

## **THE DAWN AND THE DUSK: BEGINNING AND ENDING A LONG-TERM RESEARCH PROGRAM AT THE PRECLASSIC MAYA SITE OF CUELLO, BELIZE**

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### **ABSTRACT**

The early Maya village site of Cuello, Belize, was investigated between 1975 and 2002. When investigations began, the Maya Preclassic was not well known, was poorly documented by radiocarbon dates, and did not extend back beyond 900 B.C. Initial dates from Cuello suggested a very early occupation, subsequently disproved and revised to begin ca. 1200 B.C. The site remains the oldest known lowland Maya village site, however, and also the most extensively-excavated early Middle Preclassic settlement. Buildings, including numerous houses, emergent public architecture, the earliest known Mesoamerican sweatbath (Maya *pib na*); almost 200 burials, with evidence of social ranking and long-distance exchange; and evidence of diet and environmental exploitation all help to document the initial phases of a tropical forest farming culture which developed into one of the major Pre-Columbian civilizations.

**Key words:** Maya archaeology, Preclassic chronology, diet, burial practices, sweatbath.

In March 2002, the excavations at Cuello, an early Maya village site in northern Belize that had been investigated since 1975, came to an end. Over eleven field seasons, totalling more than 80 weeks, the complex and finely-layered stratigraphy of a low, grassy knoll had been dissected, documenting the evolution of ancient Maya society from 1200 B.C. through to the thirteenth century A.D., a period of two and a half millennia.

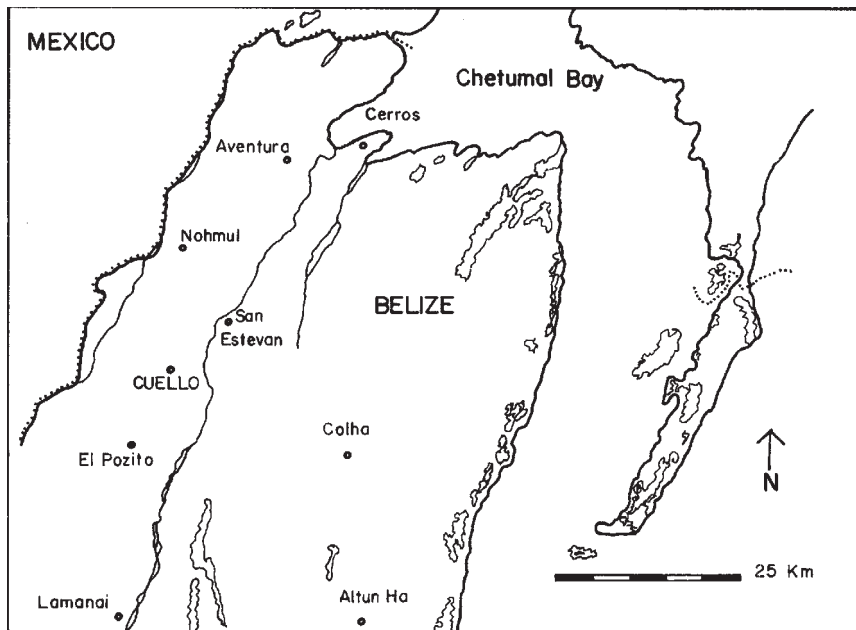
Cuello was discovered in 1973 by analyzing aerial photography as part of a British Museum survey of the whole of northern Belize, an archaeologically little-explored area of some 2500 Km<sup>2</sup> in which only a few sites were previously known and fewer excavated (Fig. 1); of these, only Bullard's (1962) work at San Estevan approximated modern standards of investigation. The group of mounds behind the Cuello Brothers' rum distillery 5 km west of Orange Walk Town had never been reported, although they were plainly visible from the air. Ground reconnaissance in 1974 found that one of the mounds (designated Structure 39 on the 1975 map) had been sliced in half by a bulldozer by the

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Public Works Department of Belize to obtain road-building material, and abundant pottery littered the ground in front of the remains. This included Late Preclassic Chicanel Sphere material (400 B.C. - A.D. 250) but also unfamiliar types, either imports from elsewhere or perhaps of much earlier date, since they did not resemble Mamom or Xe Sphere (900-400



*Figure 1. Map of northern Belize, showing the locations of Cuello and other important Preclassic sites.*

B.C.) pottery known from other sites in Belize and Guatemala (Hammond 1991: Chapters 1, 2).

In the early 1970s, the Preclassic period in the Maya Lowlands of Yucatan, Belize and northern Guatemala was little known: at most sites Preclassic levels lay buried beneath massive Classic period construction. The British Museum's Corozal Project was not only the first systematic regional survey to be carried out in the Maya area, it was also explicitly oriented towards the discovery and investigation of Preclassic settlement, in an effort to understand the genesis of Classic Maya civilization. Now, in the early 21st century, when massive Preclassic centers such as El Mirador, Nakbe, and Wakna have been well studied, and when the substantial Preclassic presence at major Classic sites like Tikal and Calakmul has long been acknowledged, it is difficult to remember that only thirty-five years ago even the Late Preclassic was thought of as a period of peasant villages that were suddenly replaced by large Classic centers around the third century A.D.

The site of Cuello was clearly worth further investigation, so in the 1975 Corozal



*Figure 2. The Main Trench as excavated in 1976-1980, from the south. The North Square in the distance was completed in 1987-93, and the 2000-2002 excavations were in the area to the east of it.*

Project field season Michael Walton mapped the mounds, covering almost 1 km<sup>2</sup>, and Duncan Pring excavated two test pits. One pit was in the remains of the bulldozed mound, Platform 39, and the other was in the nearest undisturbed platform some 80 metres away, Platform 34. This platform had a small pyramid on its western end, and the pit was placed so that it clipped the base of the pyramid's eastern stairway, to determine its chronological relationship to the platform. The excavation (in the southwest quadrant of the larger Central Square excavated in 1976-1980: see Figs. 2, 3) penetrated four meters of fine and well-defined stratigraphy, with thin plaster floors sealing layers of occupation trash, and encountered several burials accompanied by pottery vessels, some in previously unknown styles.

Charcoal samples were submitted to the Cambridge University Radiocarbon Dating Laboratory: the first date out of the system, for a sample from halfway down the sequence, gave an uncalibrated age of 1020±160 b.c. - the first pre-1000 b.c. date from the Maya Area. In calendar years this was 1420-943 Cal. B.C. Several other dates were comparably old, and dates from UCLA's radiocarbon laboratory (run to give interlaboratory comparability) indicated that the base of the sequence was dated to around 2000 b.c., or

2500 Cal. B.C. in calendar years (Hammond *et al.* 1976). The 1976 season yielded another set of early dates, from both laboratories, giving sixteen dates in reasonable stratigraphic order suggesting that village occupation in the Maya Lowlands had begun in the second half of the third millennium B.C. At this time there were only seven other radiocarbon dates for the entire Preclassic across the entire Maya Lowlands (2 from Tikal, 2 from Altar de Sacrificios, 1 from Seibal, 1 from Komchen and one from a pollen core in the Petén), and the cultural correlates of some of these were compatible with the later part of the Cuello sequence. Three even earlier dates were thought likely to be the result of redeposited charcoal from either pre-village occupation or from natural fires, mixed into later layers (Hammond 1977a, b; Hammond *et al.* 1976; 1977; 1979).

The National Geographic Society funded three successive seasons in 1978-80, during which substantial remains of the earliest village occupation at Cuello were uncovered in the 30 by 10 meter Main Trench excavation (Figs. 2, 3), together with even larger amounts of material from the overlying later Middle Preclassic and Late Preclassic deposits (Hammond 1991). A ceramic sequence beginning with the Swasey Complex, followed by the Bladen Xe (with links to the Xe Sphere of the Pasión Basin, at Seibal and Altar de Sacrificios), the Lopez Mamom, and the Cocos Chicanel spanned this long Preclassic period, with a succeeding Nuevo Tzakol in the Early Classic of A.D. 300-600 and Santana Tepeu in the Late Classic (A.D. 600-900) (Fig. 4). Cuello was only a small settlement after the end of the Preclassic, when other centers in the region such as Nohmul and Lamanai became substantial cities. The Swasey phase was initially assigned to 2000-1000 b.c. (radiocarbon years), 2500-1300 B.C. (calendar years), prior to its division into Swasey and Bladen: a resemblance to the later Middle Preclassic tradition of the Maya

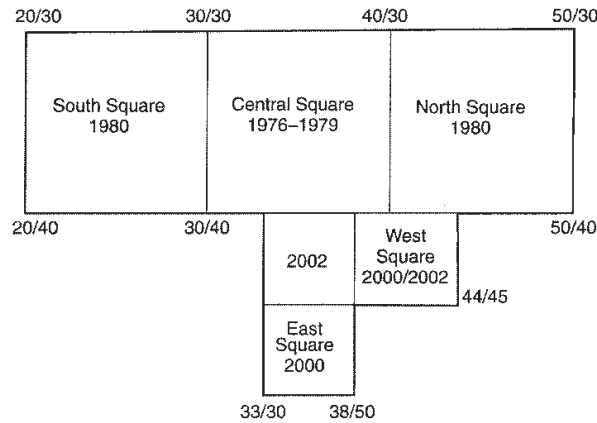


Figure 3. Plan of the Main Trench and subsequent excavations.

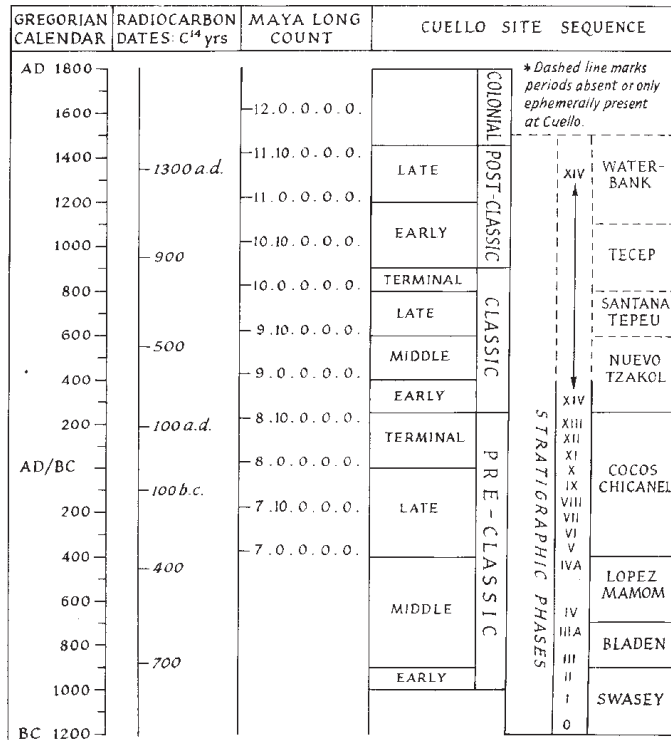


Figure 4. The chronology of Cuello, after revision (1991).

Lowlands rather than the apparently coeval Early Formative of the Gulf Coast, Pacific Coast, and Central Highlands of Mexico was noted from the beginning, and an indigenous Lowland Maya ceramic tradition of unknown initial stimulus was proposed.

Early pottery similar to that at Cuello had also been found at other sites surveyed during the British Museum's Corozal Project, at Nohmul, San Estevan, Santa Rita, and notably at Colha some 35 km to the southeast, where the extensive Classic and Late Preclassic chert-tool workshops overlay a Middle Preclassic village (Shafer and Hester 1983). In the 1980s Colha yielded radiocarbon dates for a Middle Preclassic Bladen Xe occupation: these were much later than those from Cuello, beginning around 900 B.C., and other sites were producing similar results. It was decided to date additional charcoal samples from the 1979-80 Cuello seasons, now using a third radiocarbon laboratory at La Jolla (Linick 1984).

These new dates were late, in some cases even later than the established late Middle/Late Preclassic chronology generally accepted, but also out of stratigraphic order: nevertheless, we had now challenged our own early chronology (as well as our colleagues

doing so), and sought some way of resolving the problem (Andrews and Hammond 1990). We decided to resume excavations at Cuello in 1987, both to obtain more charcoal samples (which could also be used for palaeobotanical identifications and environmental reconstruction: see Hammond and Miksicek 1981, Miksicek 1991), and to obtain human bone samples from burials which could be used for AMS radiocarbon dating: in that way, the people of Cuello themselves rather than the debris of their daily lives could be dated. Fresh burial samples were required because all the burials excavated in earlier seasons had been subjected to onsite conservation and consolidation using organic preservatives: the AMS method would date the organic (collagen) portion of the bones, and this deranging factor needed to be excluded.

The AMS program, carried out at Oxford University, resulted in a chronology that placed the beginning of the Cuello village around 1200 B.C., where it remains today (Fig. 4; see Hammond 1991: Table 3.1; Housley *et al.* 1991; Law *et al.* 1991). No explanation as to why the first seasons in 1975-1976 yielded early dates has been forthcoming, although the most plausible explanation is suggested by recent work in north Belizean wetlands at Cobweb Swamp (Colha), Pulltrouser Swamp and Cob Swamp, all within 35 km of Cuello: pollen and charcoal have documented small patches of human disturbance of the landscape in the later third millennium B.C. Kevin Pope, who directed the two latter projects, and I believe that just such a small area of pre-village occupation existed at Cuello, precisely where the 1975 and 1976 excavations were placed; when the trenches were expanded laterally, work moved away from where this early charcoal survived, *in situ* or mixed upwards by human activity.

No excavations were carried out at Cuello between 1993 and 2000, and no further radiocarbon dates were obtained: attention was instead concentrated on stable-isotope studies of ancient Maya diet, based on analysis of the Carbon-12, Carbon-13, and Nitrogen-15 content of human bone collagen from a sample of Preclassic burials (of the 196 human individuals whose remains have been recovered at Cuello, 166 date to the Middle and Late Preclassic periods between 1200 B.C. and A.D. 400). The archaeological faunal remains, in order of frequency, include white-tailed deer, freshwater turtle and dog, plus smaller numbers of armadillo, brocket deer, peccary, and rodent (Wing and Scudder 1991). All of these are C<sub>3</sub> plant eaters, except dog and armadillo. Archaeological plant remains include maize (a C<sub>4</sub> plant with estimated carbon and nitrogen isotope values -10, +3) and a variety of C<sub>3</sub> forest species (Miksicek 1991). Marine foods are barely represented in the archaeological deposits (Carr and Fradkin 1996).

Preclassic Maya diet at Cuello was studied by means of carbon and nitrogen isotope measurements on human and food-animal bones from the site, as well as on modern animals from the region (Van Der Merwe *et al.* 2000; Tykot *et al.* 1996). The average  $\delta^{13}\text{C}$  value for Preclassic human bone collagen was  $-13.0 \pm 1.1\text{‰}$  (n = 26) and for tooth enamel apatite it was  $-9.0 \pm 2.7\text{‰}$  (n = 36); the average  $\delta^{15}\text{N}$  in bone collagen was  $8.9 \pm 0.66\text{‰}$  (n = 21). The archaeological and isotopic evidence together indicate that the people at Cuello made substantial use of maize, but were not dependent on it like later Maya populations (Fig. 5). C<sub>4</sub> carbon made up c. 35 per cent of their tooth enamel apatite

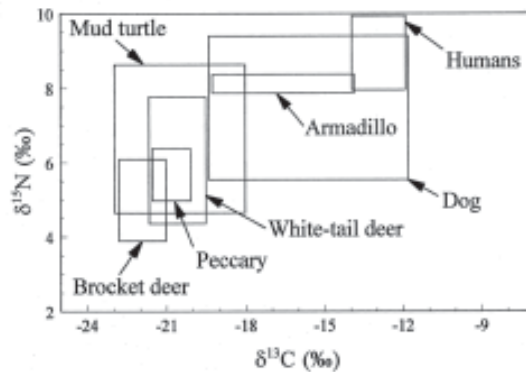


Figure 5. Stable-isotope analyses of the diet of human inhabitants of Cuello and of the animals which they exploited for food.

and 55 percent of their collagen. This apparent discrepancy is the result of their eating dog and armadillo, both with substantial  $C_4$  components in their diets. The dogs were the size of large terriers, were slaughtered at the end of their first-year growth spurt, and were apparently fed household scraps and allowed to scavenge rather than being fed a high-maize diet to fatten them for the pot, although lack of wear on the teeth indicated some restriction on behavior (Clutton-Brock and Hammond 1994). Although deer constituted a plurality of food animals both in meat weight and number of individuals, they were not fed maize, nor were they allowed to raid the cornfields: even loose-herding seems to have been absent, and the high rate of venison consumption seems to have been a function of abundance and directed hunting activity.

Comparison of Middle and Late Preclassic burials at Cuello shows no significant change over time in their isotope ratios. Adult males and females, however, do differ by about 1‰ in  $^{13}C$  values. Males had a  $C_4$  dietary component about 10 per cent higher than females, perhaps acquired in the form of maize beer (chicha) during social solidarity rituals. Juveniles fall somewhere in between, but the specimen numbers are too small for firm conclusions. Male and female  $^{15}N$  ratios were similar, those of juveniles lower, suggesting that animal protein formed a larger part of the adult diet.

The 2000 field season at Cuello was intended to be the last, but as in so many previous years, discoveries of exceptional importance came to light and could not be completely excavated in the time available. The objective had been to uncover the eastern portions of a succession of house-platforms which stood on the north side of Cuello's Middle Preclassic courtyard: their western ends had been excavated over a long period, from 1976 through 1993. The Late Preclassic deposits that had to be removed first, however, proved to be exceptionally complex, and by April 2000 we had reached only the latest of the house-platform floors, a building destroyed by fire around 400 B.C. This lay in



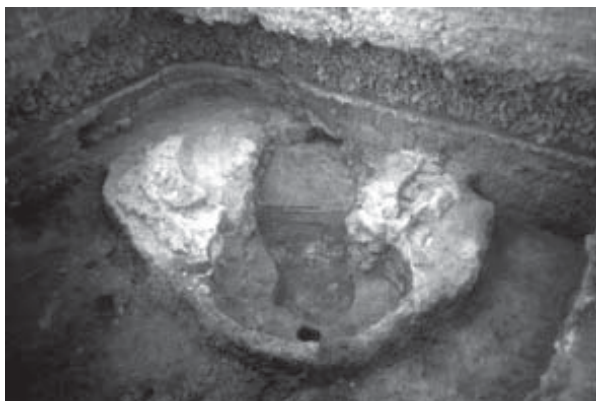


Figure 6. The Middle Preclassic *pib na* (sweatbath) at Cuello, seen from the northeast in 2000.

the “West Square” (Fig. 3). A second area excavated in 2000, the East Square, had been much more exciting, but even more frustrating: in ascertaining whether buildings had stood on the eastern side of the courtyard - an area uninvestigated in any previous season, but vital to understanding the dynamics of the Middle Preclassic community - we had not only hit our target exactly, but found that the earliest building on the east had been a sweatbath. It had a round sweating chamber linked to a firebox which was stoked from outside (Figs. 6, 7). The firebox was cut into the bedrock, which was burnt all shades of red, blue and gray by the heat that had raged in it: this was transmitted along a sunken channel through an opening into the sweating chamber itself. Such buildings, *pib na* to the Maya and *temescal* to the Aztecs, were used for practical, therapeutic, and ritual purposes in historic times, and elaborate Classic Maya royal sweatbaths at Piedras Negras show that they could be high-status structures as well.

The Cuello *pib na*, although only eight feet in diameter and probably less than seven feet high, stood at the very beginning of this tradition, dating conservatively to around 900 B.C., and by at least four centuries the earliest sweatbath in the Maya Area (Hammond *et al.* 2000; Hammond and Bauer 2001). There was only one snag: only about four-fifths of the building lay within our excavation area, and the still-buried portion included the eastern side which would have faced on to the courtyard, together with the probable entrance, which on the basis of later *pib na* and depictions of them would have been a low, narrow doorway to keep the heat in. It was imperative that we recover all surviving remains of this important structure, but since the rest was buried under three meters (ten feet) of later construction, we would have to start from the surface again, and work our way down to the earliest levels. There was no time left in the 2000 season to do this, we reluctantly decided.

Thus in 2002 the delayed last field season was carried out with two prime objec-





*Figure 7. Reconstruction of the Cuello pib na. Note that the drainage channel is too narrow, and that subsequent excavations in 2002 showed that the doorway could not have been on the west side as shown here.*

tives: to uncover the rest of the sweathouse by removing the small area between the East Square, the West Square and the Main Trench, and to complete the excavation of the West Square houses (Fig. 3). We were not expecting surprises, although from previous experience we should have known better. Our first surprise was finding that the northern buildings were much smaller than we had supposed: our 1976-93 north-south trench limit along the 40 meter-east line of the Platform 34 grid had apparently bisected the platforms, since the latest of them, Structure 315, seemed to have an axial doorway and front step (the Maya emphasized bilateral symmetry in their architecture). We had used this assumption of symmetry to predict a house platform roughly 10 meters long, and on that basis we had also placed the East Square excavation in 2000. While the trench had hit its target precisely, Structure 315 proved to be less than eight meters long, its entry an off-center step added to the southeast corner. The penultimate phase of the platform, Structure 315d, was nevertheless massively built, using head-sized limestone boulders to build durable walls covered with tough plaster, much of it still surviving after 2500 years (Fig. 8). It was the first building at Cuello to have a rectangular rather than apsidal ground plan, showing a transition from something looking like the apsidal houses still built in Yucatan (Structure 315a-c) to a higher squared-off substructure type which would in the Late Preclassic form the foundation for Cuello's first temple-pyramid on the western side of the courtyard. Structure 315 shows us the emergence of public, ritual architecture out of a household tradition.

As we removed the earliest phases of Structure 315 and then the six phases of Structure 320 below it, followed by Structure 325 lower still in the sequence, we were uncovering more and more modest constructions, each consisting of a low bordering wall of fist-sized cobbles retaining a fill of soil and stones, and supporting a plaster floor punctured by the post-holes of a timber superstructure. In every case, the margins of the floor had been removed by subsequent remodeling, so we were never able to recover a complete floor plan to compare with the one excavated in 1980 on the south side of the courtyard: Structure 326 there remains almost the only fully-intact Middle Preclassic house-platform at Cuello, and one of few uncovered to date in the entire Maya Area (Hammond 1991: Figs. 3.4, 5.6).

The courtyard itself was surfaced in plaster, with extra areas accreting as the open space was enlarged to the north and east in the later Middle Preclassic: the added floor areas were in plaster of slightly different color, although the join was carefully shaved down and overlapped to give a smooth finish. Preceding the final extension that accompanied construction of Structure 334 on the east side of the courtyard, we found an unusual burial: the first thing we saw was a foot, protruding above the rim of the unsealed grave, and as we dug down, we found that the body had been crammed into a pit far too small for it (Fig. 9). The skeleton was of a robust woman in her twenties who had borne at least one child, estimated to have been around 1.7 meters (5 feet 6 inches) tall; the grave was only 1.16 meters (3 feet 10 inches) long. She had been buried face down, her legs twisted up: several other such "sprawled" burials found at Cuello in previous years are all, like this one, associated with substantial construction activity, and may have been sacrificial offerings.



*Figure 8. Cuello Structure 315d from the southeast, dating to 450-400 B.C.*



*Figure 9. Cuello Burial 186, a woman 1.7 meters tall crammed into a grave only 1.16 meters long; the burial may have been a foundation sacrifice.*



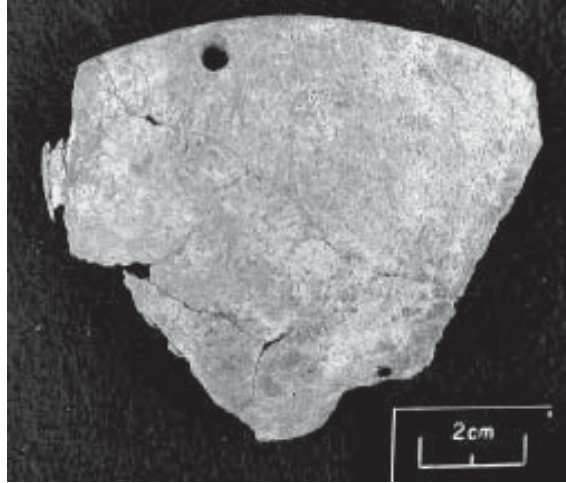
*Figure 10. Bowl with modeled and incised decoration depicting an armadillo: late Bladen or early Lopez Mamom ceramic complex, 650-600 B.C.*

Although the northern house-platforms were smaller than anticipated, the resulting open area between them and the eastern buildings proved of immense interest: a declivity ran across it from south to north (perhaps a reason for not extending the houses this far east), which had been infilled by successive layers of dumping. While the last of these were freshly-quarried marl and topsoil, dug and dumped in a hurry to level up the site for large-scale rebuilding around 400 B.C., they rested on top of layers of sheet midden. Horizontally-bedded sherds, bones and mollusc shells were the debris from centuries of Middle Preclassic occupation of the adjoining houses, and substantially enlarged our sample of Swasey (1200-900 B.C.), Bladen (900-650 B.C.), and Lopez Mamom (650-400 B.C.) period ceramics. One deep, rich layer in particular excited us: it was a soft, greasy, dark soil containing exceptionally large, fresh sherds spanning the Bladen-Lopez transition somewhere in the seventh century B.C. Among the reconstructable vessels was a bowl in the form of an armadillo, different shades of slip and techniques of modeled, incised, and punctated decoration being used to depict its nine-banded armor-plating, its scaly skin, and its head and tail poking out from under the armor (Fig. 10).

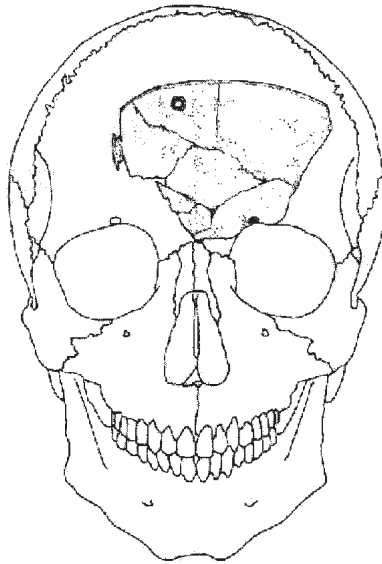
Also in this layer was a fragment of human skull with a straight edge, showing it to be from a frontal bone that had been cut across the forehead and then perforated for suspension or wearing as a mask (Figs. 11, 12): it went down at least to the eye-sockets, and the later Maya tradition of sawing off the fronts of ancestors' skulls for veneration - with faces remodeled over the bone in clay - suggests to us that the facial bones may originally have remained attached, in an early example of a practice still current in the sixteenth century A.D.

Unfortunately, results in the southern part of the 11 by 5 meter trench were less exciting: when we reached the level just above the sweatbath, we found that a plaster-surfaced construction, which in 2000 we had interpreted as a later house platform, was in fact the edge of a substantial courtyard surface. When we removed it, we found a set of three "firepits" or hearths - cut down into the western portion of the sweatbath (Fig. 13). In the end, all that survived of this area of the *pib na* was one strip of wall-base and the end of the interior heating channel; even this fragmentary evidence yielded something, however: it became clear that there was no room for an entrance doorway on the western side, contrary to our reconstruction in 2000. We now believe that the doorway was slightly further round to the north or south, probably the south in order to avoid occasional cold *norte* winds blowing into the sweating chamber.

Thus the twenty-seven years of investigation at Cuello ended: still giving exciting answers, still posing complex questions. Some may be answered by other scholars digging at other Preclassic sites: others will no doubt remain to perplex us. Meanwhile, Cuello remains as the earliest and most intensively-investigated example of a Lowland Maya Preclassic village, demonstrating the emergence of a ranked society between 900 and 600 B.C., and the move towards social complexity, accompanied by public architecture and the symbolism of rulership, between 600 and 400 B.C. After that date, while Cuello remained a modest community for many more centuries, the focus of political and economic development moved to sites such as Nakbe and El Mirador, Calakmul and Tikal, as Maya civilization emerged across the heartland of northern Guatemala and southern Yucatan.



*Figure 11. Fragment of human frontal bone cut and perforated for use as a mask*



*Figure 12. Position of the mask fragment on the skull.*





Figure 13. Later firepits cut into and destroying the western end of the pib na (sweatbath).

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## POVZETEK

Zora in mrak: od začetka do konca dolgotrajnega raziskovalnega programa na predklasičnem majevskem najdišču Cuello, Belize

Raziskave na zgodnjem majevskem vaškem najdišču Cuello so potekale med letoma 1975 in 2002. Ko so se začele, je bilo majevsko predklasično obdobje malo znano, slabo dokumentirano z radiokarbonskimi datacijami in je segalo le do časa okoli 900 pr. n.št. Prve datacije iz Cuella so kazale na zelo zgodnjo poselitev, a so bile kasneje ovržene in popravljene na čas okoli 1200 pr.n.št. Kljub temu je najdišče še vedno najstarejša znana vas v majevskih nižavjih, pa tudi najbolj obsežno izkopano naselje iz zgodnje etape srednje predklasične dobe. Mnoge hiše in druge stavbe, nastajajoča javna arhitektura, najzgodnejša znana mezoameriška parna kopel (majevski *pib na*), skoraj 200 pokopov, ki izpričujejo družbeno razslojevanje in trgovino z oddaljenimi kraji, in podatki o prehrani in izkoriščanju okolja prispevajo k razumevanju začetnih faz poljedelske kulture, ki je živela v tropskem gozdu in se razvila v eno največjih predkolumbovskih civilizacij.

**Ključne besede:** arheologija Majev, predklasična kronologija, prehrana, pokopne navade, parna kopel.