sites within which simple petroglyphic faces have been found has been drafted in order to date them, and to assess their iconographic significance (Table 1). The sample is composed of 17 sites: Jaguar Paw Cave (Jaime Awe pers. comm. 1998), Caves Branch Cave (McNatt 1995: 89), Te Tun Cave (Bonor & Klemm 1995: 256-257), Gruta de Jobonché in the Poptún area (Brady n.d.; VanKirk & VanKirk 1996: 50, 156-157, Siffre 1993: 118-119), Cueva Poxté (Siffre 1993), Cueva Juteria (Siffre 1993), Naj Tunich (Siffre 1993), an unspecified cave in the Toledo district (McNatt 1996: 89), Cueva de las Pinturas in the Petén (Brady et al. 1997b: 92, 94), Calketo'k Cave in the Yucatán (Bonor 1989), and Xcosmil (Stone 1995: 69; Strecker 1985). Paintings of such faces have also been found at: Actun Dzibichen (Stone 1995: 75-79 *passim*), Naj Tunich (*ibid.*: 214-215), Actun Dzib (*ibid.*: 91-94 *passim*; Walters 1988), and Cueva de la Chepa in Chiapas (*ibid.*: 51-52). Additionally, simple faces were carved on a small stela-like monument that was discovered on the east side of the central mound of the Talgua Village site, near Catacamas in Honduras (Anonymous 1998), and also on a possible stela (Monument 3) at the surface site of Cahal Uitz Na in the Roaring Creek valley, Cayo, Belize (see Awe & Helmke, this volume). Although this list is not exhaustive, it does bring together several sites with almost identical petroglyphic and painted faces. In an article dealing with the Gruta de Jobonché, and in particular with its four petroglyphic faces, Brady (n.d.: 7-10) enumerates a far greater inventory of sites which are documented to have crude faces. However, in this case the attribute investigated is that of faces in general rather than a focus on the particular style of faces which display solely orbits, mouth, and sometimes the outline of the face. Brady lists at least 18 more sites at which petroglyphic faces have been carved, namely, examples from Copan, the Río Candelaria system (Alta Verapaz), Cueva de los Andasolos (in Chiapas), Jovelte, Corosal (both in southeastern Petén), Cueva de la Cabeza (near Yaxchilán on the Guatemalan side of the Usumacinta), a cave near Benque Viejo, Río Frio Cave E, a cave in Chiapas, Actun Spukil, Actun Ceh (both in the Yucatan), Cueva Xcatil, Tanchah (in Quintana Roo), Cueva Mis, Cueva Petroglifos, Ehbis Cave, Cahum Cave (both near Oxkutzkab in the Yucatán), and Xetish Cave (*ibid.*). By combining both sets of sites we arrive at a conservative total of 33 sites, excluding the surface sites of Cahal Uitz Na and the Talgua Village which will be discussed below.

Although the inventory of sites outlined by Brady is by far more complete than the one which was outlined for this paper (e.g. compare Appendix A to Table 3, respectively), the statistical discrepancy between both samples is negligible, suggesting that the examination of a sample of 17 or 35 sites should yield similar results. The main qualitative difference between both samples is that the smaller sample over-represents Belizean sites. This difference does not impede the analysis *per se*, since an understanding of the faces' meaning within the Western Belize sub-region is as important as an appraisal of their significance in the greater corpus of Maya cave art. Using the above sample,

it is clear that the majority of faces are concentrated in Belize and the eastern Petén. The second largest concentration is in the Yucatán, while the areas of lowest concentration are along the eastern and western borders of the Maya area. Possible non-Maya examples were discovered in Chiapas (northwest of Tuxtla Gutierrez) to the west, and in Honduras (north of Catacamas) to the east. It is of note that at Uayazba Kab the number of faces is quantifiably higher than at other sites.

The faces most similar to those discovered in the Roaring Creek valley are those found to the east in the neighboring Caves Branch-Sibun valleys. Those illustrated from Caves Branch Cave (McNatt 1996: 89, fig. 5) are similar in all respects to those from Uayazba Kab. The former's sample of 8 faces are stacked in two vertical columns; one stack has six faces and the other has two. The stacking of faces is also present at Uayazba Kab and represented by Petroglyphs 18, 19, and 20. In the case of the Uayazba Kab sample, the outlines of the faces are clearly indicated by grooves encircling them. The Caves Branch examples also have the outlines indicated. An illustration of the latter, produced by McNatt (1996), shows the outlines of the faces marked by the curved edge of the stalagmitic protrusions on which they were carved. Faces carved on a stalagmitic shaft which rises above the entrance of Te Tun Cave (see Bonor & Klemm 1995), are also only represented by orbits, and a mouth, but the horizontal grooves carved between them serve to delineate them as do the carved grooves outlining the edge of the faces elsewhere. The face from Jaguar Paw Cave (Fig. 18), which lies east of Caves Branch Cave, also has the contour of its face clearly visible. This is similar in many respects to Petroglyph 21 from Uayazba Kab or the three simpler faces from Jobonché.

The faces from many other sites in the Maya lowlands are also very similar to those from Uayazba Kab in terms of their simplicity and the elements which are used to represent the mouth, the eyes and the contour of the face. They do differ, however, in minor details which are probably the result of regional variation rather than a difference in meaning. At Xcosmil there are both painted and sculpted faces, although no illustrations of the carved faces are included in Stone's (1995) survey of Maya cave art. The petrographic face from Calketo'k may be more similar to Petroglyph 24, as both share the relatively long horizontal groove which may represent the slit of the mouth, rather than the ovoid-shaped depressions which usually signal the mouth for these types of faces. The face which was carved on one of the possible slate stelae from Cahal Uitz Na (Monument 3) is also distinct for the shape of its mouth, yet the conical-shaped orbits are typical of the Western Belize petrographic faces. Stylistically, the face carved on Cahal Uitz Na Monument 3 is almost identical to the other faces under investigation. It is interesting that in the entrance of Naj Tunich a simple face was carved on a stalagmite (Siffre 1993) which is also similar to the face on the monument from Cahal Uitz Na. It has been argued elsewhere that stalactites and speleothems generally may have been conceived of as natural stelae (Bassie-Sweet 1991), or conversely that manuport speleothems that were erected within cave sanctuaries may have been conceived of as sub-surface stelae (Awe et al. in press). The Cahal Uitz Na monument may be the specimen bridging both interpretations, especially when considered in conjunction with the large number of cave sites in the Roaring Creek valley, as well the presence of slate stelae in Actun Tunichil Muknal and Tarantula Cave, both in close proximity to Cahal Uitz Na.

In an effort to determine when the face on Monument 3 at Cahal Uitz Na was carved, a surface search for associated artifacts was conducted during the 1997 investigations. All the diagnostic ceramics retrieved were Late Classic in date. Other patterns and attributes concerning stelae in the

Belize valley may also be useful for determining the date of the monument. The only known carved Late Classic stelae of the entire Belize valley are three stelae from Xunantunich (the only dated monument is Stela 1, AD 849). but these are more closely related to the Peten tradition of Late Classic carved monuments, rather than to their Belize valley counterpart. The Buenavista 'stelae' are claimed to have been carved (Taschek & Ball 1992: 490), yet no illustrations have been published to confirm this. The investigators of the site also claim to have re-buried the monuments during backfilling operations, thus precluding comparisons with these stelae. Other carved stelae in the Belize valley date to the Late Preclassic (Cahal Pech), or the Early Classic (Pacbitun, Blackman Eddy), and several more could be uncovered as excavations continue to intensify in this sub-region. The vast majority of stelae in the Belize valley are plain, and associated archaeological material date the majority of them to the Late and Terminal Classic. Another significant pattern is that as one moves closer to the Caribbean shore the occurrence of stelae dramatically reduces, until no stelae at all are found. It is clear, however, that the majority of stelae in the Belize valley were erected during the Late Classic, although the vast majority of them are plain stelae. This has not yet been verified by excavations at Cahal Uitz Na, although the fact that all but one stela are plain, and that most pottery found at the site are Spanish Lookout types suggest that the monuments may also date to the Late Classic. If this is the case then this monument would represent the fourth carved stela dating to this period, and the only one outside of Xunantunich.

The similarity between the Uayazba Kab faces and the face carved on Monument 3 at Cahal Uitz Na suggest that both were also carved during a similar time span. The proximity of both sites (approximately half a kilometer) makes this similarity even more likely. Archaeological material dating to the Late and Terminal Classic has been found in the northern entrance of Actun Uayazba Kab, thus supporting the stylistic dating. Apart from the faces from the Cueva de las Pinturas which are associated mainly with Preclassic and Early Classic material, all the other faces are associated with analyzed archaeological material that dates to the Classic period (Table 1). In the case of the Cueva de las Pinturas Late Classic sherds were recovered although they represented a minimal fraction of the assemblage. Evidence suggesting that the cave was indeed used during the Late Classic are its unique polychrome glyphic inscriptions, from which the cave takes its name (Brady et al. 1997b: 93-94). Thus, although the faces from las Pinturas are mostly associated with Formative ceramics the possibility still remains that they were executed during the Classic period since there is evidence, although limited, of reduced use until the end of the Classic. Simple petroglyphic faces therefore appear to have been predominantly carved during the Classic period, based on associations with analyzed archaeological material (Table 1). Interestingly, Brady's analysis (n.d.: 11-12) of speleothem rock art reached similar conclusions:

The distributional data suggest that the crudely carved faces such as those found at Jobonche are frequent occurrences which have been reported from all parts of the Maya region as well as other areas of Mesoamerica. The dating of the archaeological specimens from Jobonche, Río Frío Cave E (Pendergast 1970: 50), the Cueva de los Andasolos (Navarette & Martínez 1977: 63), and Tancah (Miller 1982: 87) clearly indicates that, while this type of rock art may have antecedents in the Preclassic, the securely dated examples are no earlier than the Classic and that these continued to be produced through the Post Classic. (Brady n.d.: 11-12)

The dating of the rock art is important because it demonstrates that the crude workmanship in no way supports the inference that it must be early. Instead evidence suggests that the majority of examples presented above are contemporaneous with the Classic and Post Classic sculpture of Maya centers. (Brady n.d.: 12-13)

Beside the dating of the faces at Actun Uayazba Kab a few important comments can also be made on the sequence or chronology of carving episodes at the site (Table 2). For example, the elaborate petroglyphs appear to represent a distinct and antecedent phase of artwork that predates the faces. The presence of Early Classic pottery at the cave suggest that some petroglyphs may date to this time period. It is possible, however, that they may even predate the Early Classic. This possibility will be addressed following a discussion of the iconographic significance of the central section of the Petroglyphic Panel.

It has been argued above that the architectural carvings (e.g., the steps), and the leveling of the surface of the fallen speleothem, preceded the carving of the majority of footprints, elaborate petroglyphs, and faces. Thus, if it is assumed that the crude faces are restricted to the Late Classic (excluding Petroglyphs 26, 27, and 28), and that the elaborate petroglyphs were executed during the Early or Middle Classic, then the architectural carvings may date to the early facet of the Early Classic (Table 3). However, it is possible that all the petroglyphs and sculptures at Actun Uayazba Kab were carved over the course of several generations. The fact that only a few Early Classic ceramics have been recovered would suggest that the bulk of carving occurred during the Middle and the Terminal Classic. If so, the architectural carvings may have been begun in the 6th century A.D. rather than the 3rd century A.D. No Postclassic specimens were discovered in the Roaring Creek valley during the 1997 investigations.

INTERPRETATION

The discussion of the artwork of Actun Uayazba Kab will focus primarily on the iconography. The goal of this discussion is twofold: First, we will discern the particular elements and the manner in which they are individually represented, including clustering and juxtaposition. Second, we will discuss the possible ideologic meanings they convey once their archaeological context and associations are taken into consideration. Some discrepancy between the etic interpretation presented below and the intended emic relevance is expected since the meaning of symbols is, in part, a subjective experience. Furthermore, although the representation of certain symbols may seem to remain static over time, their meaning is invariably subject to change. I suggest that the context of iconography must take precedence in an evaluation since, unlike writing, it is neither preordained nor does it connote a clearly-defined set of arbitrary meanings (e.g. Miller 1989: 186). Thus, an effort will be made to analyze the artwork in terms of both chronological and physical context. The analysis of the image itself outside of its archaeological context is akin to analyzing an artifact which has no provenience. Furthermore the occurrence of certain elements or designs is somewhat circular-- with each inevitably altering the meaning of the other.

The Petroglyphic Panel

The Petroglyphic Panel can be analyzed in terms of the subsections outlined above, since

SITES	Middle Preclassic	Late Preclassic	Proto Classic	Early Classic	Late Classic	Terminal Classic	Post Classic
Actun Uayazba Kab				A	A	A	
Jaguar Paw Cave					?		
Cave in the Caves Branch area					?		
Cave in the Toledo district					?		
Te Tun Cave					?		
Cueva de las Pinturas	A	A	A	A	S		
Jobonche (a.k.a. Canchecan)				A	A		
Xcosmil					?		
Calketo'k					?		
Cahal Witz Na' (Monument 3)					S	S	
Talgua Village site (statue)							
Nim Li Punit (Stela #)	A				C		
Actun Dzib				A	A		
Naj Tunich (Drawing 55)			A	A	A S	A S	
Dzibichen (Drawing 21)							S
Cueva de la Chepa							S
	2	1	2	5	8	4	2

A = based on archaeological material
S = based on style dating
C = based on calendrical date

Table 1: The archaeological materials associated with petroglyphic faces, in a sample of 16 sites selected for examination. This tabulation shows the overlapping sequences of their archaeological chronologies, to determine a style dating for the faces.

Chronology	Ceramic Complexes	Faces vs. Petroglyphs	Steps vs. footprints
300 A.D.	Hermitage	Phase 1 levelling the surface of the altar	Phase 1 downward pointing feet (outlines only)
400 A.D.			Phase 2 crude steps
500 A.D.	Tiger Run	Phase 2 Central panel Eroded panel ? Northern panel	Phase 3 horizontal toes are added to the steps
600 A.D.		Phase 3 simple faces	
700 A.D.			
800 A.D.	Spanish Lookout		Phase 4 little feet are carved between and around the larger feet
900 A.D.			

Table 2: The absolute and relative chronologies as established for Actun Uayazba Kab.

Sites	No. of faces	Dist. from entrance	River Caves?	Associated with water?	Associated with burials?	Associated artifacts	Style dating	References
Cave Sites: Petroglyphs								
Actun Uayazba Kab	>10	<10 m	No	--	--	Early Classic to Late Classic		this volume
Petroglyph 21	8	25 m	Yes	Yes	?			Jaime Awe pers. comm. 1998
Petroglyph 28	5	0 m	No	Yes	No			McNatt 1996: 89, Fig. 5
all other faces	3	20 m	No	No	No			Bonor 1995: 256-257, Fig. 3
Jaguar Paw Cave	4	ca. 30 m	No	No	Yes	Middle Preclassic to Early Classic		Brady et al. 1997: 92, Fig. 4
Cave in the Caves Branch area	5	<18 m	No	?	?	Early Classic to Late Classic		Brady n.d.; Vankirk & Vankirk 1996: 50, 156-7
Te Tun Cave	2	10 m	No	?	?	?		Siffre 1993: 114-119 passim, 186
Cueva de las Pinturas	1	37 m	No	No	?			Siffre 1993: 181
Jobonche (a.k.a. Cancheccan)	1	0 m	Yes	Yes	?	Protoclassic to Terminal Classic		McNatt 1996: 89
Cueva Poxte	1							Bonor 1989
Juteria								
Naj Tunich (entrances)								
Cave in the Toledo district								
Calketo'k								
Cave Sites: Paintings								
Actun Dzib	1	30 m	No	No	No	Early Classic to Late Classic		Stone 1995: 91-94, Fig. 4-98, p. 92; Walters 1988
Naj Tunich (Drawing 55)	1	ca. 640 m	No	No	No	Protoclassic to Terminal Classic		Stone 1995: Fig. 6-39, p. 148, 214, Fig. 8-55, p. 215
Xcosmil	5	<30 m	?	?	?	Late Classic		Stone 1995: 69; Streeker 1985
Dzibichen (Drawing 21)	1	22 m	No	Yes	No			Stone 1995: 79, 75, 76, Fig. 4-71e, p. 79, Fig. 4-68, p. 76
Cueva de la Chepa	1	?	?	?	?			Stone 1995: 52, Fig. 4-10b, p. 51
Surface Sites: Carvings								
Cahal Witz Na' (Monument 3)	1	n.a.	n.a.	No	No		Terminal C.	this volume
Talgua Village site	1	n.a.	n.a.	No	No	Middle Preclassic (980 - 300 BC)		http://www.geology.utoledo.edu/research/latin-am/p-cmark
Nim Li Punit (Stela #)	1	n.a.	n.a.	No	No	Late Classic		MacLeod 1981

Table 3: Tabulation of the raw data of the sample of sites investigated in this paper.

each section is discrete in terms of the petroglyphs represented and because they are clustered sufficiently within each section. Possibly these attributes were intended by the carvers of the Petroglyphic Panel. The analysis of the Petroglyphic Panel will focus on the central section as this is the area which displays the highest concentration of iconographically-viable elements. Prior to suggesting what the central section represents we have to determine the manner in which the motifs are represented.

The two most salient features of the central section are the coiling lines of Petroglyph 12 and Petroglyph 10. Both these petroglyphs are surmounted by oblique lines. Similarly, a motif of a scroll with lines emanating from above it is the so-called “reptile eye” motif. This particular motif occurs frequently in circular cartouches (Fig. 14a). This motif or glyph is usually found as an iconographic element on Teotihuacán pottery, yet it is rarely found on murals (Muser 1978: 138). The motif is found mainly during the Early Classic, but also in lower frequencies during parts of the Late Classic and Postclassic in the central Mexican highlands. The temporal occurrence of the “reptile eye” motif is therefore congruent with the ceramics excavated at Actun Uayazba Kab. This motif is also found decorating Early Classic structures at Tikal, and related “Tollan” motifs found at Uaxactun and Cerros (Schele & Mathews 1998: 337 no. 29, 74). This suggests that the concept of the mythical “the Place of Reeds,” sometimes known as *Tollan*, predates the foundation of Teotihuacán. Until recently, no precise meaning for this motif had been suggested, but it had been associated with shining and reflective surfaces or objects, such as the light of a fire (Miller & Taube 1993: 143). More recently David Stuart (n.d.) has determined that the reptile eye motif is a toponymic glyph for Teotihuacán, representing a bundle of cattail reeds. He has also suggested that this glyph reads *puh*, the Yucatek and Tzotil word “cattail reed” (ibid.; Schele & Mathews 1998: 337 no. 29). The association of “the Place of Reeds” and “Tollan” as the mythical place of origin was central to state mythology in Mesoamerica (Schele & Mathews 1998: 337 no. 29). This suggests that Actun Uayazba Kab may have also been conceived of as a place of origin. This may relate to the Aztec origin myth of “Seven Caves” whereby seven founding lineages originated within each cave (see Heyden 1975). If Petroglyph 10 or 12 represent a “reptile eye” then it is possible that this cave was perceived as the place of origin of the particular lineage which used that cave.

The symmetries of the central section are another set of prominent attributes. If Petroglyph 12 is bisected along the central vertical line which protrudes from the concentric lines through Petroglyph 13, a certain symmetry begins to be apparent. The two scrolls on the right and the left of Petroglyph 12 (respectively) seem to be symmetrical to each other along a vertical axis with the scrolls of Petroglyph 13— thereby marking the central axis of Petroglyph 12. The right extension which terminates in a circle would therefore have as its counterpart the two superimposed and elongated “U” shapes that extend to the left. It is also notable that the spiral of Petroglyph 6 and the left spiral of Petroglyph 12 scroll inwards in opposite directions. The comb element of Petroglyph 6 is also repeated in the lower left section of Petroglyph 12. This suggests that another formal symmetry was intended between Petroglyph 6 and the lower left-hand section of Petroglyph 12. If we pursue this second symmetry we find that Petroglyph 10 may indeed be mirrored by the concentric lines of Petroglyph 12. Petroglyph 11 may then be compared to the two superimposed and elongated “U” shapes. Thus, there seems to be another formal symmetry between Petroglyphs 10, 11, 6 and the left section of the internally symmetrical Petroglyph 12 (Fig. 13a).

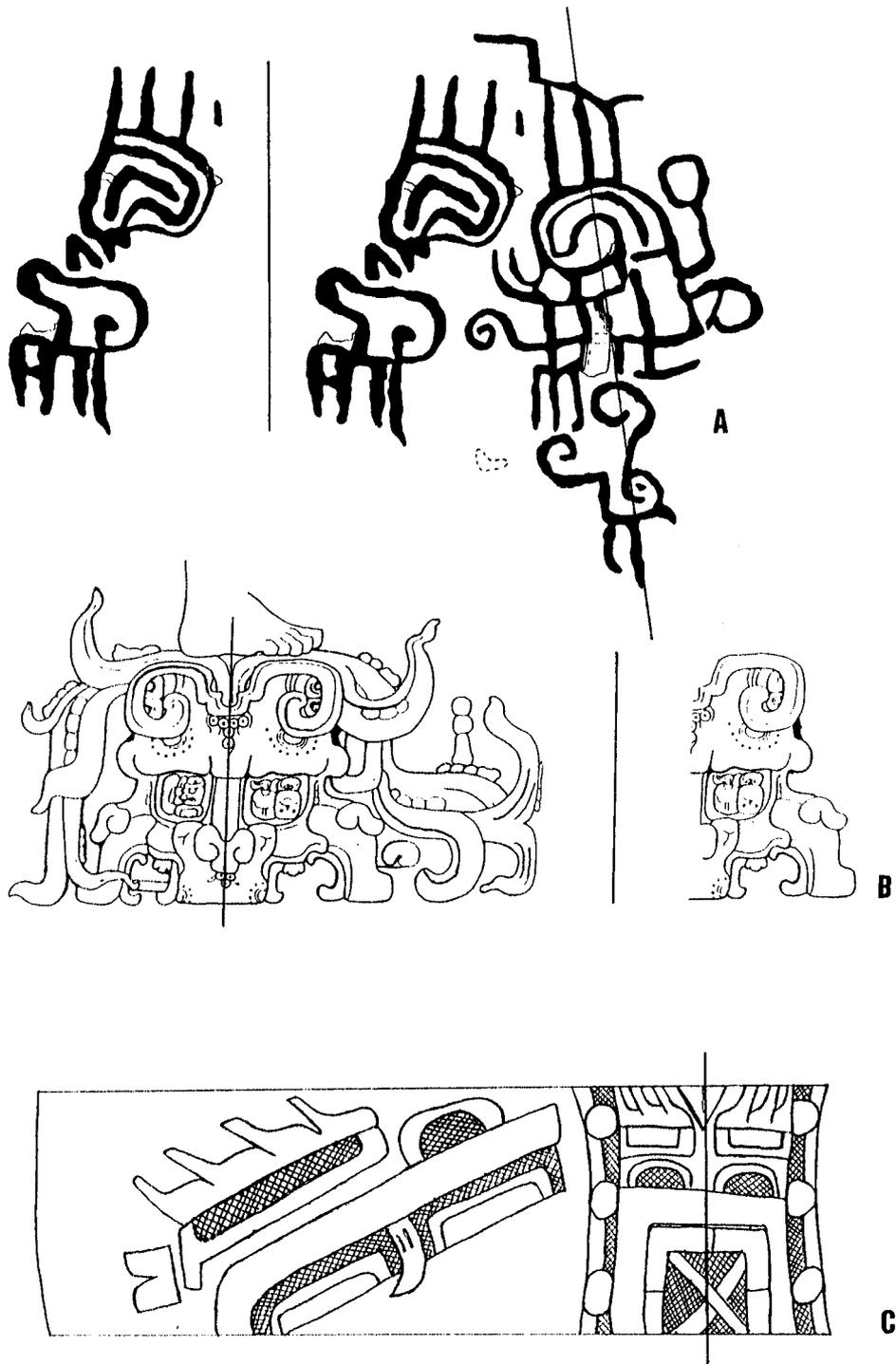


Figure 14: Symmetries of the central section of the Petroglyphic Panel of Actun Uayazba Kab compared to other examples in Maya art. A) Actun Uayazba Kab; B) frontal and profile views of a *witz monster* on the Tablet of the Foliated Cross, Palenque; C) frontal and profile views of the Olmec God I on a roll-out of vase from Tlatilco.

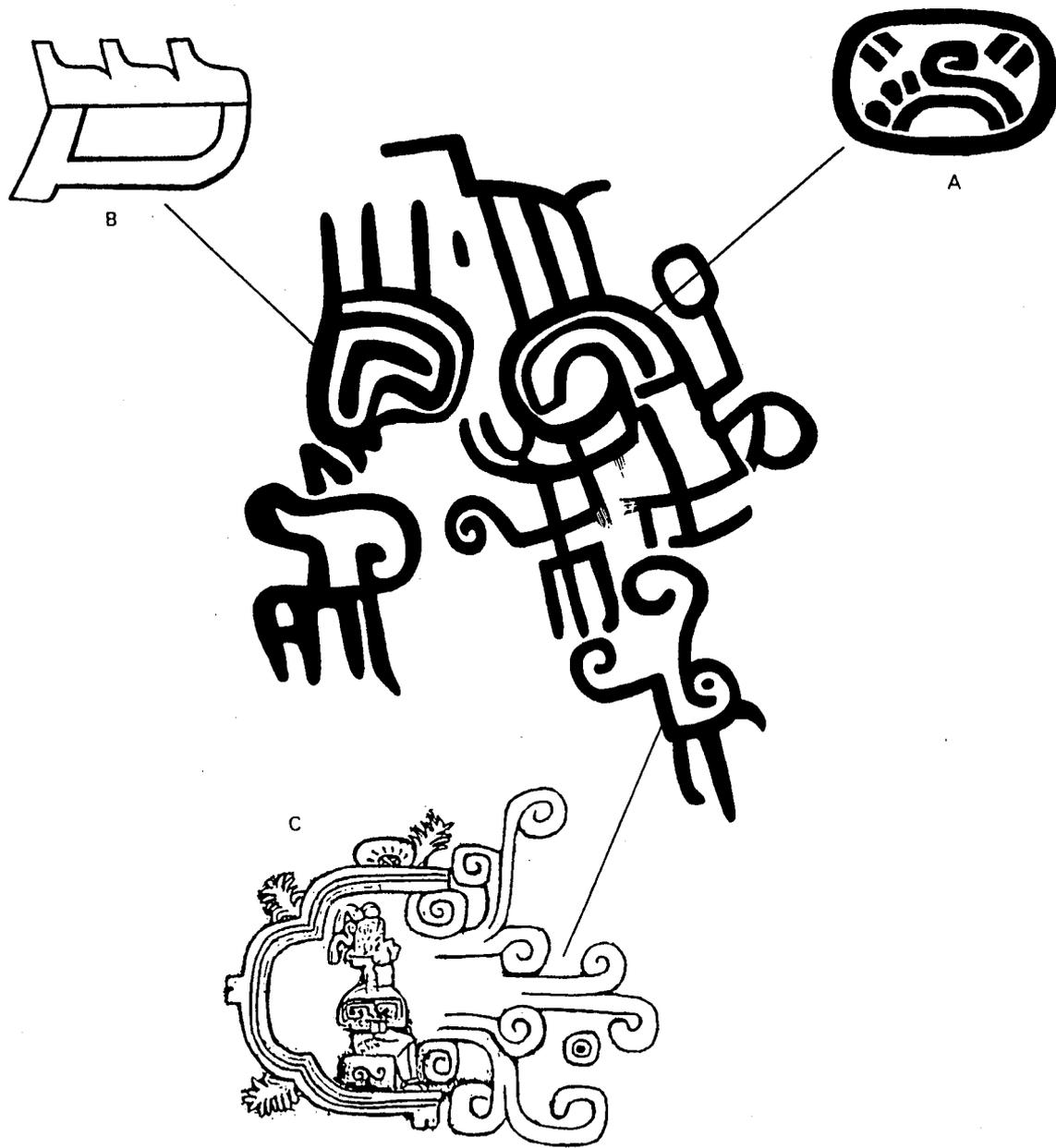


Figure 15: Possible interpretations of the central section of the Petroglyphic Panel: a) The “reptile eye” motif as represented on an Early Classic vase from Teotihuacan (Miller & Taube 1993: 143); b) The “flame eyebrow” motif, composite example based on several illustrations (see Joralemon 1976); c) The Olmec God I as a cave entrance from which emerge clouds of mist, as compared to Petroglyph 13 (drawing by Helmke, adapted from Pratt & Gay 1972).

One of the main differences, however, is that the left side of the symmetry is represented by three petroglyphs that are not interconnected-- a noticeable difference to Petroglyph 12. Although several other differences exist between the left and the right side of the symmetries, there are sufficient features to validate this interpretation. The alignment of the symmetries in relation to the speleothem/altar further supports the existence of these symmetries. Below Petroglyph 12 is a set of 3 other spirals (Petroglyph 13) which seem to represent a continuation of the lower spiral of Petroglyph 12. If the symmetry is respected, the spirals would appear to represent a prolongation of the spirals of Petroglyph 12 that is not mirrored by Petroglyph 6-- since no scroll-like carving is found beneath the comb element of latter. Since Petroglyphs 10, 11, and 6 represent the reflection of the left half of Petroglyph 12, the question arises as to what the right side of Petroglyph 12 may represent. It might be suggested that Petroglyph 12 represents the whole, while Petroglyphs 10, 11, and 6 represent only a fraction of the whole.

A general characteristic of Olmec and Mesoamerican religious art is the depiction of iconographic images in profile and frontal variants which sometimes co-occur together within the same composition (Fig. 13b) (e.g. Joralemon 1976: 37).

The reptile eye motif may supply an plausible interpretation of Petroglyph 10 and the coiling lines of Petroglyph 12, yet it does not provide a constructive interpretation in light of the symmetries and their interpretation as representing a profile and frontal view of some iconographic element. A more productive interpretation would be to suggest that Petroglyph 10 and the coiling lines of Petroglyph 12 represent a variant form of the Olmecoid "flame eyebrow" motif (Joselyn Ferguson pers. comm. 1997). This interpretation is interesting particularly since this element is frequently elaborated upon to represent the body of the being whose eyes are marked by the flaming eyebrow. The addition of a body to the flame eyebrows could explain the intricate petroglyphs below the flame eyebrows at Uayazba (Fig. 14b). The main difficulty with the "flame eyebrow" interpretation is the fact that it is largely a Formative period iconographic element, and there is no solid evidence to suggest that Uayazba Kab was used during the Preclassic. Although Formative period settlements may be discovered during the course of future investigations in the valley, the absence of ceramics dating to that period within the cave suggests that the site was not used during that time span. The elaborate petroglyphs are in keeping with the stylistic earliness of the carvings. Brady (n.d.: 12) warns that although "crude workmanship" instinctively suggests earlier time periods, it can in no way be supported without archaeological evidence. The only possibilities remaining are that the users of the cave reproduced an Olmecoid design during a subsequent period such as the Protoclassic or Early Classic, or that the Formative period remains were removed from the site when usage resumed at the beginning of the Classic period. This second possibility seems less plausible. In any case, the two possible interpretations for the iconic elements of the central section of the Petroglyphic Panel suggests that these elements predate the 5th century, thereby suggesting that the elaborate petroglyphs predate the other petroglyphs at Uayazba Kab.

The flame eyebrow motif is frequently found decorating Formative period ceramics recovered (largely) in funerary contexts (Fash 1991: 69-70; Pyne 1976). The fact that burials have been excavated in the same entrance of Actun Uayazba Kab is therefore tantalizing. In Oaxaca and at Copan it has been observed that the ceramics bearing this design cluster spatially into particular contexts, relative to other designs decorating funerary wares (ibid.). As a result it has been suggested

that this and other motifs symbolize immutable patrons of particular lineages. In our case, this would suggest not only that the cave was used by a particular lineage, but also that the associations with burials indicate a possible funerary function for the cave during the early phases of utilization. At Uayazba, most of the artifacts found in the vicinity of the burials of the Northern entrance were in secondary contexts due to previous looting. Also, no artifacts were found in direct association with the burials (see Gibbs, this volume). Furthermore, the matrix was not amenable to stratigraphic excavations, which resulted in arbitrary level excavations. As a result it can not be confirmed to which period the burials belong. The closest settlement to Actun Uayazba Kab is a medium-sized plazuela group named "Yaxhal Tun", or "Clearwater Stone", which lies 150 m to the south. The proximity of the Yaxhal Tun to the cave may be evidence that the cave was used by the particular lineage residing in that plazuela group-- especially since these mounds are some of the closest settlement to the cave.

Leaving the question of dating aside, if the central section of the Petroglyphic Panel does indeed represent the flame eyebrow motif, then the addition of complex petroglyphs below them would suggest that a simplified or abstracted form of the Olmec deity designated by Joralemon as God I is represented (Joralemon 1976). Abstraction and simplification of complex iconographic motifs has been documented for Mesoamerican art, and often a single element of a larger motif may serve to represent the whole. This principle of *pars pro toto* has been discussed with specific reference to the Olmec Dragon (God I), and the abbreviated attributes which may represent it (Joralemon 1976: 37). That deity has been represented on various media ranging in size from small ceramic vessels to large stone monuments. One of its characteristic features are L-shaped eyes. The L-shape in Petroglyph 10 has already been suggested to represent a flame eyebrow.

The comb-shaped designs of Petroglyph 6 and the lower left-hand section of Petroglyph 12 may represent the dentition of God I. If this is the case then it is in keeping with the God I interpretation. God I is depicted as having the dentition of a cayman, with the jaw being frequently omitted-- as appears to be the case with the Uayazba example. Having proposed what elements represent the teeth, the location of the mouth area may be deduced. It appears that the scrolls of Petroglyph 13 emanate from the mouth. The Chalcatzingo relief which represents the maw of God I as the quatrefoil opening to a cave also depicts scrolls emanating from its mouth (Fig. 14c). These scrolls have been interpreted as the moisture-laden clouds which are frequently observed billowing from cave entrances. Another interesting comparison is with the depiction of God I as a throne in the murals of Oxtotitlan. This polychrome image "presides over the stream of water that sometimes flows out of the cave at Oxtotitlan and onto the farmer's fields below" (Joralemon 1976: 40). When hydraulic activity at Uayazba reached its peak during the 1997 rainy season, water was observed flowing from the summit of the Flowstone Boulder, down its side onto the flowstone section, and then through the northern entrance down the side of the hill. At Oxtotitlan, rain is shown falling from the mouth, eyes and bifid tongue of God I-- a representation similar to the Uayazba example since it depicts cloud scrolls leaving the mouth of the possible God I. If we are to further the parallel between both examples, then the God I throne of Oxtotitlan may have a counterpart in the Flowstone Boulder, the center of which is decorated with the central section of the Petroglyphic Panel. Indeed God I has been also associated with accession ceremonies and thrones although his primary associations are with earth, water, and agricultural fertility. These are also the primary associations of caves and their related rituals.

The simple faces and their social context

All but one of the clusters of petroglyphic dots from Te Tun Cave (Fig. 15) have been interpreted as faces, the sixth cluster having been interpreted as a quincux glyph (T585a in the 1962 Thompson Catalog of glyphs) (Bonor & Klemm 1995: 257). This glyph has been read syllabically as *be* which can be glossed logographically as “road” or “path.” This is puzzling because the cave is suggested as having been used by (presumably) illiterate commoners, and yet it may appear one of the petroglyphs is a fully-viable glyph. It has frequently been argued that the lore and esotericism of hieroglyphic writing was controlled only by the upper social strata of the ancient Maya. Furthermore the dearth of glyphic texts in the Belize valley would seem to suggest that the majority of the population was illiterate, elite or not. The quincux is associated with the notion of “centeredness” and it is aptly shown on earflares worn by the elite of many lowland sites. Depictions at Caracol are frequently decorated with T585a-semblant motifs (*ibid.*). The notion of centeredness (e.g. Freidel et al. 1993) is most frequently encountered in the archaeological record during the excavations of votive offerings in elite architectural contexts. The association of the quincux-semblant petroglyph of Te Tun Cave with elite regalia also counters the argument that the site was used exclusively by “less favored communities” (Bonor & Klemm 1995: 258). Since all the other petroglyphs of Te Tun Cave represent faces, the cluster which has been interpreted as a quincux most likely also represents a face. The two lower dots possibly frame the mouth as it is clearly the case with the petroglyph below it. Thus, instead of the petroglyphs representing 5 faces and a glyph, it is a lot more likely that they represented 6 simple faces. This interpretation is especially viable when the faces are compared to a jade maskette that was discovered at Kendal in the Stann Creek district of Belize (Schele & Miller 1986: Plate 19, p. 96, 81), and Petroglyph 28 at Uayazba Kab.

Brady’s analysis of speleothem rock art (Brady n.d.) has revealed that the majority of simple faces are frontal depictions executed in two dimensions, or in the full round (Brady n.d.: 13). Both attributes are in “...sharp contrast to elite art of the centers which, in low relief sculpture, presents the face in profile” (*ibid.*). As a result, he follows Bonor in suggesting that the simple faces, and related types of petroglyphs, represent a brand of folk art whose continued use by modern and historic peasants would seem to support that interpretation (*ibid.*). However, unlike Bonor, Brady suggests the affiliation of these faces with folk traditions on other grounds than their crudeness and simplicity. Nevertheless, simple faces are not absent from the elite corpus of art.

The closest analog to the Cahal Uitz Na monument may be a stela from Nim Li Punit. The stela is plain with the exception of an incised calendrical Ahau glyph (Fig. 16a). The stela resembles the Cahal Uitz Na monument in that it only represents a simple face that is indicated by three circles, two for the orbits, another for the mouth, while the contour of the face is enclosed into a cartouche. The fact that the Cahal Uitz Na monument was found in association with an elite residential compound adjacent to the largest plaza of the site may indicate that this monument was produced for individuals of higher status. At the Talgua Village site in Honduras, a miniature stela-like statue was found in alignment with the largest structure at that site. What is interesting is the similarity of the face that was carved on that diminutive statue to Monument 3 from Cahal Uitz Na (Fig. 16a). Another example is reported for a crude stela in the Ulua valley. The association of the Talgua statue with the largest mound of the site suggests that it was also produced for an elite group or the social group of highest rank. This can not be claimed for the majority of simple petroglyphic faces

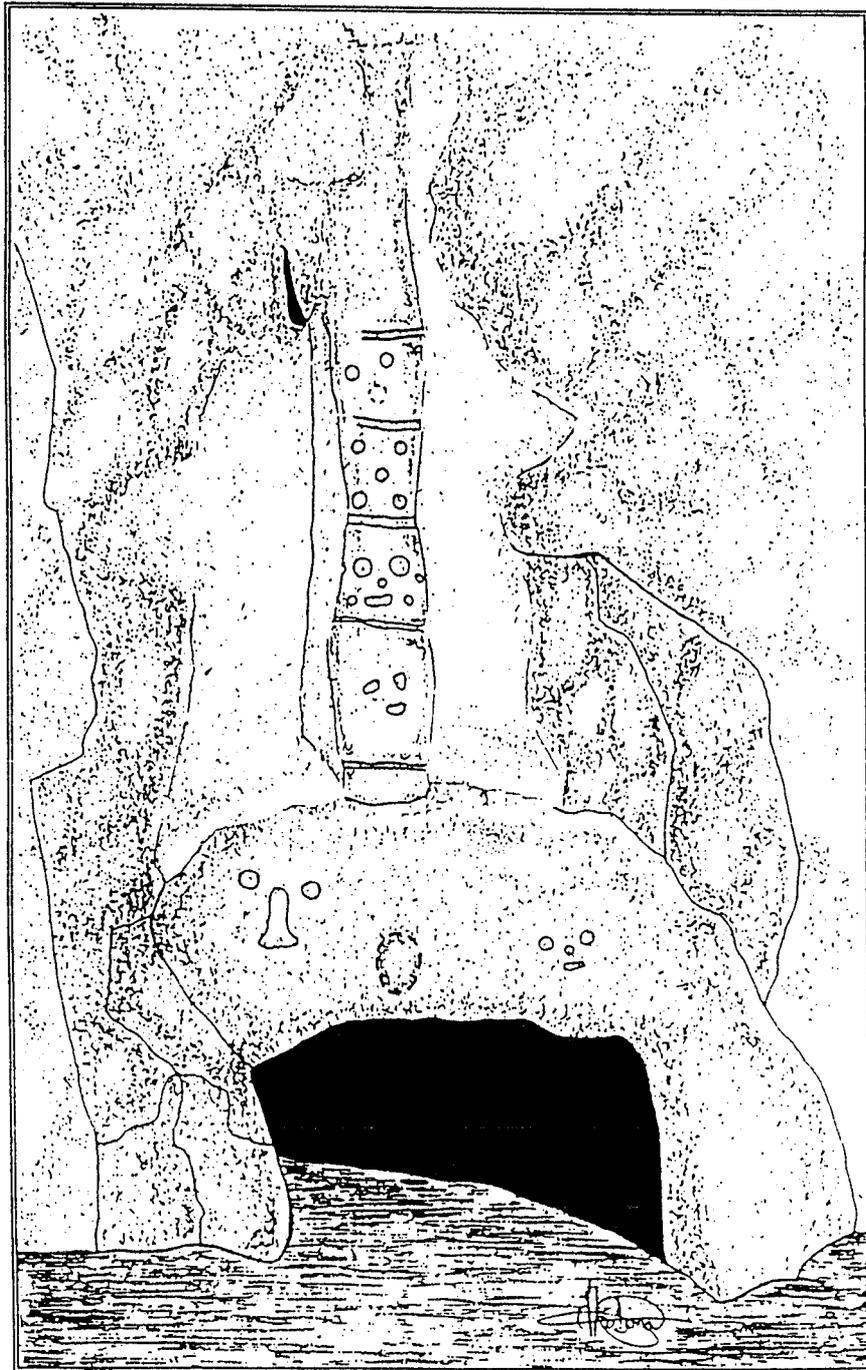


Figure 16: Entrance to Te Tun Cave, Caves Branch, Belize (Bonor & Klemm 1995). Note the stacked faces carved upon the stalagmitic column. The second face from the top was the one which was initially identified as a quincux design. Note also the two dots framing the mouth of the third face from the top.

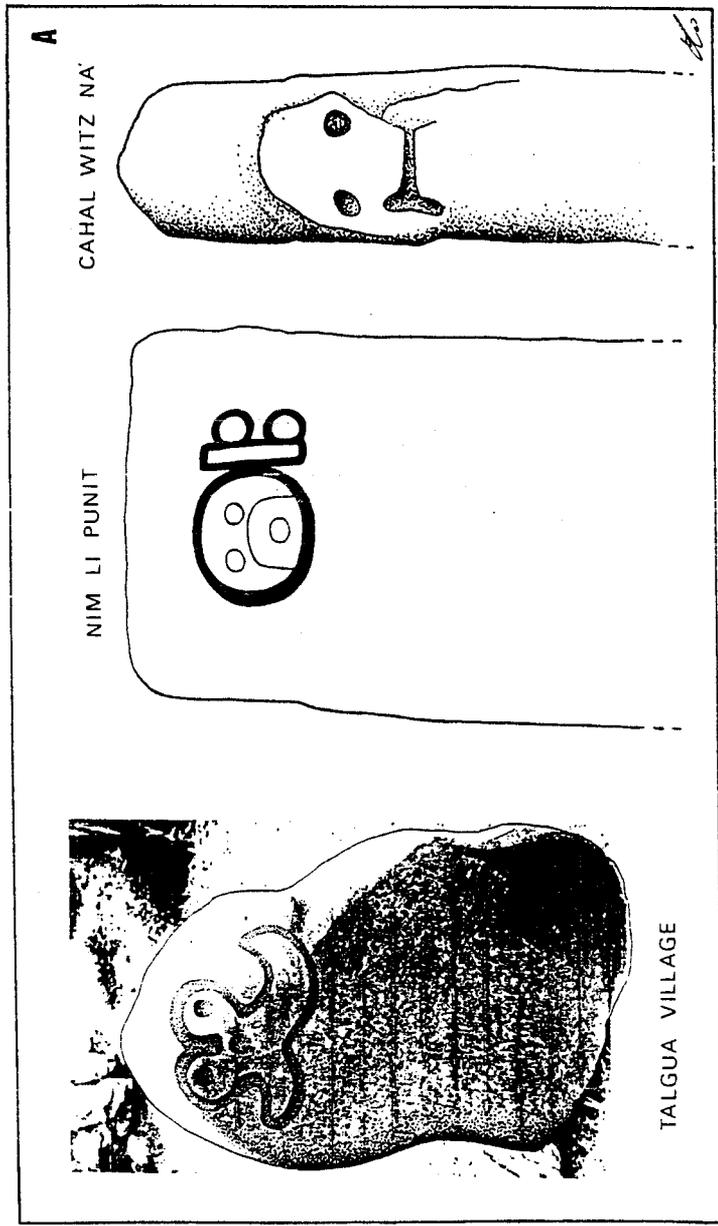


Figure 17: a) The simple faces represented on monuments at surface sites in the Maya area and Honduras. All drawings by Helmke. None of the illustrations are to scale.

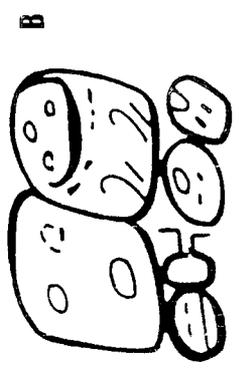


Figure 17: b) Drawing 30 from Naj Tunich, which begins with the collocation which includes the T542-semblant glyph (after Stone 1995: Fig. 7-17, p. 171).

elsewhere, but the Roaring Creek example seems to be precluded from the category of simple folk art. Though there is no irrefutable evidence indicating that Uayazba Kab was used by royal elite, it should not be concluded that the site was used exclusively by commoners. This is especially true since the recovered polychrome pottery has traditionally been associated with the upper strata of Maya society. Judging by the size of the principal mounds, and the labor expenditure required to build them, the nearby Yaxhal Tun plazuela is by no means typical of what would be associated with commoner residences. The architectural similarity between the mounds of that plazuela and Cahal Uitz Na suggest a connection to the larger site.

Also, in the corpus of inscriptions at Naj Tunich there are three occurrences of a “T540-semblant” which form part of an unclear collocation which is included in the signatures of painters (Fig. 16b) (i.e. Drawing 30, A1; Drawing 28, A12; Drawing 66, K1) (MacLeod & Stone 1995). The supposed T540-semblant is almost identical to a T542, however the decision to associate the glyph to a T540 is congruent with the interpretation MacLeod and Stone were suggesting for the Naj Tunich inscriptions. The T540 glyph is of unknown meaning although it is most likely an allograph for a *way* glyph (T539)-- the glyph which has been glossed as co-essences and companion spirits. T542 has the associated phonetic value of *e*, however it does not yield a productive reading within the collocations in question, and therefore MacLeod and Stone argue that a T540 or T539 reading for the glyph remains the most likely possibility. T542 is almost identical to the pecked faces encountered at other sites, although it clearly represents a painted glyph. The three collocations which are constructed with the “T540-semblant” are formed by T540-semblant:T57.T502:T178, reading: ??-si-ma-l(a), or ??s-mal. MacLeod and Stone (1995: 170-171) relate the glyph to a canonical T539 *way* glyph since they were investigating the ritual connotations of the Naj Tunich texts. The clear absence of a spotted or flayed area makes it clear that T539 and T540 was not intended, and the “T540-semblant” is therefore more related to a T542 in terms of its iconography. The reading of the collocation using a T542 rather than T539 or T540 is rather ambiguous at best. The suggestion above is based entirely on the iconography of the glyph rather than its phonetic value or its role within the collocation, and thus there may be another unexplored possibility. When a secure reading for this collocation is suggested a new interpretation for the simple pecked faces and their possible relation to T542 may come to light.

The simple faces and their meaning

Several scholars (i.e. Bonor 1989; Bonor & Klemm 1995: 256-257; Strecker 1985), have suggested that the association of these faces with pools or sources of water may indicate that they either represent some sort of rain deity, or that they simply served to signal the presence of water within particular sections of a cave. The majority of these faces, however, were not in direct contact or clearly juxtaposed with extant sources of water at Actun Uayazba Kab. Nevertheless, it is possible that there may have been active water flow in the cave in prehistoric time. Alternatively, the Maya may have symbolically associated all caves with rain deities, regardless of whether they were wet or dry. This hypothesis will be taken into account in our effort to determine the significance of the faces within the entrances of Actun Uayazba Kab.

In a review of the published literature, Brady (n.d.: 17-20) noted that simple faces carved on speleothems and cave walls have been associated with: the Virgin Mary, the moon goddess, an ahau

glyph, deified ancestors, town patrons, an unspecified “santo”, the Chaac deity in the Dresden Codex, and cults of water and fertility in general. The suggestions that these faces represent deified ancestors, town patrons, and “santos” cannot be verified, but in most cases this interpretation is speculative or could be associated with post-conquest ideology. With the exception of the Virgin Mary and the ahau glyph, all other interpretations suggest an association between sources of water and their worship. Brady (n.d.) thus concluded that the most convincing identification of most simple faces relates them to water and/or rain deities, but he noted that the absence of “hard evidence” in previous interpretations hinders one from generalizing this interpretation to all simple faces (Brady n.d.: 20). This echoes the hypothesis formulated by Bonor (1989) and Strecker (1985) for simple faces of the Yucatan.

Another possible interpretation of the significance of the simple faces is that they represent skulls and were associated with death. Petroglyph 28, for example, is the most elaborate two-dimensional face at Uayazba Kab. In addition to the eyes and mouth, the face also has a nose, a simplified sort of crown or headdress above the face, and the mouth is framed by two upside-down U shapes. The small crescents on either side of the mouth could be interpreted, as they have on monumental sculpture at Copan, as markings or iconic signs that designate the figure or object in question as being made of bone (Baudez 1994: 20). The Uayazba Kab figure could therefore, also represent a skull with some sort of headdress or other unidentifiable element. Another example is the skull which surmounts 18-Rabbit’s headdress on Stela A (CPN 1, using designations in Baudez 1994) (see Baudez 1994: Fig. 4, p. 21-22). Using the skull on CPN 1 as an analog, Petroglyph 28 at Uayazba Kab might also be crowned by a vegetal motif (Fig. 17a).

Another interesting comparison that can be made, and which may be related to the skull/death hypothesis, is the similarity between the pecked faces and modified Oliva shells. In many caves and surface sites a substantial number of Oliva shells have been discovered that have been modified to represent simple faces. All these examples have two holes representing eyes and a slit for the mouth. The simple faces that result from these modifications are remarkably similar to the faces from Uayazba Kab and other subterranean sites. Interestingly, these modified shells at surface sites have predominantly been found in burials and tombs.

The hypothesis that the simple faces represent skulls is also intriguing, particularly when their associations with burials or human remains is taken into account. As previously mentioned, Petroglyph 21 is associated with at least one human interment. At Jobonché the VanKirk’s (1996: 50, 156-157) report that the petroglyphs were associated with multiple burials, although by the time of Brady’s investigations only a single fragment of burnt human bone was recovered (Brady n.d.: 3). These conflicting reports may be due to the intensive looting which has occurred at the site, or reflect the non-archaeological nature of the VanKirk’s visit to the site. The presence of human bone nevertheless indicates that at least one of the petroglyphs was associated with human remains. It is also interesting to note that Petroglyphs 18, 19, and 20 at Uayazba Kab have a distinctly cranial appearance and the U-shapes which frame the mouth of Petroglyph 28 may also represent iconic markings for bone. The interpretation that certain of the simple petroglyphic faces were meant to represent skulls is not in conflict with the interpretation that they are associated with sources or bodies of water. During the rainy season it was observed that water originating behind Petroglyph 21 at Uayazba Kab poured down into the excavation units which were placed below that petroglyph

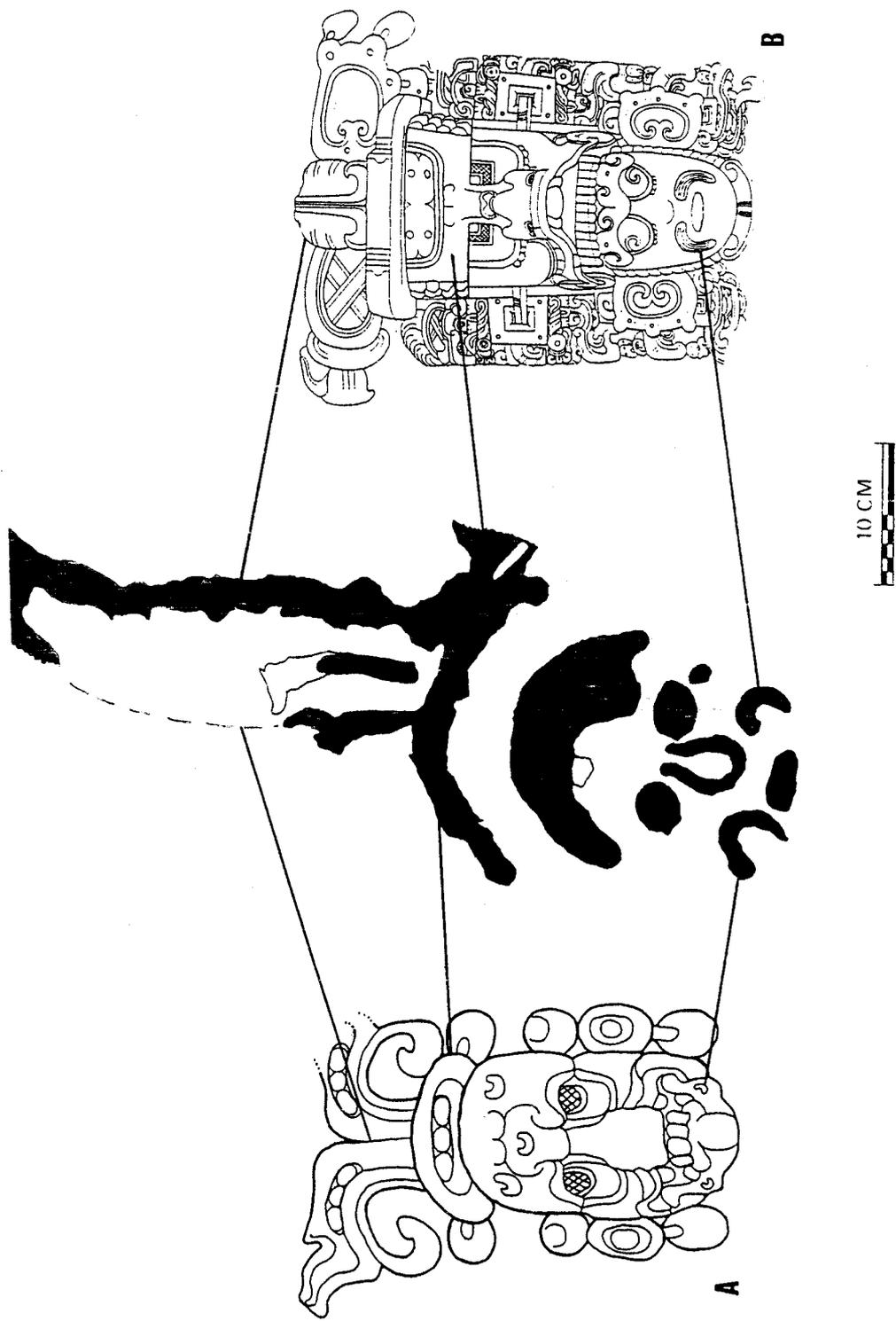


Figure 18: Possible interpretations of Petroglyph 28 from Actun Uayazba Kab, with affinities between elements indicated: a) The skull hypothesis (drawing by Helmke after a drawing by A. Dowd, in Baudez 1994: Fig. 4, p. 22); b) The GI/Quadrupartite Monster hypothesis (adapted from a drawing by A. Dowd, in Baudez 1994: Fig. 26, p. 67).

and within which a burial was later encountered. Inside Actun Tunichil Muknal the majority of skeletons were also deposited in travertine pools. This association between burials and water in the caves of the Roaring Creek valley suggests that the two hypothesis regarding the function of simple faces in caves may actually be related rather than mutually exclusive.

In comparison to most of the faces at Uayazba Kab, Petroglyph 28 may be interpreted in a different manner. The "headdress" is akin to a crude stingray spine and thus may be a reference to the Quadripartite Monster who wears as a headdress an offering bowl with *k'in* markings within which are a stingray spine, a spondylous shell, and a possible mirror. If this interpretation is accurate then the small crescents on either side of the mouth of Petroglyph 28 might be crude renditions of the fish barbel which frame the mouth of the first-born God of the Palenque Triad, GI, who wears the Quadripartite Monster as its headdress (Fig. 17b) (Schele & Miller 1986). The orifice/mouth of the *k'in* plate represents a quatrefoil motif, interpreted as a portal through which vision serpents arrive and the World Tree emerges (Schele & Mathews 1998: 410). Emergence of the World Tree may be related to royal accession rituals. Others have suggested that the material manifestation of the quatrefoil motif represents the entrances of caves or metaphorical gateways to the underworld, such as the entrance of Actun Uayazba Kab.

An interesting pattern regarding the location of simple faces in caves was noted during our analyses of these figures. In all the caves where they occur, for example, the majority of the faces were carved between 0 and 50 m from the cave entrances (Table 3). The only example depicted further into a cave is Drawing 55 from Naj Tunich. This face was painted approximately 640 m from the cave entrance. It is important to note, however, that in striking contrast to the other petroglyphic faces, this example was painted, not carved or pecked. Given this difference, it is possible that this example represents a type of face which may not be comparable to the pecked faces under investigation. The seemingly purposeful carving of these faces near to or at cave entrances suggests that they were specifically carved in these locations. Since it has been suggested that these faces are associated with water and sources of water it is also interesting that they are not found deep within caves. In the Roaring Creek valley, the largest and closest river cave to Actun Uayazba Kab is Actun Tunichil Muknal, yet no petroglyphs or simple faces have been discovered at the latter.

THE RITUAL FUNCTION OF THE PETROGLYPHS

The faces from Jaguar Paw Cave (Fig. 18), Footprint Cave (Graham et al. 1980), and Petroglyph 21 from Uayazba Kab all have small level surfaces above their head. In the case of the Footprint example the concentration of charcoal on the level surface and fire clouding on the ceiling above suggest that some organic material may have been burnt above the the figure (Graham et al. 1980: 155, 158, 166-168). The Uayazba face was carved on a small rimstone dam (Fig. 7) which contained fragments of charcoal. Although the other dams in the immediate vicinity also contain charcoal, it seems likely that some sort of organic material, perhaps *copal* was being burnt in the small dam behind/above the face. It is likely that the level surface above the face at Jaguar Paw served a similar purpose. Although a particular ritual function can not be suggested for these features, it is apparent that the burning of organic materials very likely accompanied the rituals conducted on or near the faces. This pattern may therefore reflect a local practice that was associated with these faces. Interestingly, the top of the Late Preclassic Cahal Pech Stela 9 was hollowed out



Figure 19: The face from Jaguar Paw Cave, which lies to the east of Caves Branch Cave. Drawing by C. Helmke, adapted from a photo.

to form a small hemispherical depression which Awe et al. (n.d.) suggested may have served as a receptacle for the burning of copal or other offerings.

The carved footprints on the Access Slope (Fig. 19) are possibly the only petroglyphs from Uayazba Kab whose significance can more confidently be interpreted. Footprints in Mesoamerica have traditionally been used to designate roads and paths. (Miller and Taube 1993). They are depicted in codices (particularly the Madrid Codex) and on carved monuments. Since the Access Slope is the only area which allows easy ascent up to the summit of the Flowstone Boulder, their location on this slope is understandable. They are indicating the path which ritual practitioners would have taken from the entrance of the cave to the summit of the boulder. The question of their orientation is, however, more puzzling, particularly if there is some significance attached to the direction in which they point (Table 4).

Table 4: Frequency distribution of the orientation of the footprints (see Fig. 12).

Directions			Number	Percentiles
Right	(east)	(entrance)	6	40.0 %
Down	(south)	(floor)	3	20.0 %
Up	(north)	(summit)	5	33.3 %
Left	(west)	(wall)	1	6.7 %
Total			15	100 %

Since the majority of footprints point toward the entrance of the cave, it is possible that the individual ascending or descending the Access Slope was meant to face the entrance. The footprints point up and down the slope likely suggest ascending or descending. However it should be pointed out that only 3 footprints face downward while all others could be taken as lateral ascension (while facing left, or right). The footprints pointing vertically and up the slope clearly indicate ascension. Thus, it seems that ascension was perceived as being more important than the descent from the summit of the boulder. Unfortunately no definitive interpretations for the directions of the footprints can be offered. The suggestion can be made, however, that the ascension of an individual to the summit of the boulder was a major part of the ceremonies conducted at Uayazba.

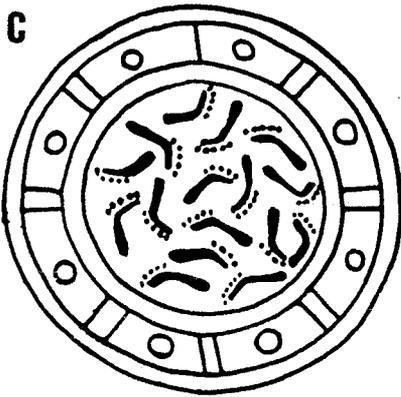
The 5 depressions on the Access Slope are more obviously functional in nature than are the footprints. In order to minimize further damage to this area during the 1997 investigations we climbed to the summit of the Flowstone Boulder with the aid of a ladder which leaned against the eastern rock face. Similar "steps" were carved out of the flowstone in the short but steep wall forming the eastern edge of the tunnel leading to the Handprint Chamber. These steps, as well as those from the Access Slope, greatly facilitate maneuverability from the floor of Entrance II to the tunnel leading to the Handprint Chamber and from the floor of Entrance I to the summit of the Flowstone Boulder, respectively. These steps therefore suggest frequent and/or repeated movement of people at these two areas. Yet, if individuals ascended to the summit of the Flowstone Boulder



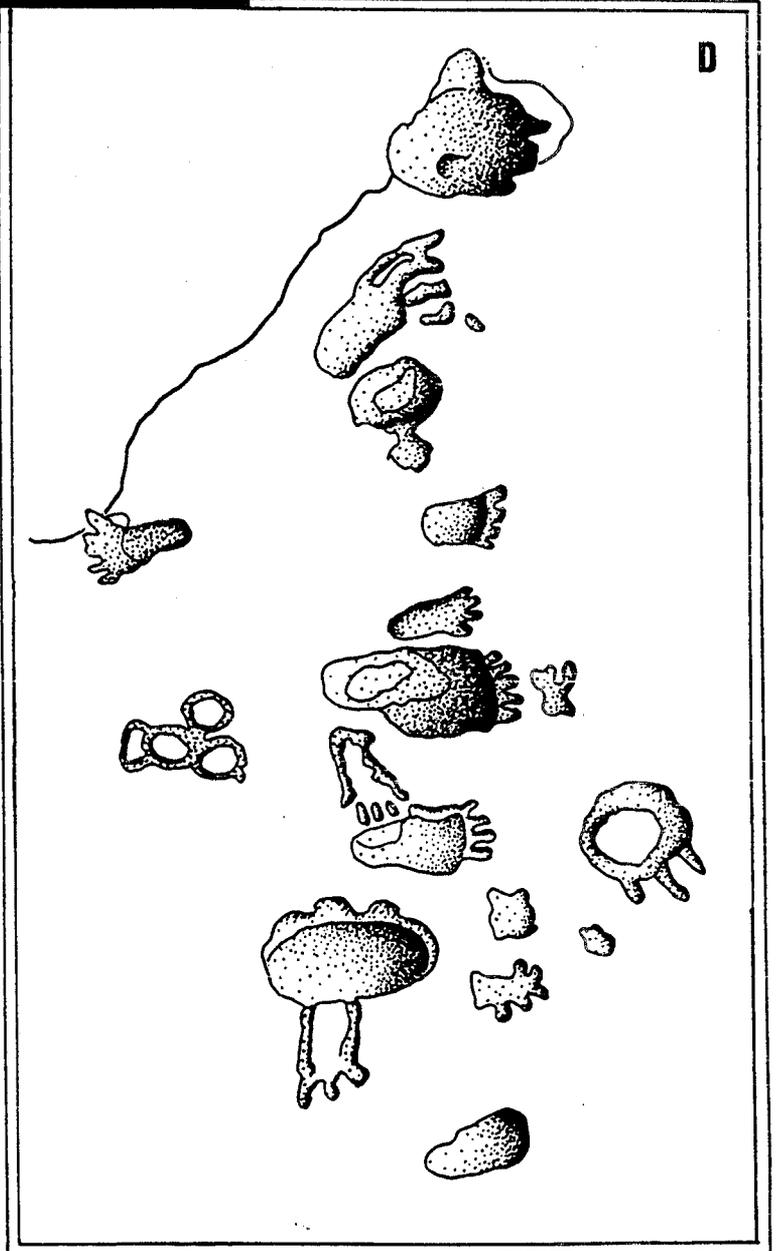
A



B



C



D

Figure 20: The footprint as an iconographic symbol in Mesoamerica: a) Central Mexican merchants traveling down a road indicated by footprints. Note the linear direction in which the footprints are pointing, indicating the direction that is being traveled (Florentine Codex, 16th century, after Miller & Taube 1993: 113); b) footprints indicating the path to a Maya throne during an accession ceremony at Piedras Negras (adapted from a drawing by Schele); c) The Aztec sign for “marketplace”. Note the multiple directions in which the feet are pointing (Miller & Taube 1993: 113); d) petroglyphic footprints from Actun Uayazba. It is interesting that the last example incorporates attributed of a) and c).

as frequently as they entered the Handprint Chamber, the absence of artifacts in this area is puzzling. Intensive looting of the site, however, hampers the evaluation of artifact concentrations, distributions, and their significance.

DISCUSSION AND CONCLUSION

Having interpreted the individual petroglyphs as thoroughly as possible, the different interpretations will now be tied together into a unified whole. Addressing it chronologically is also important in order to evaluate the changing function of the site over time. The Petroglyphic Panel, it was argued, represents some of the first carvings from the cave. It is possible that the architectural sculpture such as the steps and the leveling of the upper surface of the fallen speleothem to form an altar were executed prior to the addition of the iconographically meaningful carvings. If so, then frequent use of the site is attested from the beginning of the archaeological chronology established for the site, since the steps would have only been useful if individuals were frequently ascending to the summit of the Flowstone Boulder and frequently entering the tunnel leading to the Handprint Chamber. The God I interpretation of the central section suggested on the basis of the associations of the deity that the Flowstone Boulder may have been perceived as a sort of throne. The use of the site as a burial place seems to confirm the presence of burials in the northern entrance and the discovery of isolated human bone fragments in the southernmost antechamber of the cave. The restricted usage of the site by a lineage who had as their patron the deity represented on the central section of the Petroglyphic Panel may be substantiated by the proximity of the Yaxhal Tun plazuela.

During the subsequent phase of usage the cave was decorated with several simple faces which may be part of a larger tradition dedicated to sources of water. Since the majority of faces at Uayazba are not directly associated with extant sources of water it is possible that only some of the faces were meant to depict rain and water deities while others may have been more related to the funerary function of the cave, or a combination of both. The distribution of these faces within the cave and the presence of one such face at the site of Cahal Uitz Na would seem to indicate that the users of the cave became preoccupied with the worship of water and rain, perhaps in conjunction with agricultural fertility rituals. The possibility that the cave was increasingly being used by people other than the inhabitants of the Yaxhal Tun plazuela may also be attested by the presence of a simple face on Monument 3.

Possibly the most complete example, in formal royal style, which combines all the Late Classic elements of Uayazba Kab, are the niche stelae from Piedras Negras (e.g. Stelae 25, 6, 11, & 14). These stelae date between A.D. 603 and A.D. 758. As their name implies, their most salient feature are the niches in which the king is shown seated. All four stelae represent the niches being framed by a skyband, while three stelae show sets of drapes or curtains that are tied to the top of the niche. The lower edge of the niche is defined by a Cosmic Monster of which the Quadrupartite Monster represents the rear head. In all four cases the ruler is sitting atop of a wooden scaffold, upon the front of which leans a ladder made of wooden poles which are tied together. Running the length of the ladder is a roll of cloth which is decorated with upward pointing footprints, indicating that the individual climbed the ladder to the niche. All the represented individuals hold incense pouches indicative of the ritual nature that their ascension to the niche represents. One example depicts an altar in front of the ladder upon which lies a sacrificial victim. Proskouriakoff (1960) was the first

to realize that these niche stelae dedicate the accession ceremonies of several rulers at Piedras Negras. At Uayazba, as on the niche stelae, there is an elevated platform (the Flowstone Boulder), the summit of which is marked by a deity representing the Quadrupartite Monster, which is related to the Cosmic Monster (Petroglyph 28 which may represent GI). Access to the summit of the elevated platform is also marked by a row of footprints (the Access Slope), and an altar is placed in front of the elevated platform (the speleothem/altar) (Fig. 20). The interpretation of the central section as the Olmec God I and its association with thrones further ties into the parallel. The niche itself may be represented by the cave entrance, especially since there are caves in the immediate vicinity of Piedras Negras. Thus, if our interpretation of the petroglyphic elements is accurate, it would support the analogy of the northern entrance of Actun Uayazba Kab as the three-dimensional setting of the ceremonies depicted on niche stelae. Apart from the above interpretation, there is no solid evidence to suggest that the cave was used by members of the royal elite. Consequently the site may have been used during accession ceremonies of lower elite or lineage heads.

The relation between Cahal Uitz Na and Actun Uayazba Kab may be found far to the southeast at two Preclassic sites in Honduras: the Talgua Village site and Spider Cave. Although these two sites were used and occupied during the Preclassic and although both sites were most likely occupied by non-Maya peoples, similar processes seem to have connected the surface and sub-surface sites. Furthermore the relation between both sites is based upon similar evidence tying Cahal Uitz Na and Uayazba Kab together. At the Talgua Village site and nearby Spider Cave, a painted face within the cave and a similar face that was carved upon a miniature stela-like monument that was found axially aligned with the largest structure at the Talgua Village, suggested a link between the cave and surface site (Fig. 21) (Anonymous 1998). Investigators working in the area have suggested that the two faces are similar enough to propose that they were meant to represent the same type of face. This not only suggests that the inhabitants of the site used the cave, but also that both sites witnessed similar ritual actions, although in one case the rituals surrounding the stela would have been more public than the ones carried-out within Spider Cave. The similarity between the faces of Uayazba Kab and the face decorating Monument 3 of Cahal Uitz Na suggest similar ties, and at the very least contemporaneous occupation and use of both sites. It is possible that the faces represent a deity that was worshiped at the surface and within the caves. The similarity in execution might also indicate that the same people or the same lineage carried-out the rituals at both loci. These possibilities will be investigated in further detail during forthcoming research seasons in the Roaring Creek valley.

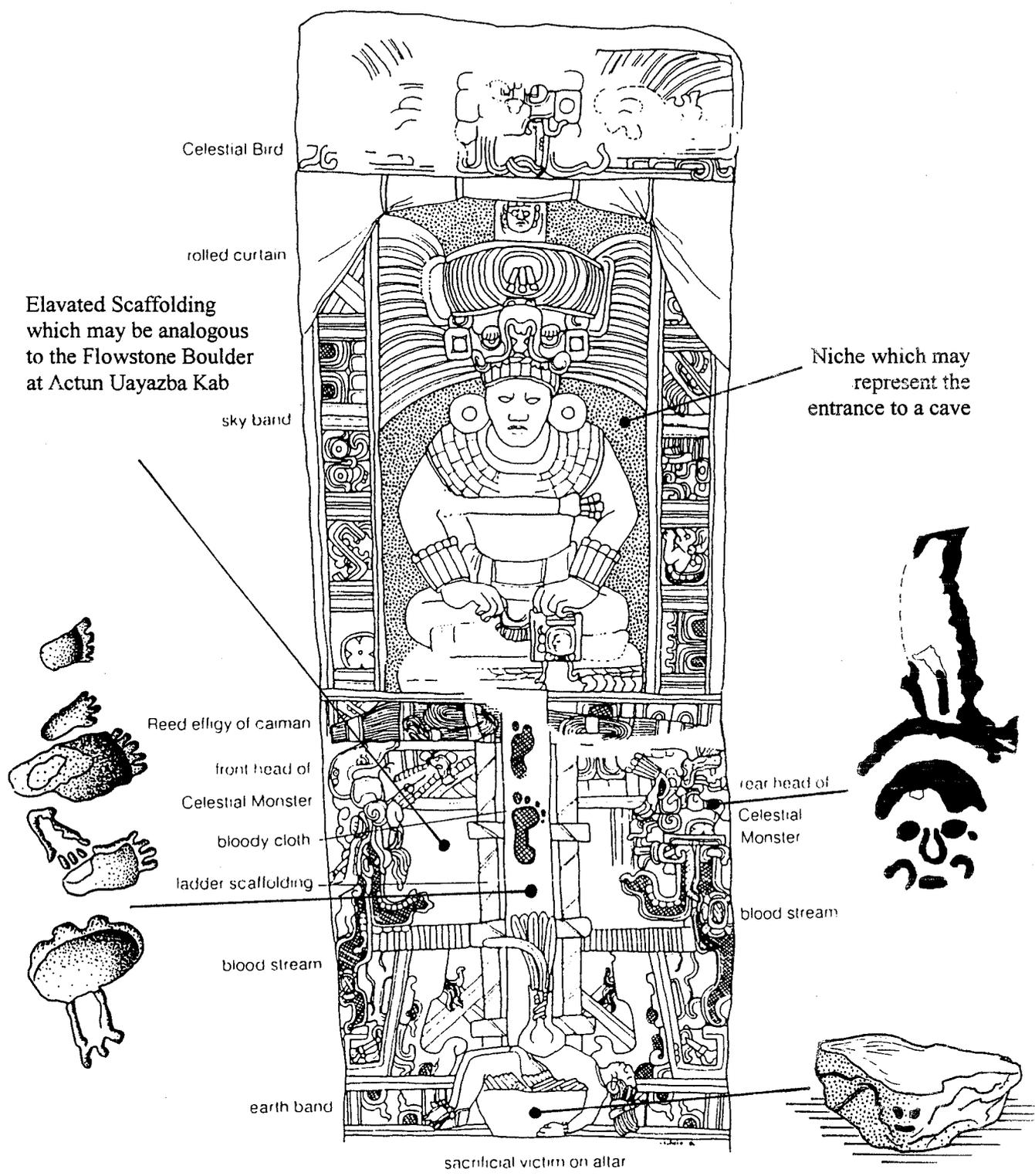
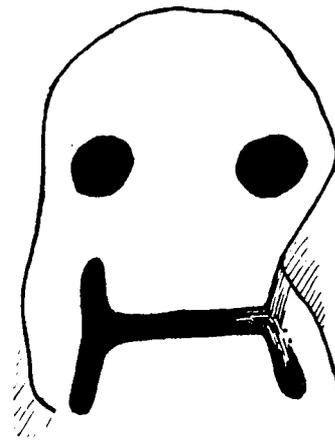
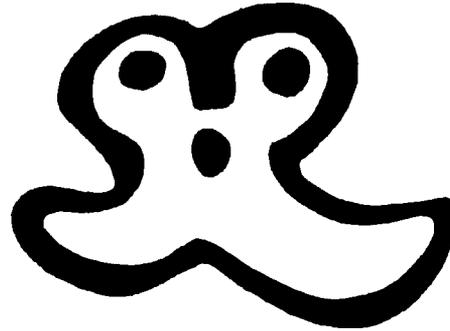


Figure 21: Comparison between the iconographic program of Stela 11 of Piedras Negras and various petroglyphs and other feature from Actun Uayazba Kab.

SPIDER CAVE

TALGUA VILLAGE



UAYAZBA

CAHAL WITZ NA

Figure 22: Affiliations between sub-surface and surface sites, based on the similarity of the faces represented. The two upper examples were discovered in the Catacamas area of Honduras, while the other two examples were discovered in the Roaring Creek valley in Belize.

Appendix A		Total no. of Sites	Sites per Region	Faces per Site
Belize	Actun Uayazba Kab	1	1	10
	Jaguar Paw Cave	2	2	1
	Cave in Caves Branch	3	3	8
	Te Tun Cave	4	4	5
	Cave near Benque Viejo	5	5	1
	Rio Frio Cave E	6	6	1
	Cahal Witz Na'	7	7	1
	Cave in Toledo	8	8	1
	Actun Dzib	9	9	1
TOTAL:		---	9	29
Peten	Cueva de las Pinturas	10	1	3
	Jobonche (SE Peten)	11	2	4
	Poxte (SE Peten)	12	3	5
	Juteria (SE Peten)	13	4	2
	Jovelte (SE Peten)	14	5	> 1
	Corosal (SE Peten)	15	6	> 1
	Candelaria Caves (Alta Verapaz)	16	7	1
	Naj Tunich	17	8	1
	Cueva de la Cabeza	18	9	1
TOTAL:		---	9	> 19
Yucatan	Calketo'k	19	1	1
	Xcosmil	20	2	3
	Dzibichen	21	3	1
	Actun Spukil	22	4	1
	Actun Ceh	23	5	1
	Cueva Xcatil	24	6	1
	Cueva Mis	25	7	1
	Cueva Petroglifos	26	8	1
	Ehbis	27	9	1
	Cahum	28	10	1
	Xetish	29	11	1
	Tancah	30	12	1
TOTAL:		---	12	14
Chiapas	Cueva de le Chepa	31	1	1
	Cave in Chiapas	32	2	1
	Cueva de las Andaslos	33	3	1
TOTAL:		---	3	3
Honduras	Cave near Copan	34	1	1
	Talgua Village site	35	2	1
TOTAL:		---	2	2

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PRELIMINARY REPORT ON THE RECONNAISSANCE OF CAHAL UITZ NA, ROARING CREEK VALLEY, CAYO DISTRICT, BELIZE

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INTRODUCTION

This paper provides a brief report on the discovery and preliminary reconnaissance of a medium-size Maya center in the upper Roaring Creek Valley in the Cayo District of western Belize. The site was first identified by Cameron Griffith (assistant director of the Western Belize Regional Cave Project) and two workmen while they were reconnoitering the area for cave sites in July of 1996. After visiting a cave on the eastern cliff that partially defines the conscripted upper Roaring Creek Valley, Griffith and party headed west and came across a causeway which led northward into the site core. With dusk approaching they decided to return to San Ignacio shortly after arriving at the site. Despite the limited exploration of the center during this first visit, Griffith noted that the site had several plazas with large pyramidal and range-type structures, several stelae and a ballcourt. He also recorded a causeway which ran along an azimuth of 25 to 30 degrees, and which extended from the site core to a cave on the eastern cliff. After notifying the Department of Archaeology (DOA) in Belmopan we were informed that members of the DOA may have visited the site in 1994, while investigating reports of looting in the area. Unfortunately, and despite the fact that looting was confirmed by Griffith's visit, the lack of UTM data made it difficult to determine whether the site visited by the DOA was the same as that reported herein. In view of the latter, and since the site was still unnamed, we decided to call it Cahal Uitz Na. This liberally translates as Place of the Mountain Houses; a name which reflects the numerous cave sites in the hills encircling the center.

THE 1997 EXPLORATION OF CAHAL UITZ NA

The 1997 exploration of Cahal Uitz Na was conducted under the auspices of the Western Belize Regional Cave Project (WBRCP) and funded in part by a research grant to J. Awe (Trent University/Univ. Of New Hampshire) by the Social Sciences and Humanities Research Council of Canada (SSHRC). Beside the investigation of several large and important caves in the area, a major research goal of the WBRCP is to determine the temporal and spatial relationship between surface settlements and subterranean sites. A study of this relationship is of particular importance because of the underlying assumption that caves represent sacred spaces and were predominantly used for ritual activities by occupants of nearby settlements. The relocation and further reconnaissance of the site was thus scheduled as an important research goal of the project.

At the beginning of the 1997 field season all we knew of the location of Cahal Uitz Na was

that the site lay on the east bank of the Roaring Creek, across the river from Actun Tunichil Muknal and Actun Uayazaba Kab. Between the 24th and 25th of May 1997 workmen employed by the project explored the floodplain on the eastern side of the river in an attempt to relocate the site. The workmen's initial attempt was unsuccessful but they did discover a large mound, approximately 5 meters high and more than 10 meters long, to the east of Actun Uayazaba Kab. It was subsequently determined that the mound is one of the peripheral structures of Cahal Uitz Na. Between the 7th and 8th of June the workmen continued their search east of the mound and shortly thereafter came upon the easternmost plaza of the site (Plaza 4).

On June 11th 1997, Helmke and two workmen returned to Cahal Uitz Na with a portable global positioning system (a Garmin GPS 40 receiver). The purpose of this visit was to secure the location of the site by taking as many GPS readings as was possible given the thick forest cover in the area. On the way to the site the team investigated another large mound which the workmen had previously reported was constructed of slate. This visit established that the mound was only partially constructed of slate, and that the construction also incorporated river cobbles and roughly hewn blocks of limestone. The mound is rectangular in shape. It measures approximately 38 meters long by 9 meters wide and 4 meters high, and appears to have a north-south alignment. Along the central axis of the mound there is a concentration of slate slabs that may represent a staircase. Several steps of the central staircase, as well as three flanking terraces, are still visible. The mound displays no evidence of looting, thus it is possible that other upper terraces may have deteriorated as a result of erosion and other natural forces. No "way point" GPS coordinates were obtained for the "slate mound" due to dense foliage cover, but it was determined that the mound lies about half-way between the river and the site core, the latter being in a general southeasterly direction from the "slate mound."

Following the Helmke's visit, another exploratory trip (comprising a larger number of project staff) was organized to the site on the 18th of June. The purpose of this trip was to assess how much time would be required to adequately survey the site, to continue its exploration, and to improve the original sketch map (Figure 1) previously prepared by Helmke. A looters pit was also investigated in an effort to retrieve ceramic remains for use in determining a tentative site chronology.

THE CONFIGURATION AND LAY-OUT OF CAHAL UITZ NA

Although the area covered by the site core (Figure 1) will certainly increase once the monumental architecture has been fully explored and mapped, it is apparent that Cahal Uitz Na is a medium-sized center comparable in size to Pacbitun, Cahal Pech, Blackman Eddy, and Group I of Baking Pot (in the Belize Valley). Plaza 1 is the largest courtyard in the site core. It is bordered on its southern and western sides by the two tallest structures at the centre. The southern mound is approximately 15 m high (Structure 1) and the latter approximately 12 m high (Structure 2). GPS coordinates were gathered from the summit of Structure 1, since this was an area with the least amount of forest cover. The eastern side of the main plaza is defined by a range structure measuring less than three meters in height (Str. 4), while the northern side is bordered by a large platform (Str. 3) which supports a smaller pyramidal structure. The latter platform is just over 2 meters high, but we have yet to determine the height and size of the pyramidal structure at its summit.

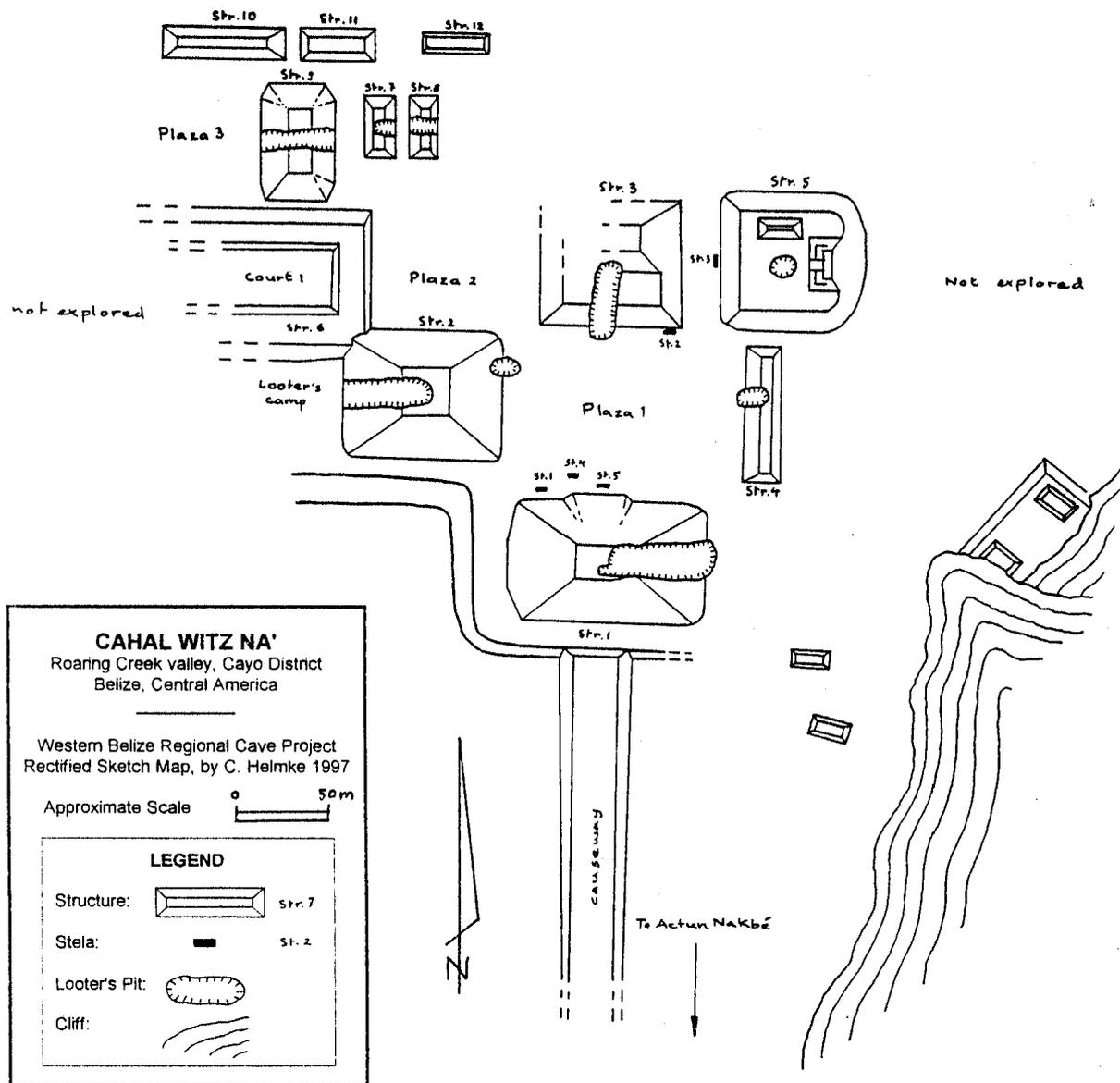


Figure 1: Sketch map of the site core of Cahal Witz Na.

Four stelae were found in Plaza 1. Three of these (Stelae 1, 4, and 5) were located in front of Structure 1 (i.e. on its northern side). The fragmentary Stela 5 was discovered in alignment with the structure's central axis, while Stela 1 was found off-set to the structure's northwestern corner. Stela 4 lies approximately half way between the latter monuments. The front of the structure was cleared in order to determine whether other stelae were erected symmetrically on the northeastern corner of the structure but no remains were found. The fourth stela in the Plaza, Stela 2, was found leaning against the front (or southern side) of Structure 3, off-set to the structure's southwestern corner. The front of this structure was also cleared to determine whether another stela was erected in alignment with Str. 3's central axis but no stela was discovered. Stela 1 and 2 were recorded during the visit of the 11th June and were illustrated at that time. Stelae 4 and 5 were discovered and recorded during the June 18th trip.

Plaza 2 is bordered by Str. 2 and Str. 3 on its southern and eastern sides respectively. On the northern side of the Plaza there are two large mounds (Structures 7 and 8) which form the only ballcourt at the site. To the west the courtyard is bordered by Structure 6 which is a series of three low-lying and inter-connected mounds which enclose a sunken plaza or court. Although Structure 6 was not investigated thoroughly, it is likely that there is a fourth mound (on the western side of the sunken plaza) which connects to the other low-lying mounds and forms a residential patio with restricted access. The southeastern side of Structure 6 abuts the northwestern corner of Structure 2. The rear of Structure 2 (i.e. its western side) was only hastily investigated as was the southern mound in the sunken courtyard. It is possible that the small plaza behind Structure 2 continues further west than is indicated on the sketch map, but this must await verification by future research.

Plaza 3 is an elevated plaza that is defined by Structure 6 on its southern side, by Structure 9 on its eastern side, and by Structure 10 on its northern side. The western side of Plaza 3 was not investigated though it is likely bounded by another mound. Measuring approximately 9 m in height, Structure 9 is the third largest pyramidal structure at the site. Structure 10, a range structure, is also noteworthy for its fairly large size. It measures approximately 7 m high, it is more than 60 m long and is possibly vaulted. In comparison to range-type buildings at other sites in the Belize River valley, this is a fairly large structure, though such dimensions for range structures are not unprecedented. We believe that there is another range-type structure on the western side of Plaza 3 but limited time and thick foliage prevented us from confirming this. If this assumption is accurate, Plaza 3 could also be a residential patio with restricted access. These types of architectural configurations are generally identified as elite residential "compounds", and often comprise vaulted, range-type buildings. In the Belize valley they are reported at Pacbitun (Healy 1990) and Cahal Pech (Awe 1992) and investigations at the former by Bill (1987) suggested that the sunken plaza which form courts 1, 2 and 3 most likely represent a "palace".

Structures 11 and 12 resemble Structure 10 in their shape and orientation (i.e. rectangular in shape, lying on an east-west axis, and facing south), but are smaller in height and length to Structure 10. Structure 11 is approximately 35 m long and 5 m high, while Structure 12, the smaller of the three structures, measures only 2 m in height and is less than 30 m long. The area east of Structure 12 and north of Structure 3 was explored but no architecture was observed in their immediate periphery. It is possibly that the site core extends further to the east and north of the central area (particularly north or northeast of Structure 5) but this must await confirmation by future research.

As indicated above, the ballcourt of Cahal Uitz Na is situated between Structures 11 and 12, and lies on the northern edge of Plaza 2. The two structures forming the ballcourt (Structures 7 and 8) are similar in elevation and ground-plan and are relatively large in comparison to other ballcourts in the Belize Valley. The central axis of the playing alley is north-south; an alignment that is predominant among similar, Classic period, architectural assemblages in western Belize. The location of the ballcourt in the northern sector of the site also fits a pattern identified by Ashmore (1989; 1991) as typical for such structures in the greater Southern Lowland area.

Located east of Structure 3 and north of Structure 4, Structure 5 represents one of the most intriguing structures yet discovered at the site. It consists of a large platform that supports two, smaller, terraced mounds and a series of five monuments that will be described in detail below. Access to the top of Str. 5 would have been gained via its western face which overlooks a passageway that leads into Plaza 1 from the northeast. At the western base of Structure 5, in alignment with its central axis, there is what appears to be a plain stela with top and bottom portions missing. It was labelled Stela 3 during the June 11th visit to the site though some consideration regarding this designation will be addressed further below. At the summit of the Str. 5 platform (which is just over three meters high), there are two mounds. One is located on the northern side of the platform and the other is on the eastern side. Given that three inward-facing mounds usually define such elevated "plazas" at other Maya sites, it was assumed that a third mound would be found on the southern side of the platform, but this was not the case. No mound of any height was discovered on the southern side of the platform. The largest mound on the Str. 5 platform is the eastern structure which would have faced the central staircase leading up to the platform's summit. This eastern mound is higher than 5 m, is more than 30 m long, it has at least two levels of terracing and the staircase leading up to its summit is in a generally good state of preservation. A looters pit was dug into the center of the Str. 5 platform. This pit is approximately 5 m wide east-west, 3 m wide north-south and approximately 2 m at its deepest end (i.e. the eastern section of the pit). Five large slate slabs or monoliths were found strewn around the circumference of the pit. Initially it was assumed that these slate "slabs" were the capstones of a tomb that the looters had uncovered. The practice of using slate slabs as capstones for elite tombs was a typical pattern at Pacbitun (Healy et al. 1995: 340, 342, 343-4).

Interestingly, one of the slate slabs (Fig. 6) has a carving that resembles a face or skull that is similar, in style and execution, to those found at Actun Uayazba Kab. Because this suggested that the carvings at the two sites may be contemporaneous it was hoped that the dating of the possible tomb (from which the monoliths were assumed to have been extracted) could give a temporal placement to the carvings at Actun Uayazba Cab. It could also suggest that the rituals conducted at the cave and the interment of an important individual at Cahal Uitz Na could be related.

During the visit on June 18th, the looters pit was cleared of vegetation in order to determine whether the looters had indeed penetrated a tomb, and to recover diagnostic ceramic materials. Once the vegetation had been cleared it became apparent that the looters had not sacked a tomb, but had unsuccessfully "dug" into the platform extracting little more than cobbles and large boulders of dry-laid core fill. Our effort to retrieve useful ceramic materials proved futile for we recovered only three non-diagnostic body sherds in the pit. Dating of the sculpted slate monolith, on the basis of ceramic association, could therefore not be established. Given that the looters had not extracted the

five slate slabs from a tomb it is also possible that they represent stelae which may have been erected at the top of the large platform. Despite this likelihood, we have presently decided to choose a less functional designation of "monument" to describe the slate monoliths.

A large platform abutting the cliff which delimits the eastern section of the site was discovered by Griffith during his initial visit to the site in 1996 and relocated during the June 18th 1997 exploration. The platform faces northwest and supports smaller residential-type mounds on its northeastern and southwestern sides. A few meters to the southwest, a small cave-like passage was found penetrating the cliff against which the platform abuts. Looters had scraped away matrix within this cavity and exposed several potsherds. Ceramics identified in this small assemblage included Dolphin Head Red and Roaring Creek Red types. Both ceramic types are diagnostic of the Late to Terminal Classic, Spanish Lookout phase in the Belize Valley. This date probably corresponds to the construction of the platform, but future excavations will be necessary to confirm this chronological placement.

Structures 1, 2, 3, 4, 5, 7, 8, 9, and 11 were all trenched by looters. Behind Structure 2, on the same level as Plaza 1 and just south of Structure 6, a small looter's camp was encountered. The state of the collapsed pole and thatch building, which sheltered the vandals, suggests that the looting took place about two years prior to our 1997 visit of the site.

The causeway at Cahal Uitz Na runs on a 217° azimuth or a bearing of S 37° W. This is essentially similar to the azimuth of 25° to 30° which was ascertained by Griffith the previous year (who was going in the opposite direction). The causeway originates at the southern side of Structure 1 and runs its course following the general direction of the cliff that forms the eastern boundary of the site. The causeway ends abruptly approximately 250 meters south. Going due east from the point where the causeway terminates, there is a cave at a distance of less than 50 m. This is the same cave that Griffith had visited the year before prior to discovering the causeway and site. This cave has been named Actun Nak Beh or "Road's End Cave". It seems apparent that the causeway was constructed to direct and facilitate the flow of people to the cave from the site core. The causeway is elevated approximately 40 cm above the surrounding terrain, though at some places it is even higher. It is lined by a single course of large river boulders. It is interesting to note that the causeway at Pacbitun runs from the rear of the largest structure at the site and terminates at a large platform that supports a pyramidal structure. This structure is apparently a ritual one. Excavations at Cahal Pech (Awe et al. n.d.) and X-ual-Canil (Schwabe 1996; Iannone, personal communication 1997) have also confirmed that such causeway termini structures served ritual functions. It is possible that Actun Nak Beh served a similar purpose at Cahal Uitz Na.

THE STELAE AND MONUMENTS OF CAHAL UITZ NA

In keeping with the customary practice in Mesoamerican archaeology, the stelae and monuments of Cahal Uitz Na were numbered in the order of their discovery. Stelae 1 to 3, as well as Monument 3, (which are illustrated in this report) were drawn at a scale of 1:10 in accordance with the conventions of the Corpus of Maya Hieroglyphic Inscriptions Project. The position of these monuments, as indicated on the sketch map, also shows their location as observed in June 1997.

In all, ten monuments have been found at Cahal Uitz Na. Of these, four are typical stelae (Stelae 1, 2, 4, & 5), one is a dubious stela (St. 3), and five were labelled monuments (Mon. 1 to Mon. 5). As indicated above, it is likely that the monoliths we have designated as monuments may also represent stelae. If this is the case it would bring the total number of stelae to nine. All the monuments, plus Stelae 4 and 5, were made of slate; the others were made of dense, fine-grained (dolomitic ?) limestone. To our knowledge, no other site in the Maya area has this many slate monuments. Calakmul (Stela 9) and Caracol (Stelae 21 and 12) are the only other known sites with documented slate stelae. All other monuments at the latter sites are made of limestone (see Helmke n.d.). The proximity of Cahal Uitz Na to a source of slate might account for this varied distribution.

Stela 1 (Figure 2)

This stela tapers at both ends. It was difficult to determine which end represents the butt, though close inspection of eroded surfaces will likely resolve this in the future. The stela was made from limestone and measures 1.8 m long and 50 cm at its widest point. In 1997 we turned the stela over to inspect it for signs of carvings but none were detected. There was no evidence of plastering or painting either. The stela is dressed on all sides and appears to have fallen face forward.

Stela 2 (Figure 3)

This limestone stela is still in situ and was found leaning against the southern face of Structure 3. A large upper fragment is missing. A search in the immediate vicinity of the stela failed to locate the missing fragment. Looters also dug behind the stela, partially into Str. 3, in an apparent effort to reveal signs of carving. The most interesting modification to the stela is a biconical drill hole in its center. Biconical drilling is common for ancient Maya jewelry, but to our knowledge this is the first example (in the Maya area) of a stela with a biconically drilled hole at its centre. The hole has an outer diameter of 26 cm on both sides, and tapers to a diameter of 19 cm inside. The stela is just over 1.4 m wide at its widest point and over 1.9 m tall. It is dressed on all sides, and a small erosive feature present in a lower portion of the shaft appears to have been caused by natural hydraulic activity. This feature was exposed once the shaft had been quarried, and is likely a residue scar of the mother rock from which the stone was extracted.

Stela 3 (Figure 4)

This dolomitic limestone monolith is rectangular in shape but has sides or corners that are rounded. The top and bottom have either fragmented off or these extremities were never dressed. In the latter case this would suggest that this limestone block was not a stela at all. If this is the case the monolith could represent a portion of a bench or some architectural feature that has yet to be identified on Structure 5. A search for the upper and/or lower fragments of the stelae was unsuccessful. The possible stela is 1.35 m long and, on average, 50 cm wide and 30 cm thick. If fragmentary, these measurements (especially the width and thickness) are well in keeping with the dimensions of plain stelae in the Belize Valley and also the plain stelae of the greater Peten area in general.

Figure 2: Plan of Stela 1 as discovered. note the profile below.

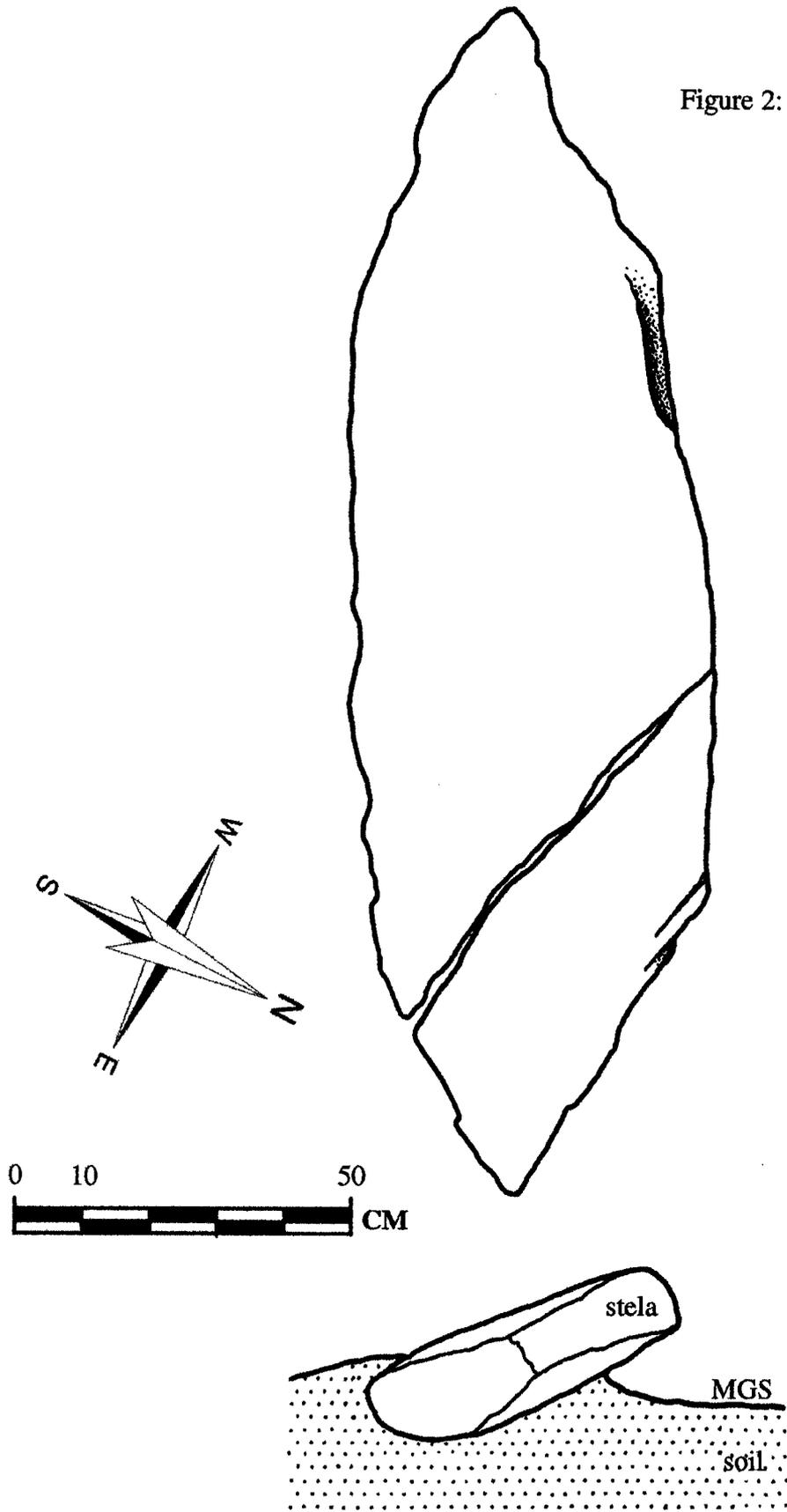
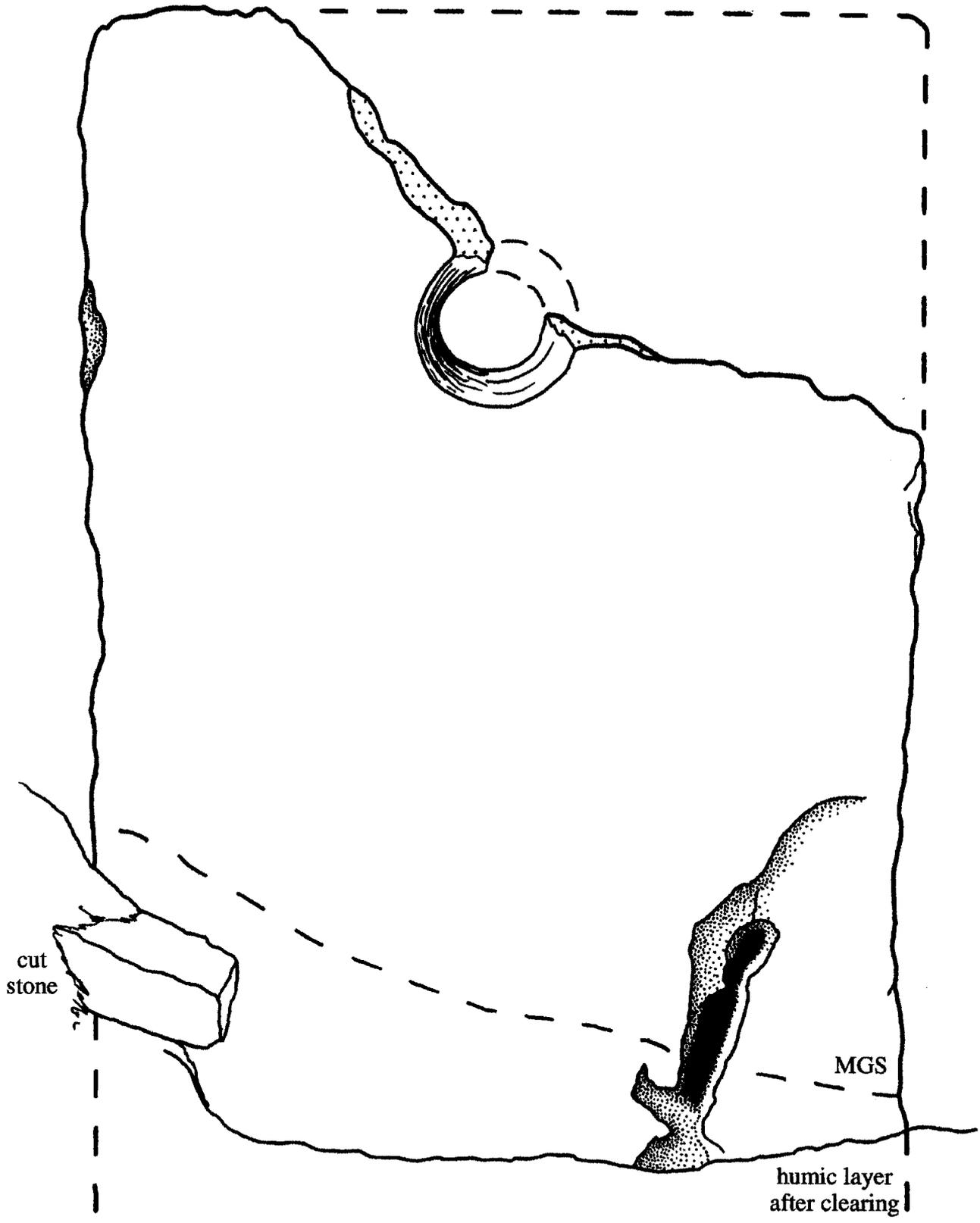
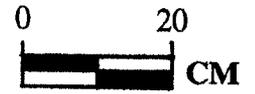


Figure 3: Stela 2 of Cahal Witz Na. Note the biconical hole at its center.



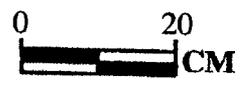
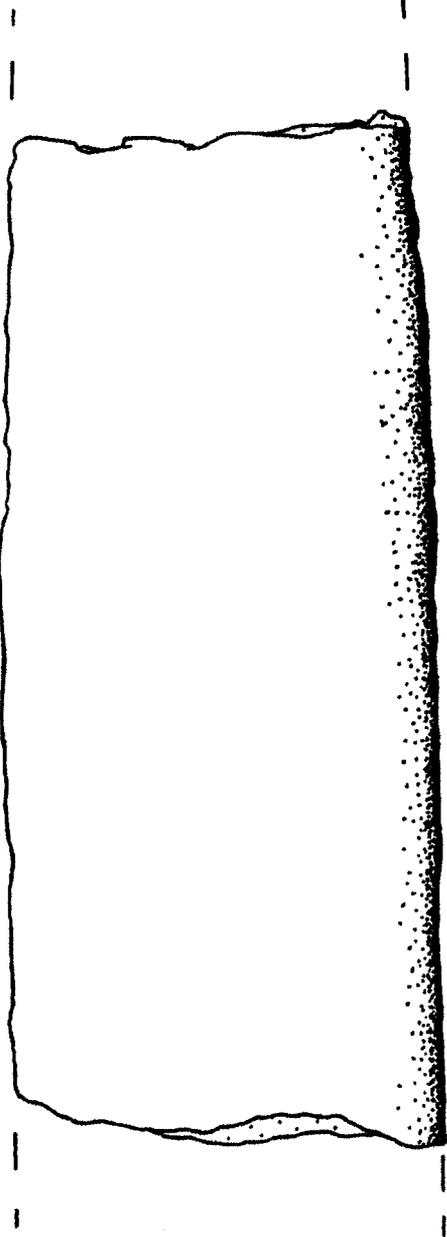


Figure 4: Stela 3
of Cahal Witz Na

Stela 4

This stela was found approximately 3 m east of Stela 1. It is represented by two large fragments of a slate shaft. Both are almost 2 m long, under 40 cm wide and 20 cm thick. The top of the shaft is rounded, and the cross-section convex in shape. There is a fracture at the lower end and no *in situ* butt was seen in close proximity. The front and back are dressed and the edges of the sides are beveled. It is possible that what has been labelled Stela 5 originally represented the butt of Stela 4, but this is unlikely since the width and thickness measurements on both differ. Stela 5 is wider and thicker than Stela 4, though no precise measurements were taken during the June 18th visit.

Stela 5 (Figure 5)

Stela 5 is the only stela at Cahal Uitz Na that was found standing in alignment with the central axis of a structure. This is odd since the majority of stelae at other Maya sites are usually axially aligned with pyramidal structures. This slate stela is very fragmentary and appears to have fractured, along the natural bedding planes of the slate, into six large fragments and countless smaller ones. The butt is still *in situ*, but it too has shattered into 3 fragments, the largest of which is still upright. Two fragments were found less than 20 cm east of the three described above. A sixth fragment was seen a few meters north on the plaza. The shattering may have occurred when the central outset staircase of Structure 1 collapsed, but the main upper fragment was nowhere to be seen. It is also possible that the main shaft was carved and was carried off by looters.

A fragmentary, spherical, grooved groundstone was found in the debris of Stela 5. A similar grooved stone was found in the entrance of Actun Nak Beh (both are about 10 - 15 cm in diameter). The function of these grooved stones has yet to be determined. Excavations by the Belize Valley Archaeological Reconnaissance in 1996 in Plaza 2 of Group I at Baking Pot have revealed that such grooved stones were closely associated with the terminal occupation of the site (i.e. Spanish Lookout phase). A large number of these grooved stones were also recovered in a unit (Unit 3) which uncovered Baking Pot's second plain stela. Jim Aimers has suggested that such grooved stones were possibly used to smash Stela 2 (Aimers 1997), since they display evidence of concoidal spalling on their surface; a characteristic which can not be explained as the result of the collapse of Str. E. The association between Stela 5 and a fragmentary grooved stone is intriguing, but we have little evidence to suggest that this grooved stone was actually used to smash the stela.

Monuments 1 through 5

These slate monuments at Cahal Uitz Na are comparable in shape and size to Stela 4, thus provide further evidence that they may, in fact, have been stelae. They are all made of slate, are convex in cross-section, and taper at the top. The monuments were all found on top of the supporting platform of Str. 5, around the periphery of the looter's pit. The position in which they were discovered suggests that the looters may have unearthed them in an effort to recover associated caches at their bases. It is also possible that these monuments were originally standing and arranged in a circle facing inwards, particularly since the looters pit isn't wide enough to accommodate for these monuments to have stood in a row or rows. The monuments were labelled numerically from north to south, in a counter-clockwise pattern. Monument 3 (Fig. 6) is the carved monolith that bears

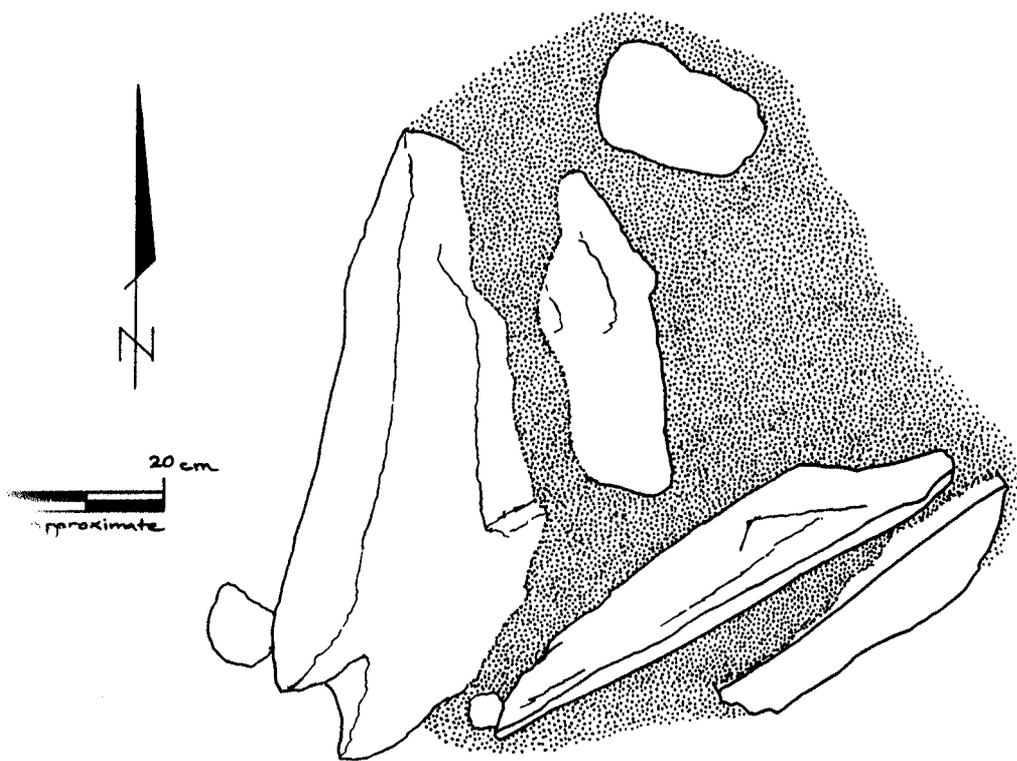


Figure 5: Plan view of the basal fragments of Stela 5 of Cahal Witz Na.

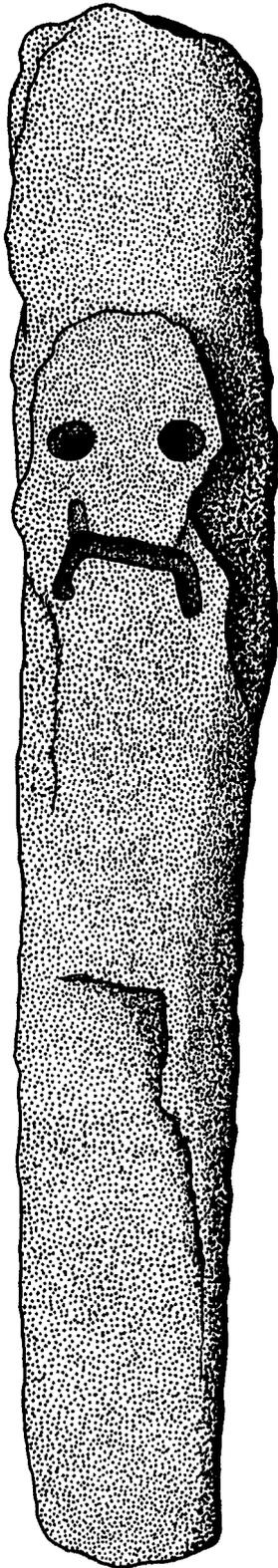


Figure 6: Slate Monument 3
of Cahal Witz Na.



the face or skull that is similar to the carvings found in the two entrances of Actun Uayazba Kab (see Helmke & Awe, this volume). Table 1 provides measurements that were taken of the monuments during the 1997 reconnaissance:

	Length	M Width	T Width	B Width	Orientation
Mon. 1	2.59 m	0.29 m	0.19 m	0.20 m	20°
Mon. 2	2.75 m	0.36 m	0.15 m	0.22 m	62°
Mon. 3*	2.09 m	0.34 m	0.33 m	0.26 m	---
Mon. 4	2.03 m	0.27 m	0.21 m	0.24 m	108°
Mon. 5	2.12 m	0.33 m	0.25 m	0.35 m	50°

(M stands for medial, T for top, and B for bottom, the asterisk marks the carved monument)

TABLE 1: Measurements of the slate monuments on Str. 5 at Cahal Uitz Na

Although all the slate monuments were turned over, only Monument 3 was found to be carved. It is also interesting to note that the Cahal Uitz Na monuments, though larger, are reminiscent of two slate monuments that were discovered inside the Stelae Chamber of Actun Tunichil Muknal, and at Tarantula Cave. The major difference between the monuments is that the bases of the cave monuments are flat and were held in erect position by speleothems, while those from Cahal Uitz Na all have tapering bases, suggesting that they were inserted into the fill of Str. 5 when the monuments were erected.

CONCLUSIONS

Despite the fact that Cahal Uitz Na has not been fully investigated, present evidence suggests that the site may have been the primary administrative center for the upper Roaring Creek Valley during the Late Classic period (A.D. 700-900). Indeed, the overall size of the center, and the surprising number of monuments that it contains, not only attests to its local (Roaring Creek sub-region) socio-political prominence, but may also reflect an important role in the greater Belize River Valley in general.

Data collected during the 1997 field season further suggest that the inhabitants of Cahal Uitz Na were the actual utilizers of the surrounding caves. The site's close proximity to the surrounding cave-scape is evident and irrefutable. The presence of Late to Terminal Classic ceramics at Cahal Uitz Na also demonstrates that the site was inhabited at the same time that the caves were predominantly being utilized for ritual purposes. Furthermore, the causeway which runs almost directly to the mouth of Actun Nak Beh, the similarity between the carving on Monument 3 and the carved faces at Actun Uayazba Kab and Actun Tunichil Muknal (the slate tablet), and the similarity

between the slate stelae at Cahal Uitz Na and those found underground at Actun Tunichil Muknal and Tarantula Cave, are but a few examples of the apparent close relationship between the site and the caves in its immediate periphery. Whether this relationship extends into the Early Classic and the Late Preclassic periods, however, still remains tentative given that no conclusive evidence has been found to suggest that the caves were being utilized during the latter phases of the Formative period.

Finally, the causeway connecting Cahal Uitz Na to Actun Nak Beh, and the close proximity of the site to Actun Tunichil Muknal and Actun Uayazba Kab (approximately 800 m due northwest and 500 m due west respectively of the site core), support Brady's (1997) contention that caves might have influenced if not determined the location of certain important surface sites. Without doubt, future investigations in the Roaring Creek Valley can only serve to enhance our knowledge of the relationship between sacred space and settlement patterns, and on the cosmological importance of caves in ancient Maya society.

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ARCHAEOLOGICAL RECONNAISSANCE IN THE ROARING CREEK VALLEY: CAVES, ROCKSHELTERS, AND SETTLEMENT ARCHITECTURE

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INTRODUCTION

In 1996 the Western Belize Regional Cave Project (WBRCP), under the direction of the senior author, initiated archaeological reconnaissance in the upper Roaring Creek Valley of the Cayo District. The primary goals of the WBRCP investigations in 1996-97 were to locate and explore several subterranean sites containing evidence of Precolumbian Maya activity (see Awe, this volume). Although an emphasis was placed on the discovery of cave sites, all loci encountered with ancient Maya cultural remains were documented. This paper presents the results of these initial reconnaissance. Since archaeological research remains in progress, however, conclusive remarks regarding the function and diachronic development of sites have yet to be ascertained and thus are not presented herein.

The Roaring Creek Valley (Fig. 1) is located in the northern foothills of the Maya Mountains, approximately 25 kilometers south by southeast of Belmopan. It originates near the base of the Hidden Valley or "Thousand Foot" Falls and terminates at the Belize River some 40 km to the northeast. Unlike other riverine valleys, such as that of the Belize River, that of the upper Roaring Creek is relatively narrow and markedly circumscribed by two precipitous north/south ranges that border the valley to the east and west. This clear geographical demarcation provides a unique opportunity for determining prehistoric site distribution, settlement density and regional interaction. These important questions, however, represent long term research goals and since the WBRCP represents the first intensive archaeological investigations in this region, these question will have to await more extensive research in the future.

At present, three types of "sites" have been recorded in the Roaring Creek Valley: caves, rockshelters, and surface settlements. Because caves and rockshelters represent discrete entities, the spatial delineation of such sites was relatively straightforward. In comparison, surface sites, particularly outlying settlements, were more difficult to spatially delineate because of thick forest cover. In view of this situation, groups of larger mounds were considered separately from the myriad of smaller isolated mounds that are distributed over the entire valley. It is possible, however, that the larger patio groups represent suburban sections or peripheral settlements of regional centers such as

Cahal Uitz Na (see Awe and Helmke this volume).

PREVIOUS RESEARCH IN THE AREA

The exploration of geographical areas that have been previously overlooked by archaeologists inevitably leads to the discovery of new sites. The upper Roaring Creek Valley is one such area which has remained largely unexplored by archaeologists until the onset of the Western Belize Regional Cave Project in the early 1990s. Prior to the WBRCP, one of the first archaeological investigations in the area was the 1982 salvage excavation (by the Department of Archaeology) of a plazuela group at Ponces. The latter is a small site located between the Roaring Creek and Teakettle village. A report of the DOA's excavations is contained in unpublished manuscripts, and it is hoped that the data from this and other sites in the valley may someday be compiled into a unified compendium.

In 1977, under the auspices of the DOA, Jaime Awe led an expedition to a large cave south of Ponces. Due to equipment malfunction the exploration of the site was prematurely halted, but Awe named the site Pancho Carranza Cave and recorded his visit in a site report to the DOA. Speleological explorations by Thomas Miller in the latter part of the 1980s, and by a British speleological expedition from Queen Mary College (1988-89) subsequently lead to the discovery of several other important cave sites in the area. Results of these explorations were later published by Miller (1989; 1990), Coons (1986a,b), Marochov and Williams (1989; 1991), and Roberts (1990). Miller (1990) also published a description and map of Pancho Carranza Cave but renamed it Actun Yaxteel Ahau after the alleged Maya name of Roaring Creek. This latter name is employed by the WBRCP for the sake of consistency. Nevertheless, in the future it would be prudent for speleologists to confer with the DOA prior to assigning new names to cave sites. This practice would assure that multiple names for the same sites were not established and would facilitate communication and the exchange of information between speleologists, archaeologists and the DOA.

In the early 1990s reports of looting led the DOA to organize a visit to an unnamed site in the valley. Though the presence of looting was confirmed, no written report of the visit was recorded and the precise location of the site remains largely unknown (Brian Woodeye 1997, pers. comm. to Awe; see also Awe & Helmke this volume). It is possible that the site visited by members of the DOA is Cahal Uitz Na but this has yet to be verified.

Following Miller's 1989 publication on Actun Tunichil Muknal, the senior author relocated and explored this cave in 1993. That same year the site was featured in a short documentary film produced by the National Geographic Explorer series. During Awe's first visit, several unique cultural remains, previously noted by Miller, were documented inside the cave. Of particular interest was a ledge containing two vertically erect slate monuments plus several other artifacts, including the fragmentary remains of an intricately decorated modeled-carved vessel (see Helmke, Colas & Awe, this volume; Awe et al. in press). In anticipation of the official onset of the WBRCP, Awe returned to the Roaring Creek Valley in 1996 to continue reconnaissance of the area. It was during this initial season that Cahal Uitz Na, Actun Uayazba Kab and Tarantula Cave were discovered. The latter, plus several other new sites that were recorded during the 1997 season, are described below.

CAVES AND ROCKSHELTERS

Laberinto de las Tarantulas (Tarantula Cave)

Tarantula Cave was first discovered and explored during the 1996 season. A brief description of the cave was subsequently included in an article by Awe, Griffith and Gibbs (in press) but it should be noted that investigations here are still of a preliminary nature. The cave is located approximately 1 km east of the Roaring Creek, within the eastern range that borders the valley, and 3 km downstream from Actun Tunichil Muknal. The presence of modern footprints and garbage, plus recently broken ceramics, suggest that the cave was extensively looted prior to its exploration in 1996.

In light of the superficial nature of our exploration at Tarantula Cave, only limited information concerning the size, orientation and associated remains at the site can be presented at this time. The entrance is small, measuring approximately 1.2 m high and .9 m wide. The cave is predominantly dry with some pools of water in the deeper recesses of the cavern, suggesting that the lower passages may flood during the rainy season. The first chamber from the entrance is relatively small and the floor is littered with Late Classic ceramic sherds. A small passageway leads to another chamber which appears to be above other unexplored passages. This small upper chamber is somewhat oval in shape and extends approximately 5 m by 7 m. At the center of the latter chamber there is a slab of slate (Fig. 2) which measures 1.06 m long and 36 cm at its widest point. The slate slab sits on a platform bordered by dressed stones and represents a monument similar to the slate "stelae" discovered inside Actun Tunichil Muknal. Like the latter, the Tarantula Cave monument was chipped and shaped and may have originally been held in a vertical position by large rocks that appeared to have been dislodged by looters. Several Spanish Lookout phase (Late-Terminal Classic) potsherds were discovered on the floor of the chamber and considerable flecks of charcoal were found beneath and around the monument. A comprehensive investigation of the cave will be conducted in 1998-99.

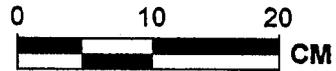
Uyak Na (Dream House) (Fig. 3)

This small rockshelter, which is located on the western range that borders the Roaring Creek Valley, was discovered and explored by Griffith in 1996. The site lies approximately 160 m north-northwest of Actun Uayazba Kab, and approximately 400 m south of the eastern entrance of Actun Tunichil Muknal. It is approximately 10 meters wide and is divided at the center by a stalagmite "column" which is about 1.70 meter long (north-south), 1.40 m wide (east-west), but less than 2 meters high. The "column" reaches towards the ceiling, but does not actually connect to it. The ceiling is relatively low and does not provide room for one to stand upright. The matrix covering the floor of the rockshelter is predominantly alluvial, with some colluvium in the upper strata. Since the eastern section of the shelter is covered with an inflow of humus from the forested exterior it appears that water periodically flows into the shelter from the cliff above.

Within the rockshelter there is a masonry platform with plastered surface and a cut-stone retaining wall. The platform is reminiscent of the "benches" that are frequently found inside corbel-vaulted temples, hence the reason for the site's name. Cultural materials within the shelter



Figure 2:
Laberinto de las Tarantulas
Slate Monument
BVAR Western Belize
Regional Cave Project
1997
Christophe Helmke



Uayak Na Rockshelter

(Dream House)

Roaring Creek Valley, Belize
WBRCP 1998

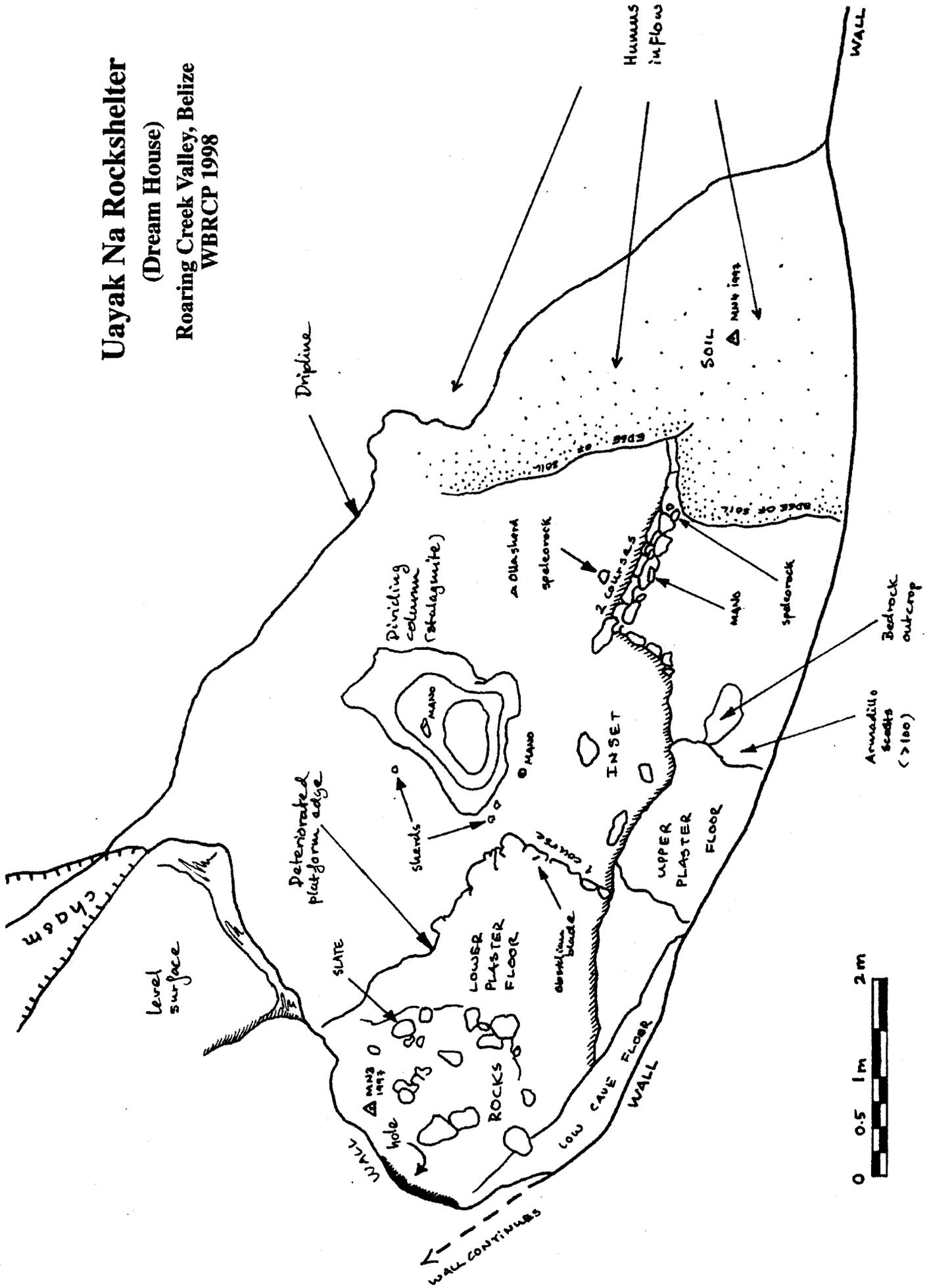


Figure 3: Plan of Uayak Na, Roaring Creek valley.

include: pottery sherds, an obsidian blade, three slate fragments, armadillo scoots, and a *mano* which was originally affixed by calcium carbonate to the central "column". In 1997 the *mano* was found detached from its original location next to the "column". This and other evidence of looting make it uncertain whether any of the artifacts in the shelter are presently in primary context.

A looters pit that partially penetrated the western edge of the platform, and the build up of soil against the southern wall of the rockshelter, confirms that at least some of the artifacts visible on the surface are in a secondary context. One of the slate fragments noted above was discovered within the looters backdirt. The other fragments were located just outside the rockshelter. Due to the discovery of unique slate monuments inside Actun Tunichil Muknal and Tarantula Cave (cf. Awe et al. in press), the Western Belize Regional Cave Project has paid special attention to slate fragments at other sites in order to ascertain whether such remains could represent other similar monuments. The three slate fragments from Uyak Na are less than 8 cm thick and have widths ranging between 20 and 40 centimeters. Given these dimensions, the presence of a slate monument at Uyak Na is unlikely, but it is apparent that these stones were purposely imported to the site.

The Armadillo scoots were found in a corner of the shelter where the plaster surface slumps and forms a small depression. An exact count of them was not possible, but they likely number in the hundreds. In view of the open nature of the rockshelter it is likely that these animal remains were deposited at the site by natural processes, particularly since they were discovered on the surface. Armadillo scoots were also observed during surface collection in the northern entrance of Actun Uayazba Kab, although they were fewer in number.

During the mapping of the shelter two small speleothems were discovered. The first had been used in the construction of the eastern section of the platform, and the second was found lying on the floor immediately in front of the platform. The absence of cave formations in the shelter suggests that both rocks were imported into the site. The inclusion of the one specimen in the architecture may parallel the speleothems found cached in house mounds at Dos Pilas (Brady 1997a: 737; 1997b), or the ones included in sub-stela caches at Copan (Brady 1997a: 736-37; Strömsvik 1942).

The platform in the shelter exhibits at least two phases of construction. Also interesting is the fact that the platform is inset at the point where the central "column" divides the shelter. A surface examination of the inset found that it measures 2.29 m wide (east-west) and between 0.70 m and 1.20 m into the platform (north-south). The northern wall of the eastern section of the platform is comprised of two courses of stones. The western wall of the inset displays only one course of stones. The plaster surface covering the western section of the platform (Floor 3) is noticeably lower than that covering the eastern section (Floor 2). The elevation of the floors match the number of courses which form the retaining walls of the platforms, thus Floor 3 appears to represent the first phase of construction. Floor 2 was re-floored at least once. This terminal construction phase is represented by a section of plaster floor (Floor 1) that covers the second floor behind, or south of, the inset. Although the function of the platform and the rockshelter have not been ascertained, the construction of the former did serve to level and increase the flat floor surface of the shelter.

After completing a plan of the site (Fig. 3) a small crevice, originating at the northwestern corner of the rockshelter, was explored. Many sherds were found wedged into the southern wall of the crevice. The bulk of the assemblage was represented by ceramic types such as Roaring Creek Red, Garbutt Creek Red, Yalbac Smudged-brown and Daylight Orange-Darknight variety (cf. Gifford 1976). These ceramics are typical of Late Classic assemblages in the Belize valley. The limited quantity of artifacts in the rockshelter proper and the discovery of many ceramics in the adjacent crevice below, suggest that the majority of artifacts may have been washed out of the rockshelter. No specialty wares were discovered at Uyak Na, suggesting that it may have been used by residents in the periphery of Cahal Uitz Na.

Chanchan Ototoch (Small House)

This rockshelter is located less than 50 m northeast from Uyak Na along a trail that leads from the latter to the valley below. The shelter is very small. It measures only a few meters wide, but is deeper and the ceiling higher than that of Uyak Na. The entrance faces in a generally eastern direction. The floor of the shelter is composed of sandy alluvium and is littered with broken pottery. Jar or Olla sherds (Cayo Unslipped) appeared to be the predominant form of ceramics at the site. No detailed examination was conducted of the shelter, but fresh breaks on the pottery suggested that some looting had occurred in the recent past.

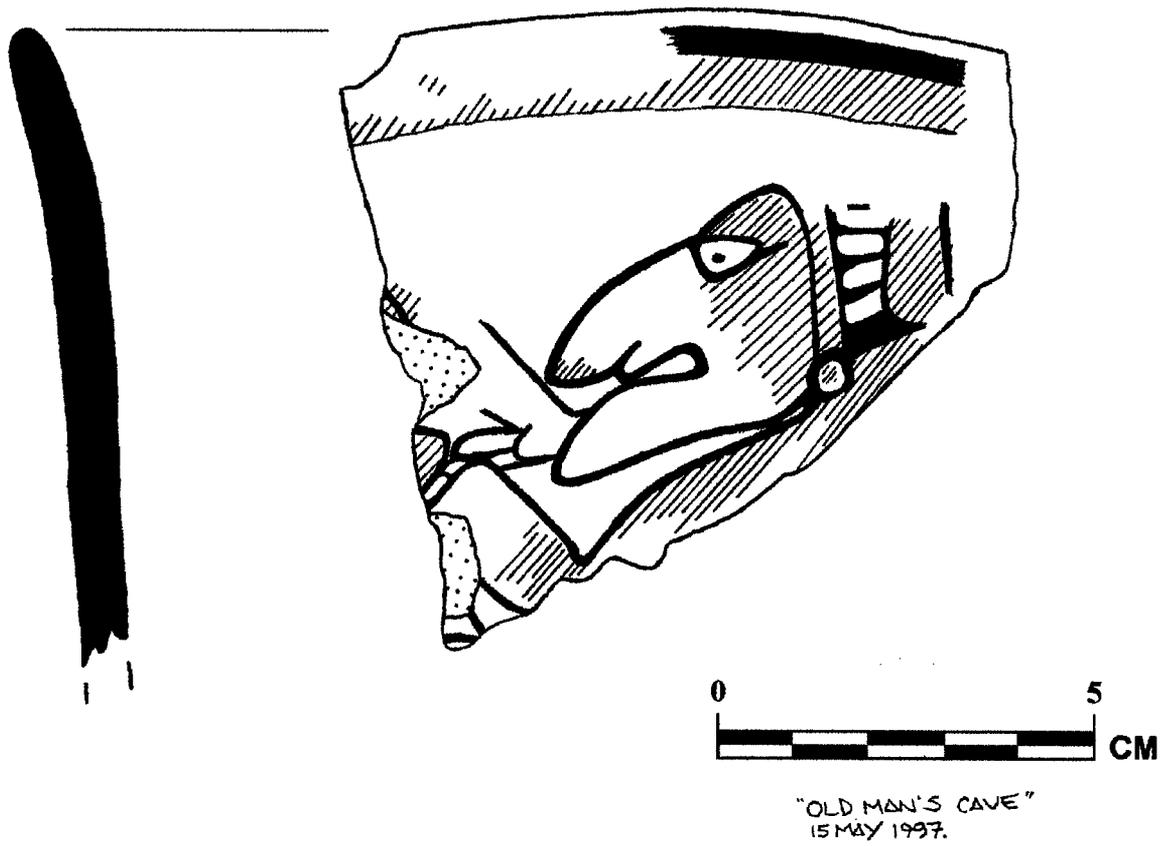
Actun Nohoch Uinik (Old Man's Cave)

Actun Nohoch Uinik was first recorded by Griffith in 1996 and a more thorough exploration of the site was conducted in 1997. The cave is located approximately 200 to 300 meters southwest of the eastern entrance to Actun Tunichil Muknal. The cave is at approximately 200 m above sea level and the crest of the hills defining the eastern edge of the valley can be seen through the trees from the mouth of the cave (see Fig. 1). The entrance is approximately 4 to 5 meters high and 6 to 8 meters wide. The cave itself is relatively small, measuring less than 50 m deep. Inside, large breakdown forms three tunnels. The tunnels run more or less east-west and were designated Tunnels 1 through 3 (from north to south). A few meters in front of the entrance the forest floor slopes down sharply. The hill on which the cave is located is also riddled with small rockshelters. Many of the shelters were explored but the majority yielded little or no signs of cultural materials.

Numerous pottery sherds, a restorable tripod dish with punctations and incising, and a polychrome sherd were noted in the cave. On the polychrome sherd was depicted the profile of a male with a pronounced nose, toothless and sunken gums and a headdress (Fig. 4). These characteristics suggest that the individual portrayed on the sherd represents an old man, hence the name of the site. It is possible that the figure on the sherd depicts one of the old gods, possibly God N or *Pawantunob* since none of the features reflect those associated with *Itzamna*. Pottery was also found in many locations of the cave, including the entrance, and wedged in various fissures and in breakdown. No indication of burials or human remains were discovered. The only osteological material noted was a medium-sized mammal pelvis.

While no looters pits were recorded, the artifacts in the entrance seem to have been disturbed. Most of the sherds within the cave lie embedded in alluvium, which seems to indicate that all (or the

**Figure 4: Polychrome ceramic sherd
surface find, Actun Nohoch Uinic
Roaring Creek valley, Cayo, Belize.**



majority) of sherds may be in secondary context. The fact that the polychrome sherd (mentioned above) was found embedded high up and wedged underneath a rock (approximately 5 m above the floor of the cave), might further indicate that many vessels were smashed intentionally atop the dividing column. This could explain the high concentration of sherds below in Tunnels 1 and 2. That the majority of sherds are found in the rear of the cave, in fragmentary condition and embedded in alluvium, further suggest that the secondary context of the artifacts may be the result of hydraulic forces that are/were active in the cave during the rainy season. If the cave is mapped during future explorations, then plans and maps will have to resort to extensive profiling / cross-sectioning to make sense of the complex ground plan and geomorphology of the rockshelter.

Actun Yaxteel Ahau (a.k.a Pancho Carranza Cave)

Preliminary reconnaissance of this cave was conducted at the onset of the 1997 season in order to ascertain the logistics involved with formal archaeological investigations the following year. Previous investigations at the cave included Awe's initial exploration in 1977 and Miller's geomorphological study in the 1980s. Following his research, Miller (1989) produced a map of the main passage of the cave (Fig. 5) and his assistant David Coons submitted a brief archaeological report to the Belize Department of Archaeology. A member of the Queen Mary College speleological team, Charlotte Roberts (1990), subsequently conducted a preliminary survey of the archaeological material and human remains at the site.

Actun Yaxteel Ahau is located on a small tributary of the Roaring Creek, 1.3 km downstream from Actun Tunichil Muknal. The cave is approximately one kilometer in length and has a beautiful entrance formed by large breakdown and river passage. At the entrance, sections of the high ceiling have collapsed, intermittently exposing the first few hundred meters into the cave to daylight.

Three primary areas of ancient Maya cultural activity were identified by the speleologists who had previously explored the cave. These included three ledges of difficult access which were designated as Ledge 1 through 3. A fourth ledge was found to be devoid of artifacts. Ledge 1 lies closest to the entrance, Ledge 3 lies close to the sump where the main cave passage terminates. Only Ledge 2, which lies approximately half way between the sump and the cave entrance, was investigated by members of the WBRCP in 1997. Archaeological material present on Ledge 2 includes pottery sherds, metate fragments, shell, human remains, and a tubular jade bead that may be carved. Most cultural remains were found on the surface, although some were covered with drip formations.

The discovery of freshly broken pottery and a decaying pack of cigarettes on Ledge 2 suggests that other individuals may have visited the site sometime between Miller and Coon's visit in the 1980s and our 1997 reconnaissance. It is also possible that previously documented artifacts have since been looted (i.e. a jade pendant reported by Roberts (1990) was not relocated in 1997). Considerable human remains were also present on the surface of Ledge 2, but the disarticulated nature of the remains and fresh breaks on some fragments indicate either displacement by natural causes or the result of looting activity. Roberts (1990) previously suggested that Ledge 2 contained between 7 and 20 individuals. The preliminary nature of our 1997 exploration, however, did not allow time to determine the MNI present on the ledge.

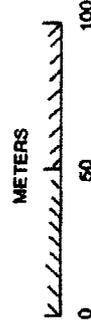
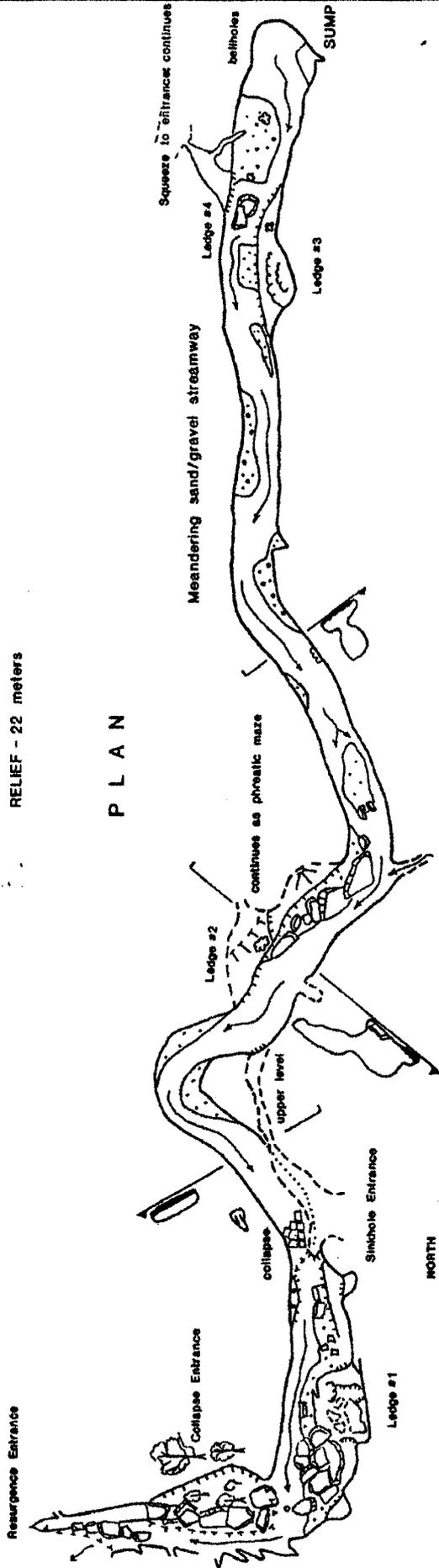
YAXTEEL AHAU

CAVO DISTRICT BELIZE CENTRAL AMERICA

COPYRIGHT TOM MILLER 1989

SURVEYED LENGTH - 1011 meters
RELIEF - 22 meters

PLAN



PROFILE (View - from 197.5°)



SURVEYED SURFACES (FORWARDS ONLY) PHOTOGRAPHIC TAPE

January 18, 1988 D. Coons, S. Engler, T. Miller, M. Saut

This survey was reduced to N. T. 1 coordinates and initially plotted using Don Doreck's MAPS data survey program

DRAWN TOM MILLER, 1989

DON COONS, 1988 Plan draft

Figure 5: Map of Yaxteel Ahau, indicating the ledges upon which cultural remains have been discovered.

On the northern side of Ledge 2 there is a passage which penetrates the northern wall of the cave. The opening to this passage was indicated on Miller's map as a "phreatic maze", but seems not to have been thoroughly investigated. In 1997 we explored the passage and found that it was actually extensive and that it contained archaeological material. In 1998 we plan to commence intensive investigations at Yaxteel Ahau and to explore and map several other ledges deeper inside the cave.

Twin Caves (Twin Cave 1 & Twin Cave 2)

The Twin Caves were first discovered and explored by the WBRCP during the 1997 field season. The caves are approximately 30 m apart and their entrances face each other, hence their names. Twin Cave 1 lies to the east and has an entrance facing approximately south-southwest (255°), while Twin Cave 2 is to the west and its entrance faces to the northeast (75°). The caves are located approximately 0.5 kilometers west-northwest of the eastern entrance of Actun Tunichil Muknal. They lie almost at the summit of the escarpment in which both Actun Uayazba Kab and Actun Tunichil Muknal are located.

Along the overgrown trail that leads to the caves an abandoned camp was discovered. The presence of sherds around the camp indicates that its previous users may have been involved with the looting of local sites. Evidence of burning in the surrounding area further suggests that the individuals may have also planted a *milpa* in the area. A few meters from the camp there is a small spring that is mostly clogged by humus and other organic material. The source of the spring was lined by a low stone wall five courses high. It is possible that this wall is prehistoric in date but since no house mounds were noted in the immediate vicinity of the caves, or between Tunichil Muknal and the Twin Caves, we cannot presently confirm the antiquity of this architectural feature.

Twin Cave 1 (Fig. 6):

The entrance to this cave is 14 meters wide and 5 meters high and it has a convex-shaped ceiling. The ceiling continues almost at the same level throughout the cave, however, the floor inclines on average at a 20° angle. This slope is composed primarily of medium-sized breakdown that is partially covered with soil. The floor in the rear of the cave is flat and filled with hard-packed soil which appears to have been compacted by alluvial action. The karst floor is at least 50 centimeters below the soil. Archaeological material on the surface of the cave includes about half a dozen pieces of charcoal (in small fragments), pottery and a few other objects.

The dominating feature inside the cave is a large stalagmite. Water flow and drip action has evidently displaced some of the soil from around the base of the column. Within the depressions formed by the drip water around the column, there are several potsherds. It is possible that more pottery may be concealed in the soil beyond the column. We also found two animal mandibles on the surface and the remains of a medium-sized mammal along the northern wall of the entrance. One of the mandibles may be that of a deer. While no footprints or pits were detected, some artifacts appear to have been recently moved and some sherds exhibit fresh breaks. No monuments or speleothems were present, but there were many broken stalagmites which may or may not represent

Twin Cave 1
Roaring Creek Valley,
Cayo District, Belize.
 Christophe Helmke
 BVAR WBRCP 1997

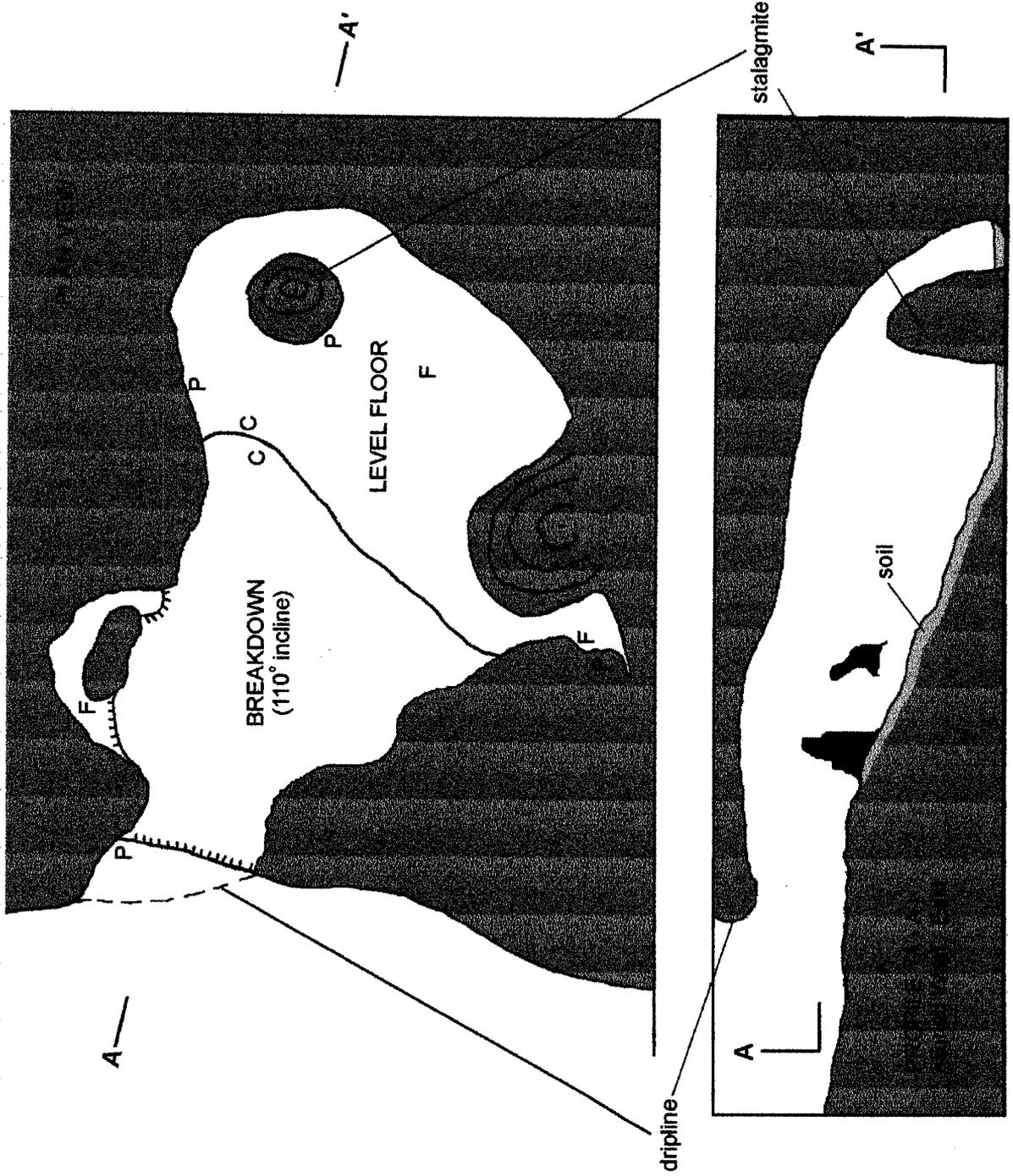


Figure 6: Map of Twin Cave 1.

manuports.

Twin Cave 2 (Fig. 7):

The entrance to Cave 2 is 3.0 to 3.5 m high and 15 m wide. The cave is dry, sloping steeply downwards from the entrance until it levels off inside. Most of the cave is penumbral, owing to the elevated position of the entrance and the short depth of the main passage. Dripstone formations and stalactites cover the ceiling. The floor is comprised of hard packed dirt and mud. Archaeological material was found throughout the cave, particularly on the floor, at the entrance, and on several small ledges. Some of the sherds in the entrance were lying above leaf litter rather than under it, indicating that some pottery had been brought out of the cave in recent times. The ceramics include various pottery forms: large wide-mouth ollas, basal flange dishes with ring bases, and bowls. A large rim sherd of a wide-mouth olla was discovered in the entrance. The diameter of the mouth matched the impression left in the mud by an olla rim (which is missing) deep in the back of the cave. In this same area, at the rear of the cave, there is a vertical drop of about 5 meters. Access to this area requires a ladder or climbing equipment, thus it is possible that looters have not penetrated into this section of the cave. Further investigation of the cave will be conducted in future seasons.

Zac Niix Tun (White Cliff)

On July 17th 1997 the cliffs extending south of Actun Uayazba Kab were briefly explored and two additional rockshelters (*Zac Niix Tun* and *Zaatal Haa Nal*) were discovered. *Zac Niix Tun* was located less than 200 m south of Actun Uayazba Kab. Along the base of the cliff we found a concentration of artifacts consisting primarily of pot sherds. The cliff overarches a few meters and is nearly 20 m high. The artifacts cover an area of approximately 1 m by 1m and lie upon a layer of alluvium. A small probe, dug into the floor beneath the pottery, yielded more ceramics and artifacts. No evidence of looting was noted and further investigation may be conducted at this artifact scatter in the future.

Saatal Haa Nal (Place of Disappearing Water)

The second rockshelter was found a few hundred meters further south of *Zac Niix Tun*. The shelter is formed by a large boulder suspended by two large sections of bedrock that emerge from the forest floor. The rockshelter has two 'entrances', one to the south and the other to the north. The floor is composed of alluvial deposits, and it is obvious that water rushes through the shelter during the rainy season. This hydraulic activity appears to have washed many of the artifacts at the site into a narrow crevice at the back of the shelter. On a ledge, accessible from the southern entrance, there were fragments of a nearly complete orange slipped bowl. Adjacent to the bowl were basal flange sherds decorated with horizontal lines (possibly Dos Arroyos Orange polychrome or Yaloche polychrome).

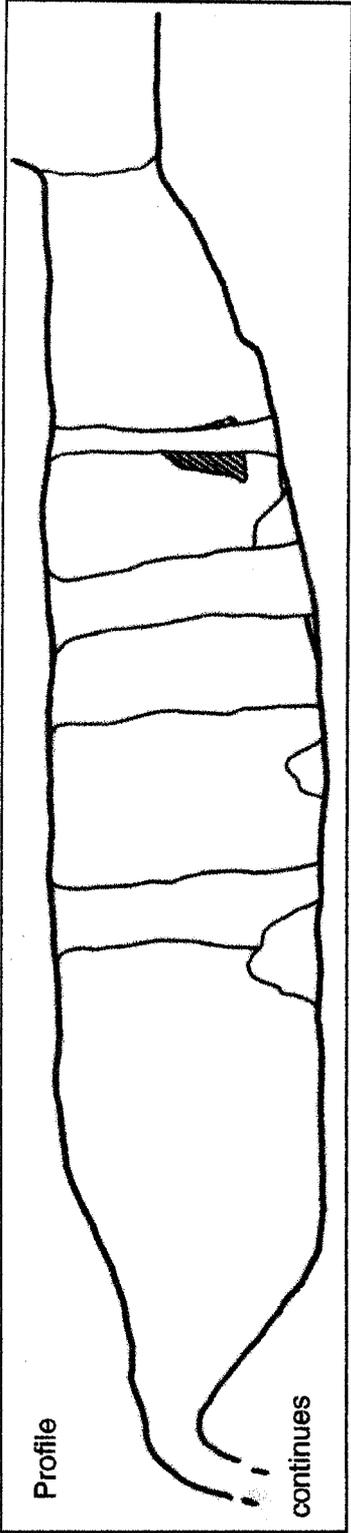
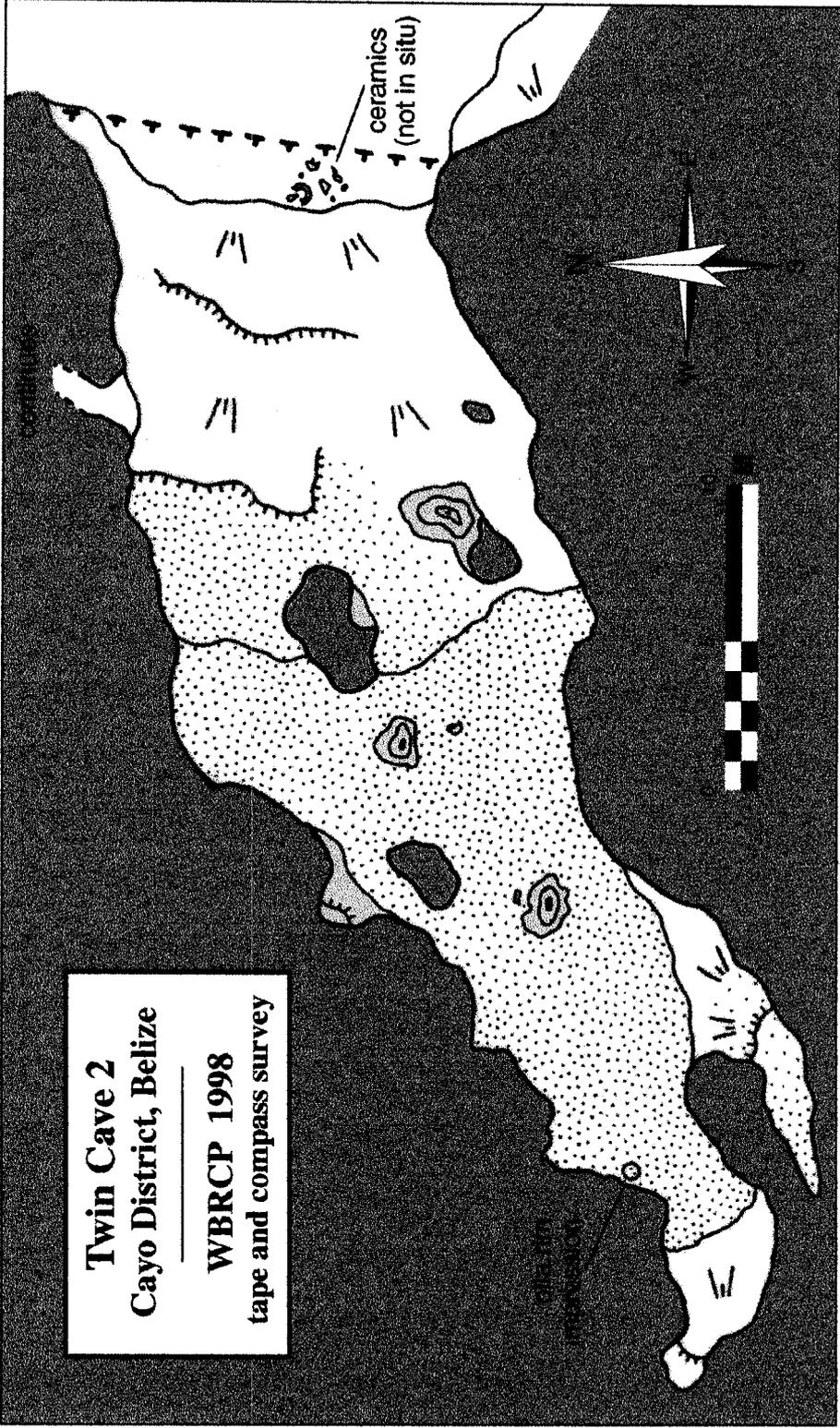


Figure 7: Map of Twin Cave 2.

SETTLEMENT ARCHITECTURE

Housemounds near entrances to Tunichil Muknal and Uayazba Kab

Between the Roaring Creek and the entrances to Actun Tunichil Muknal and Actun Uayazba Kab are several isolated house mounds and patio groups (plazuelas). The first plazuela was located between the trail leading to Actun Uayazba Kab and the Roaring Creek and is comprised of three mounds. The mounds are very low (i.e. less than 50 cm high and approximately 6 to 7 m long), and are aligned, more or less, along a small bluff overlooking a dry creek bed. Looters had apparently mistook one section of the bank for a mound and trenched it. The looters backdirt was composed entirely of alluvium and small, fist-size cobbles. No artifacts were seen in the backdirt.

A second mound group was discovered between the river and the trail leading to Actun Uayazba Kab and north of the trail that leads up to Uayak Na. This second group is comprised of two mounds that are arranged in an L-shape. Both mounds are larger than those of the previous group and rise just over a meter in height. No evidence of looting was detected on the two mounds.

The southern bank of the Tunichil Muknal creek, where the WBRCP camp is located, also contains prehistoric Maya settlements. Four mounds were recorded in this area. The first (Mound 1) consists of a low platform with a roughly-cut stone wall one course in height. The second mound (Mound 2) is approximately 10 m from the entrance to Tunichil Muknal. The mound sits on a natural, elevated outcrop of bedrock, it has a north/south orientation, and is approximately 1.5 m high. A large slab of limestone which measures 1.2 m by 1.2 m and is approximately 40 cm thick leans against the southwestern corner of the mound. Mound 3 is located about 4 meters east of Mound 2 and, like the latter, overlooks the creek that exits from the entrance of Tunichil Muknal. The mound measures about 3 m by 4 m and is about 30 cm in height. A large fragment of granite (that resembles a preform for a metate) was found atop the small mound and a mano fragment was discovered about two meters to the west. The fourth mound (Mound 4) is approximately 6 m to the northeast of Mound 3. Along the eastern side of the mound we discovered the other fragment of the metate preform found on Mound 3.

Architecturally the four mounds near Tunichil Muknal resemble those traditionally labelled as residential platforms. Despite this similarity the location of Mounds 2 and 3, adjacent to the entrance of Actun Tunichil Muknal, could be associated with other functions (i.e. ritual). Whether these mounds served residential or ritual purposes, however, will only be ascertained following intensive excavations in the future.

Yaxhal Tun plazuela (Clear-Water Stone)

This patio-focused group (Fig. 8) is comprised of seven mounds which lie approximately 150 m southeast of Actun Uayazba Kab. The easternmost mound of the plazuela had been trenched by looters who practically leveled the entire upper section of the structure. An inspection of the trench revealed that the mound was constructed of large, dry-laid, boulders faced with roughly-cut stones. This type of construction differs from that employed at Belize Valley sites, particularly at Baking Pot where the architecture is constructed of alluvial fill faced with dressed limestone blocks. In

Chaak Mool Ha
Roaring Creek Valley,
Cayo District, Belize

Pace and Compass map
Christophe Helmke
BVAR Western Belize
Regional Cave Project
1997

0 10 m



Looters pits

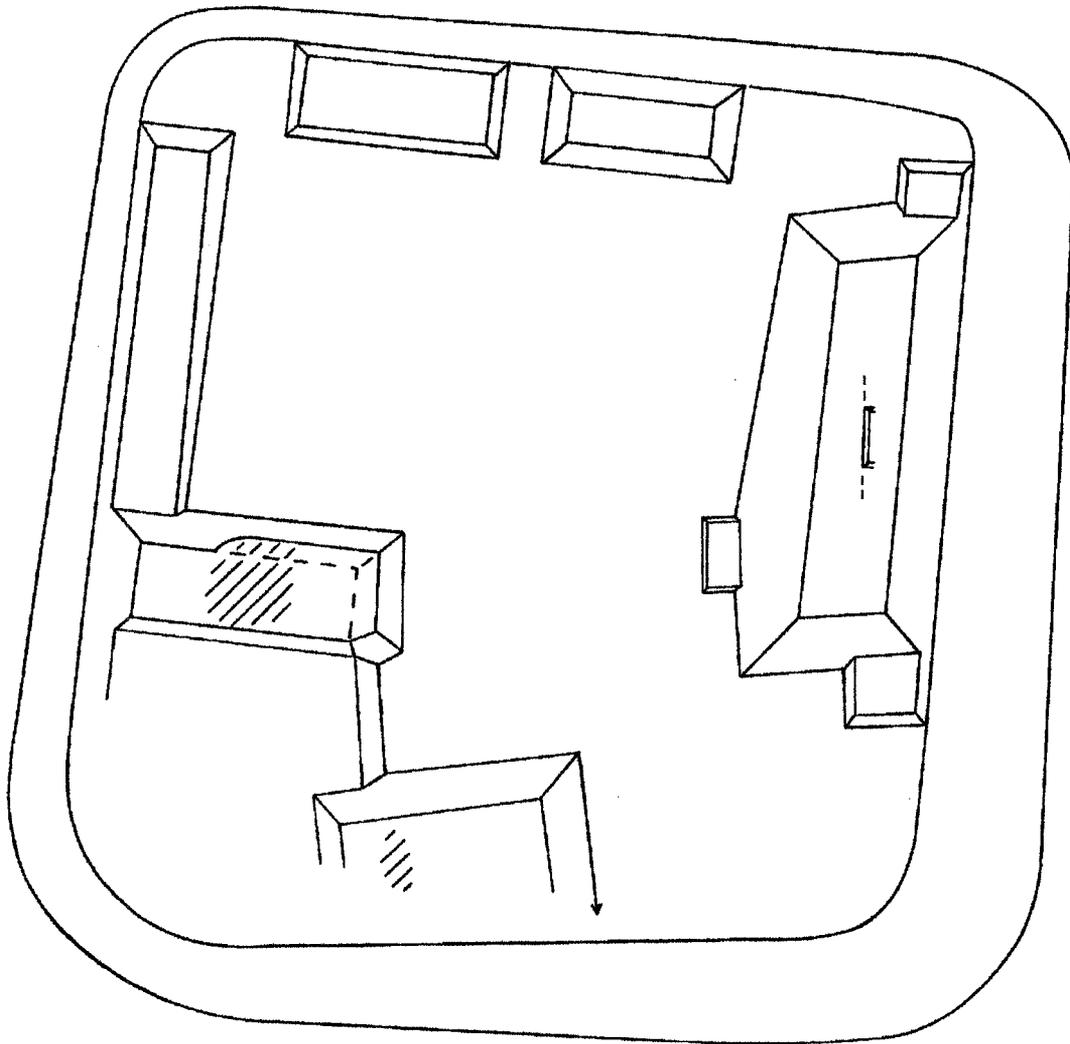


Figure 9: Plan of the Chaak Mool Ha plazuela.

contrast to the Belize Valley proper, the architecture in the Roaring Creek Valley (at Cahal Uitz Na and its periphery) is more similar to that of Pacbitun.

Cunul Otot (Conjuring House)

Less than 80 m southwest of Yaxhal Tun and north of Saatal Haa Nal, is a large platform with a small mound at its summit. The platform measures about 2.5 m high and 12 m long, and abuts a rock outcrop next to a cliff. The mound above the platform is more than a meter in height. The summit of the mound is accessed by an outset staircase which is on the eastern side of the platform. This structure is also constructed of large river cobbles like the structures at Yaxhal Tun.

Bridge Mounds

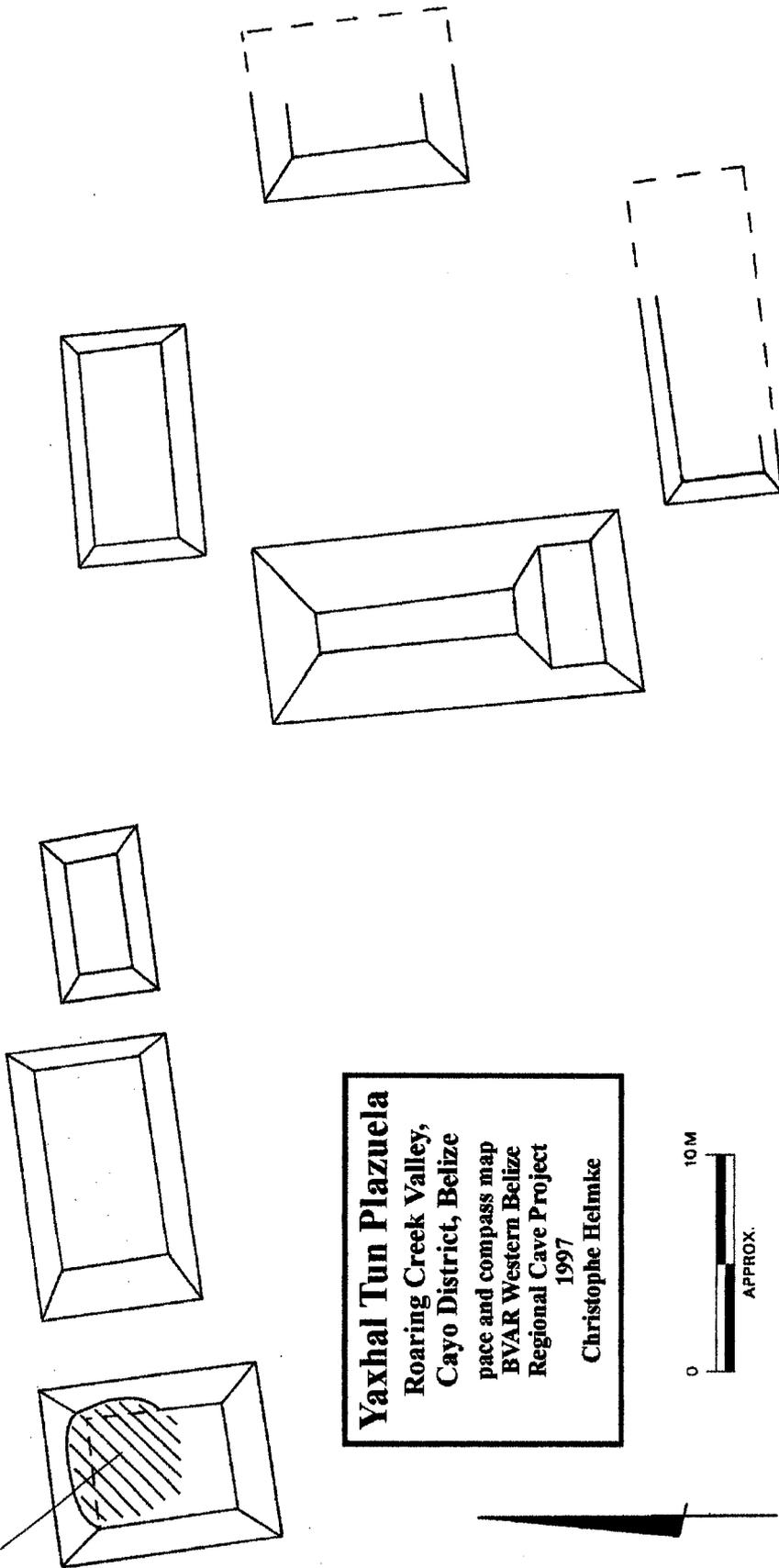
North of the concrete bridge that crosses the Roaring Creek (on the road from Teakettle to Roaring River Estates) are a series of hills overlooking the river valley. Reconnaissance of this area in 1997 discovered almost a dozen mounds. At the summit of the highest hill is a group of mounds that define a plaza-like space. At the base of one of the structures in the plaza there is a large, dressed, limestone block which resembles a small plain stela. Since the stone was not found vertically erect, however, its function as a monument should be considered questionable. The other mounds in the periphery of the plaza are relatively small and very likely represent residential platforms.

Chaac Mool Ha plazuela (Roaring River)

Chaac Mool Ha is a large plazuela or minor center that is located approximately 4 km north of the eastern entrance to Actun Tunichil Muknal, along the dirt road that leads to Teakettle. The group consists of 7 mounds that were built on a raised platform (Fig. 9). During our 1996 reconnaissance, a pace and compass map of the plazuela was made. Looters trenches were noted on two mounds and an examination of these indicated that the mounds are constructed of large river cobbles (like at Yaxhal Tun) and smaller limestone blocks.

The eastern mound is the largest structure in the plaza. Although it was never vaulted, it appears that there may have been a low bench at the summit of the structure. Preserved architecture on its western face also suggests that the terminal construction phase of this building had a central stairway flanked by two or more terraces. At the southwestern end of the main plaza there is an elevated platform with two mounds (on the north and east). Access to this elevated platform may have been gained via its eastern side. It is possible that the mounds on this platform may have primarily served residential purposes while the other structures in the plaza had residential and ritual (shrine) functions. Thus far Chaac Mool Ha is the plazuela group with the largest architecture in the valley. The large size of the plaza, as well as its impressive architecture, suggests that it is a "minor center") or Type 3 mound group using the Copan system of mound designation (see Freter 1994; Willey & Leventhal 1979). It is also likely that the site may have been a satellite of the larger regional center of Cahal Uitz Na.

looted mound



Yaxhal Tun Plazuela
Roaring Creek Valley,
Cayo District, Belize
pace and compass map
BVAR Western Belize
Regional Cave Project
1997
Christophe Helmke

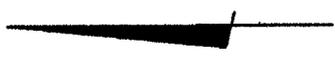


Figure 8

Pook's Hill plazuela

The Pook's Hill resort, owned and managed by Ray and Vicki Snaddon, is constructed around a plazuela group. The eastern structure or "ancestor shrine" of the patio group was reportedly looted prior to the acquisition of the land by the present owners. In comparison with the other settlements described in this report, the Pook's Hill plazuela is slightly smaller than Chaac Mool Ha, and would rank as a Type 2 unit in the mound mound designation system applied in the Copan valley (see Freter 1994; Willey & Leventhal 1979). During our visit to the site, the owners of Pook's Hill informed us that there were at least four more plazuelas on their 300 acre estate (Ray Snaddon pers. comm. 1997 to Helmke). They also showed us a collection of pottery sherds that they had collected during the clearing of the mounds. Three Roaring Creek Red dish rim sherds, 2 unidentified but diagnostic ring bases, 5 olla rim sherds of which 2 are Cayo unslipped, and 6 bowl rim sherds constitute this small assemblage. One of these bowl sherds has an inverted T-shaped design which has been carved out. A very similar design was found on a sherd from the Upper Entrance Chamber of Actun Tunichil Muknal, but in this case the outline of the design was incised. The majority of this pottery can be placed in the Spanish Lookout Ceramic complex, and dates the last construction phase of this structure to the Late Classic period.

SUMMARY REMARKS

It was noted above that archaeological investigations in *terra incognita* often leads to the discovery of previously unreported prehistoric sites. Our seminal investigations in the Roaring Creek Valley certainly confirms this. The karstic hills that border the valley have been found to contain numerous caves and rockshelters, and the agriculturally rich alluvial valley contains numerous mounds which suggests that it was densely settled by the ancient Maya. Since 1996, the exploration, detailed mapping and the excavation of some these sites has begun to produce new and interesting archaeological information, particularly concerning the relationship between the subterranean and surfaces sites in the region.

Despite great physical variability, for example, most rockshelters, especially those adjacent to settlements, contain evidence of prehistoric Maya activity. In most cases, evidence for ancient Maya use of the rockshelters is indicated by the presence of varying quantities of broken ceramics. Thompson (1975:xxxix-xl) previously suggested that some of these sites may have been used as garbage dumps. The difficult access of some of these shelters, however, may indicate other functions. One possibility is that, like caves, rockshelters (whatever their size) may have also represented sacred places to the Maya and thus were used for ritual purposes. Pottery discovered at these sites may therefore be fragments of vessels that initially contained perishable offerings.

In 1996 we were aware of three major cave sites in the upper Roaring Creek Valley: Actun Tunichil Muknal, Actun Yaxteel Ahau and Actun Box Ch'ich'. Following the inception of the WBRCP, several new caves have been added to the roster of subterranean sites in the region. Among the new caves are Actun Uayazba Kab, Tarantula Cave, Actun Nohoch Uinik, and the Twin Caves. Given the karstic nature of the environment we are confident that future exploration will lead to the discovery of other caverns. The challenge, of course, will be to determine whether all these sites served similar purposes, whether some were reserved for elite usage while others were

accessible to people of lower status, and whether there were temporal differences in the use of all the sites.

Surface settlements in the Roaring Creek Valley are predominantly located in the arable alluvial bottom lands. This is true of the regional center Cahal Uitz Na, minor centers such as Chaac Mool Ha, and a large number of house mounds. Settlements are also found on level terraces at the summits of hills, particularly to the north of Yaxteel Ahau and in the vicinity of Pook's Hill and Ponces. In the southern reaches of the valley the hills become higher and steeper, and may have been considered inadequate for residence or cultivation by the ancient Maya. This area, nonetheless, contains sources of slate and granite and may have been exploited for these and other resources. The discovery of a few mounds adjacent to the entrances of Tunichil Muknal and Uayazba Kab also raises the question of how these structures may have functioned. Did they serve residential purposes or were they associated with ritual activities?

Like most river valleys in Belize, that of the Roaring Creek contains many prehistoric sites with rich and interesting archaeological data. Looting in the area, however, has been rampant in the past and continues to be a problem in the present. It is imperative that the sites in this valley be recorded and investigated in the near future. Failure to do so will result in the loss of valuable archaeological information in yet another unique sub-region of the Maya lowlands.

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