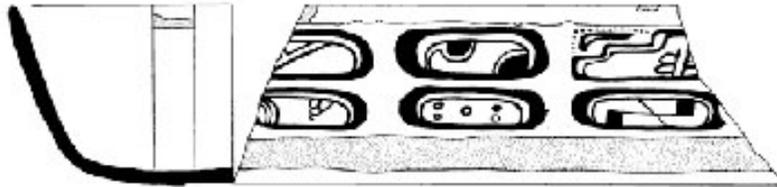


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Investigations at Piedras Negras, Guatemala: 1999 Field Season

Among the River Kings: Archaeological Research at Piedras Negras, Guatemala

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Research Year: 1999

Culture: Maya

Chronology: Classic

Location: Usumacinta River, Guatemala

Site: Piedras Negras

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Resumen

En mayo de 1999, el Proyecto Arqueológico Piedras Negras de las universidades de Brigham Young y del Valle de Guatemala completó su tercera temporada de campo realizando 23 operaciones. Las excavaciones en la Pirámide R-5 del Grupo Sur, revelaron una cabeza de estuco, navajas de obsidiana, escondites, un entierro y depósitos con cerámica del Preclásico Medio y Tardío. Exploraciones en la Acrópolis dieron a conocer el "Gran Cambio," una modificación total del paisaje, transformándose

una serie de edificios separados y pequeñas terrazas esparcidas entre los afloramientos de roca madre, en una sola masa arquitectónica. En contraste con las transformaciones arquitectónicas pudo determinarse que existe una sorprendente continuidad en la cerámica, con secuencias sin interrupción durante esta época. Nuevas excavaciones en el palacio original de Piedras Negras, enterrado abajo de la Plaza del Grupo Oeste, demostraron que este conjunto de edificios y patios del Clásico Temprano tuvo dos episodios constructivos y numerosas modificaciones menores. Según datos cerámicos, la destrucción sistemática del palacio se llevó a cabo al final del Clásico Temprano. Se excavaron los baños de vapor J-17, N-1 y O-4, así como algunas estructuras auxiliares; análisis preliminares de su fechamiento demuestran un patrón consistente que nos hace sospechar que la mayoría de estos edificios fueron construidos durante los reinados de los gobernantes 4 o 5. En particular, la Estructura J-17 fue muy importante por tener un número mayor de cuartos, un entierro, gran cantidad de cerámica tardía y evidencia crucial de los últimos años de Piedras Negras como una ciudad.

En el sector N/O del asentamiento abajo de la Plaza del Grupo Oeste, la excavación de las estructuras, N-7 y N-10 no proporcionó evidencia de apoyo a la hipótesis inicial sobre la función del grupo como "viviendas de los servidores"; es decir, no se encontraron cocinas, bodegas o residencias en forma de barracas. Al contrario, los depósitos descubiertos fueron complejos, con evidencia de incensarios rituales en la Estructura N-7, y basureros cercanos a escalinatas enterradas abajo del patio frente a N-10. En cuanto a la arquitectura residencial, se procedió a exponer y excavar las estructuras R-18, R-31 y U-16. En esta última se recuperó un hueso fragmentado de animal que presenta la imagen de una deidad masculina alada con tocado; junto con un texto inciso, que se lee "el principal escultor del Gobernante 7." Un hallazgo sorprendente fue el arreglo cruciforme de entierros colocados parcialmente en cistas, ubicado en el centro del edificio. Excavaciones de sondeo en un grupo de élite hacia el noreste de la Plaza del Grupo Noroeste, revelaron concentraciones de entierros en criptas (entre ellos uno masculino con ofrendas, que quizá corresponda a un sajal), muros del Clásico Temprano y escondites. El patio de este grupo fue una especie de cementerio similar al asociado con la Estructura R-20.

Por otro lado, como parte de los estudios de patrón de asentamiento, se exploraron dos grupos en la periferia sur, asentados en un pequeño valle delimitado por elevaciones naturales. El fechamiento de dos grupos excavados correspondió al Clásico Tardío, localizándose grandes cantidades de metates en la superficie. La cerámica fue sorprendente por su burdo acabado de superficie y pasta apenas quemada. Otra actividad colateral fue la exploración de las cuevas o abrigos rocosos. Aunque las cuevas descubiertas hasta ahora son pequeñas, hay algunas que contienen vasijas del Clásico Tardío y fueron utilizadas por los mayas como lugares de enterramiento. Finalmente, se continuó la consolidación de los edificios principales de Piedras Negras, concentrándose los esfuerzos en la Estructura J-11 de la Acrópolis.

Introduction

Piedras Negras is the largest city of Classic Maya date in the Usumacinta drainage. Its existence, and the rich record of its sculptures and buildings, led to intensive fieldwork by the University Museum, University of Pennsylvania, in the 1930s (Satterthwaite, 1943), and, more recently, to three years of investigations by the Piedras Negras Project of Brigham Young University and the Universidad del Valle (Houston *et al.*, 1998a; 1999). During the spring of 1999, the Project completed its third field season, conducting 23 operations in a wide variety of locations. The goals of this fieldwork addressed a number of questions: When did the city as a concentrated settlement begin, and when did it end? Was its collapse a rapid one, provoked by attacks from its enemy, Yaxchilán? What was the complete sequence of its palaces? Did such facilities have quarters for servants and places for mundane activities such as food production? Does monumental architecture, especially of a mortuary nature, change considerably at the inception of the Late Classic period? What would intensive excavations in the near-periphery reveal about the supporting landscape of Piedras Negras? Are earlier maps of the city reliable and complete? And what can soil chemistry tell us about subsurface remains and ancient activities? Most of these questions were at least partly resolved in the 1999 field season at Piedras Negras.

Schedule of Fieldwork in 1999

As in past years, the field season began in late March with camp construction and the transportation of several tons of food and equipment by river. Security at Piedras Negras, just across from the unstable Mexican state of Chiapas, had improved during our absence. The Guatemalan military had installed a group of military specialists (paracaidistas) at El Porvenir, an hour's walk to the northeast. During the interim their presence and continuous patrolling had quickly discouraged further incursions by *milperos* from the Mexican border village of Corregidora Ortíz. Within a week, the camp had been erected in the same location as last year, but with new materials: massive tarps and self-supporting tents required less cutting of local vegetation. Excavations commenced thereafter. Houston continued his excavations in the Acropolis, as did Charles Golden and a new member of the team, Mónica Pellecer; later, Houston was joined by Ernesto Arredondo as his principal assistant. The purpose of these investigations was to discover the nature of architectural superimposition from bedrock to the latest stages of the Acropolis. The larger aim was to finish a comprehensive study of this, one of the most elaborate artificial constructions in the Maya region. In general, this work had to adjust itself to the few spaces left undisturbed by Pennsylvania or otherwise bereft of their spoil. In the next season, the project will refill as many of these pits as it can, especially in Court 2, the focus of current consolidation efforts.

In the South Group, Escobedo and his assistant, Marcelo Zamora, directed themselves to Pyramid R-5, a structure explicitly labeled by glyphs as the *muk*, or burial, of Ruler 1. Here there seemed to be an ideal opportunity to link the historical and archaeological

records of Piedras Negras at the key juncture between the Early and Late Classic periods, and at a time when the South Group lost its preeminence as the ritual center of the city. An even earlier construction, the buried Early Classic palace complex under the West Group Court, was again explored with slot trenching by Lilian Garrido. Mark and Jessica Child examined all sweatbaths left unstudied from earlier seasons, including Structures J-17, N-1, and O-4, along with ancillary buildings O-3 and P-6. Mark Child also served again as Field Director, with full responsibility for the difficult logistics of working at Piedras Negras. Christian Wells and Luis Romero built on earlier excavations by Wells and Nancy Monterroso by proceeding with the stripping and trenching of Structures R-18, R-31, and U-16. The first two buildings lay directly adjacent to a Late Classic cemetery around Structure R-20 (Houston *et al.*, 1999: Figure 4). This, together with the presence of an Early Classic substrate, motivated a complete cleaning of its lower terraces and the penetration of its early component. Structure U-16 was the sole remaining building of its group not excavated in 1998. Wells completely stripped it of overburden and effected a wide trench in its north-south axis.

By mid-season, all operations were in full-swing. In the so-called "servant's quarters," the N/O sector of settlement below the West Group Plaza, James Fitzsimmons excavated two structures, N-7 and N-10, and ended the season by investigating an enigmatic and ruined building, O-17. Through test-pitting, Alejandro Guillot had fortuitously encountered fertile concentrations of crypted burials, Early Classic walls, and caches in the patio of a group dominated by Structure C-13. The detection of a probable burial panel and an eastern mound, both clues to mortuary function, led to the excavation of a burial, largely dug and recorded by Zachary Hruby and René Muñoz. Meanwhile, Webster and Amy Kovak excavated two groups to the south, as part of a "community" or "barrio" study that rested on earlier, more extensive surveys in the 1997 and 1998 field seasons (Webster and Kirker, 1997; Webster *et al.*, 1998). This work was assisted by Zachary Nelson's computer-assisted mapping, which established, for the first time, absolute elevations in peripheral zones. Nelson also concentrated in the southeast zone of Piedras Negras proper, known to contain many, hitherto unmapped mound groups.

Simultaneously, Jacob Parnell, with the assistance of Fabián Fernández and Benjamin Crozier, perfected the process of phosphate prospecting and heavy metal sampling as pioneered in earlier seasons, taking a total of 1217 samples. In the low mound group south of Structure C-10, Parnell had great success in predicting the location of rich middens and human burials ([Figure 1](#)). Areas in the periphery and the Acropolis (Operation 46) were also gridded and tested, with positive results that bode well for systematic use of this procedure in the future. Emily Elmer floated hundreds of soil samples sent in from excavations, again with excellent retrieval of carbonized plant remains, fish bone, lithics, and small artifacts. Ten soil profiles located within Piedras Negras and at rural sites outside the city were described and samples collected from each horizon. Soil properties will be characterized and taxonomic designations will be determined at the Soil Analysis Laboratory at Brigham Young. A side-project included the cave or rock shelter investigations of Pierre Robert Colas, who dug in three areas: the so-called "Maler's Cave," the Cueva de Alberto located 2 km. south of Piedras Negras, and Actun Yuch'ib, overlooking the Northwest Group Court. By mid-May, all

operations ceased. Work parties filled open units, and then planted the backfilled areas with xate palm.

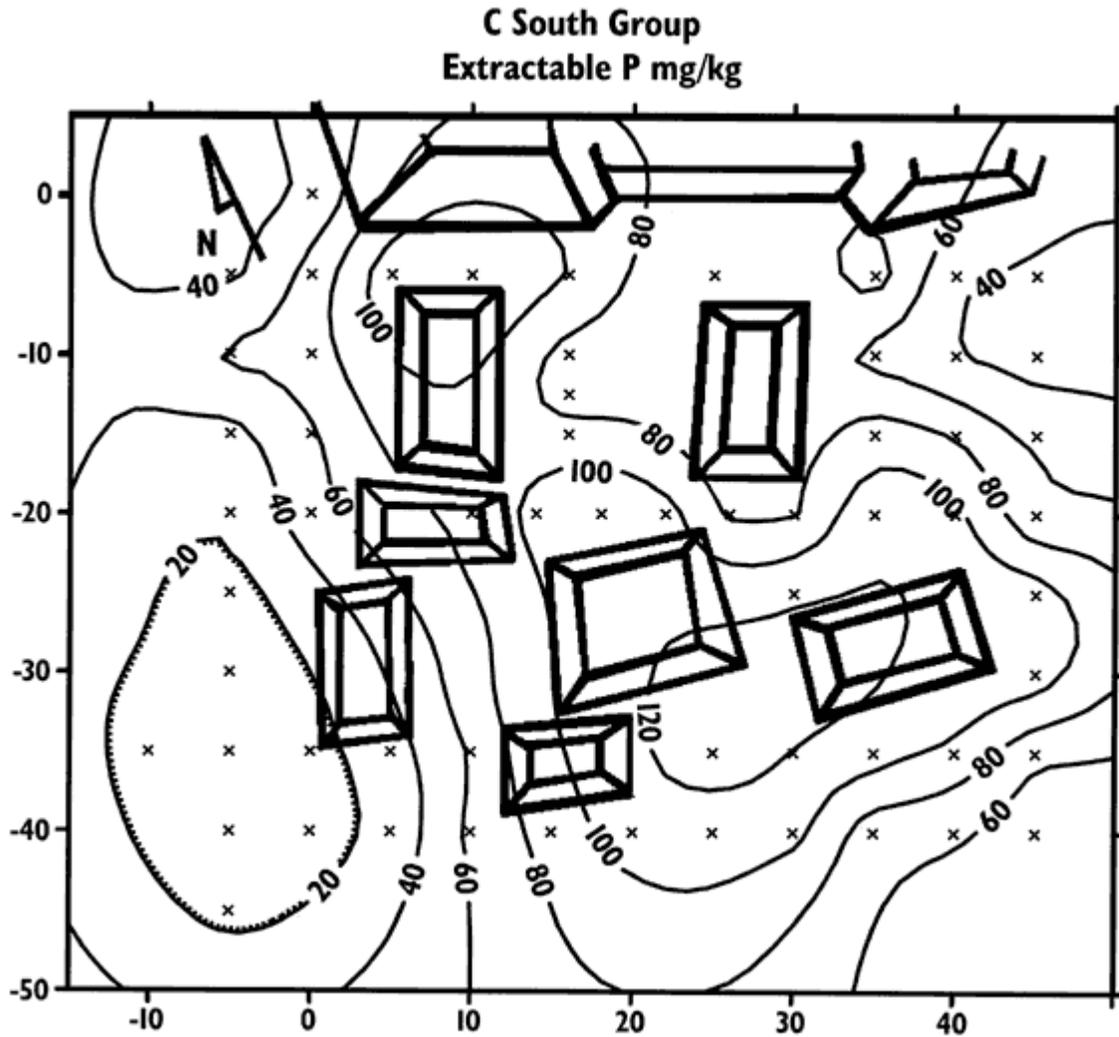


Figure 1. Soil map of group in C-sector (Drawing: Jacob Parnell).

The Piedras Negras project continued its commitment to consolidation. Our consistent objective was to follow a conservative program that rescued standing masonry in dilapidated condition and, where justified, restored limited sections of adjacent wall. This season we focused our efforts on Structure J-11 in the Acropolis. Roots had dismantled and weakened two extant vaults and several walls were leaning dangerously. In the vain hope of finding burials, Penn excavators had hollowed out two benches, tossing fill in all directions. Under the supervision of a master mason, eight specialists sifted through Penn's backdirt, separating building stone from degraded plaster. On clearing Penn's debris within Structure J-11, they began the arduous work of transporting

hundreds of liters of water up from the river to storage tanks in Court 1 (two pumps and 400 m. of tubing were necessary because of the Acropolis' height above the Usumacinta). While project members took photographs of standing masonry, workers mixed the degraded plaster and earth with a light cement. (The master mason suspected the presence of other, organic binders in the original mortar.) Following customary practice, all rotten mortar was removed and unstable stones refooted. Stones retrieved from Penn backfill were reshaped and carefully fitted to surround and protect the endangered vaults. Leaning walls had to be marked, disassembled, and rebuilt on correct vertical plane. Finally, the benches were refilled with stone, leveled, and covered with 5 cm. of plaster, leaving original surfaces well marked. In no case could large trees be felled—Piedras Negras lies within a biosphere reserve—but the remaining trees on J-11 should prevent the regrowth of smaller plants cleared during consolidation. Next year we hope to complete work on this building, consolidate J-9 just across the courtyard, and remove the box-like heaps of Pennsylvania fill that still obstruct movement across Court 2.

Results in 1999

The project devoted relatively little time to test-pitting in 1999. We thus moved into what might be described as an increasing reliance on "judgmental sampling," that is, informed rather than random excavations, although still with exploratory intent. A few pits were sunk into northern groups in the C-sector, and one of those was soon expanded into a more extensive and probing operation. Most investigations were deliberately designed to strip large areas and to examine architecture in all of its complexity. For such work, test pits would be more frustrating than informative. At this moment, we feel reasonably confident of the overall chronology of settlement at Piedras Negras. Nonetheless, there can be no doubt that the site guards additional surprises in its buried architecture.

Technically, the most ambitious excavations took place in the R-5 pyramid. Panel 4, which had fallen from its summit, made it clear that this building was the *muk*, or burial mound, of Ruler 1. Obviously, this also meant that the structure dated at least to the following reign, with most of its bulk coming into existence under the patronage of Ruler 2. (Last year, work on Pyramid O-13 established that renovations could take place generations later, Escobedo and Alvarado, 1998:14.) The summit floor, a single-roomed chamber with three entrances, had been partly cleared by Pennsylvania, during which they recovered a painted stucco head on the central axis, close to a back niche in the wall. Another head, evidently the portrait of another individual, appeared to the front of the room, also looking up, with the neck oriented to the doorway. These heads had been detached from a building facade, perhaps an earlier level of R-5. The project began a vertical shaft through the loose rubble that afflicts all archaeology at the site. As efforts at Pyramid O-13 had shown; trenching or tunneling into the heart of the structure would have been impossible (Houston *et al.*, 1999:12). After 3.70 m. the shaft hit a plaster floor, then others at 5.50 and 7.55 m. respectively, at which point the season

closed¹. This shaft will be reopened next year. The basal platform of Pyramid R-5 was also explored, especially the boxed receptacles of stela butts. These yielded a well-preserved cache ([Figure 2a](#), [Figure 2b](#)), a fragmentary human burial, and, in front of the platform, deep deposits of early date. To the west appeared, at floor level, an unusual concentration of Early Classic ceramics and seven pieces of green obsidian imported from Pachuca, México. On the center line was a cache with a lidded-vessel, almost certainly dedicatory to the final phase of construction in R-5. From earlier seasons, the project had known of early deposits under the plaza level. An apparently natural level of rotted limestone (*caliza*) turned out to be artificial. Underneath, down to bedrock, were increasingly earlier layers of material, ending in Middle Preclassic sherds (Forsyth and Hruby, 1997:208-209). Another early deposit, discovered last season, was the destroyed arrangement of platforms and courtyards under the West Group Plaza ([Figure 3](#), Garrido, 1998:64). Additional exploration showed that it extended to the west, into a sunken court surrounded by platforms that probably supported buildings of *bajareque*. This wattle-and-daub had been smashed and pushed into the courtyards and over remaining platforms, resulting in thick, brick-like deposits. The debris was particularly deep to the west, under the N-1 sweatbath, where a 2.5 m. pit recovered sherds and partial vessels of Early Classic (Naba) date. Narrow trenches determined that this arrangement of platforms and courtyards came from two major episodes of construction and numerous minor modifications. A square building measuring 4 m. on a side had a stuccoed talud with one, centrally located vertical band on each side; a stairway led off its north side. Within this structure was evidence of another building, its stairway facing south. We are convinced that this elaborate series of leveled platforms and courts functioned as the original palace of Piedras Negras, although, regrettably, the Maya had removed any traces of floor plans. Judging from the amount of debris, the buildings probably stood at least another 2-3 meters higher. Their floors were cleanly swept into a low terrace on the western revetment of the West Group Plaza, later covered by the N-1 sweatbath. The ceramics demonstrate that the systematic destruction of the palace took place at the end of the Early Classic, but before Balche times, the subsequent, transitional phase that develops into the full Late Classic period. The exposure of Early Classic settlement in the presumed "servant's quarters" (see below) suggests a close relationship between the palace and "servant's zone" at this time.

¹ If Panel 4 is truly in primary context, as seems likely given the massive scale of this panel, then its historical contents may reveal something about these floors. According to Panel 4, a period just shy of a katun (20 years) intervenes between the death of Ruler 1 and the apparent burning of his tomb (*el-nah-aj u-muk-il*; note, however, that the owner of the tomb is only described in general terms, as the "holy lord of yokib," or Piedras Negras). This period may correspond to gaps between the floors, including some yet to be discovered. Unfortunately, sherds from the R-5 shaft are undiagnostic, excepting a possible piece of Nacimiento Incised between floors 1 and 2. The design on the sherd closely resembles those on Lucha Incised materials, hinting at an early Yaxche date for this deposit.

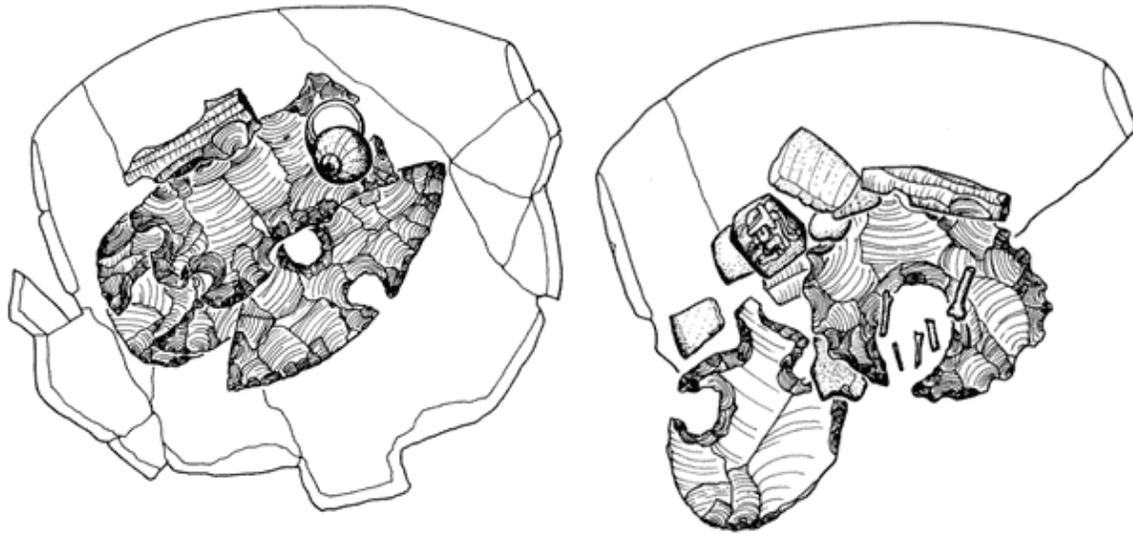


Figure 2a. Cache R-5-5, South Group Court, central axis of structure R-5: first and second levels of cache; (Drawings: Stephen Houston and Zachary Hruby).

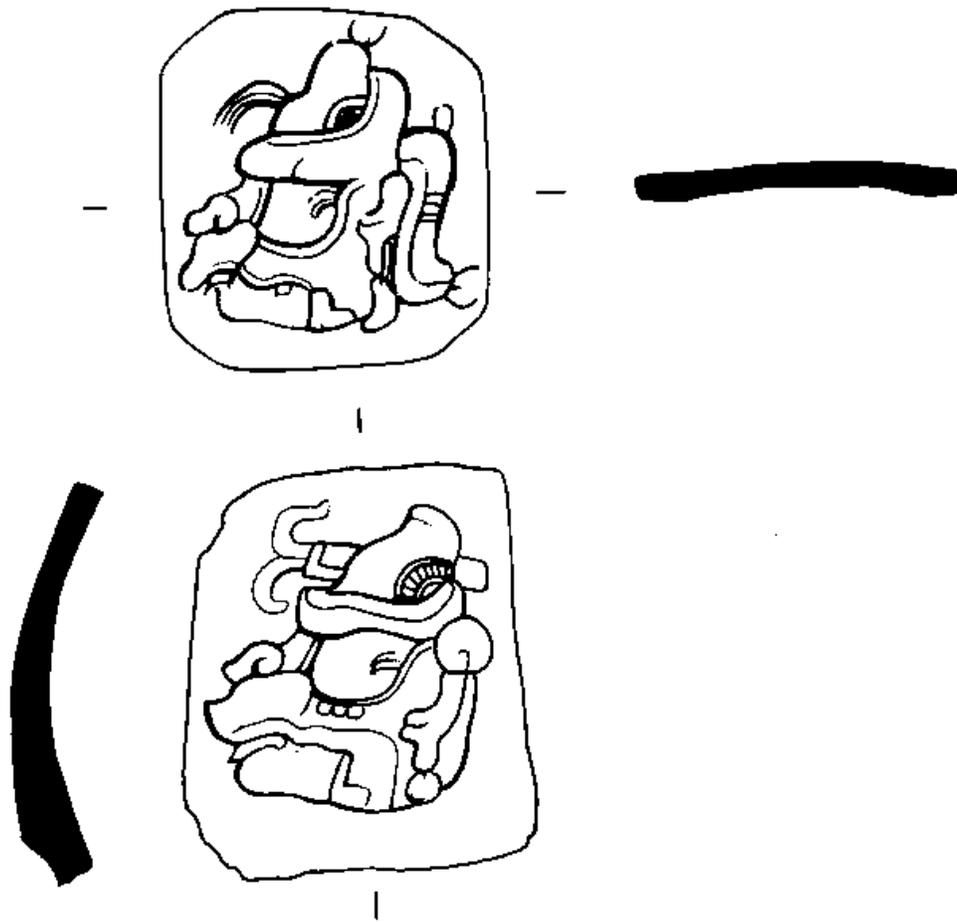


Figure 2b. Cache R-5-5, South Group Court, central axis of structure R-5: detailed view of incised shells, width of topmost shell 2.2 cm.; (Drawings: Stephen Houston and Zachary Hruby).

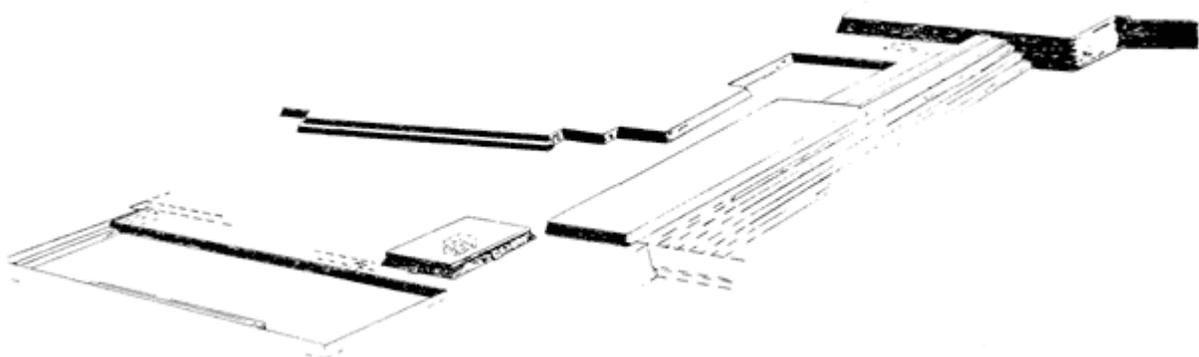


Figure 3. Buried buildings under West Group Plaza, length of lower courtyard 1.5 m. (Drawing: Heather Hurst).

True to expectation, the Acropolis, a massive agglomeration of buildings, stairways, courtyards, and terraces, proved increasingly intricate as team members plumbed its depths. For the first time, project excavations penetrated the J-1 platform, a broad base for Stelae 1-8, Pyramid J-4, and platform J-7 ([Figure 4](#)). Defining its southern face was a megalithic stairway, which contained a cache consisting of cracked jade and greenstone, shell and eccentrics. Behind it came a highly complex pattern of superimpositions and destructive episodes. The earliest feature was an Early Classic structure on bedrock. Only a small, plastered fragment survived. It was oriented, strangely enough, away from the facade of J-1, and may have been the remains of a destroyed, elongated building. Slightly later, the Maya constructed a larger, intact building in east-west alignment, fronted by a plastered stairway. On its back was a transverse stairway. This building, apparently a free-standing structure, experienced one of the enigmatic destruction events found in Courts 1 and 3 of the Acropolis: i.e., resulting in enormous quantities of *bajareque* (wattle-and-daub fragments with occasional signs of white plaster), human bone, and dense concentrations of fine artifacts, including a bowl with glyphic text and stuccoed rim band ([Figure 5](#)). Similar deposits cover the buried structures under the West Group Plaza (see above). Clearly, the *bajareque* represents the exploded fragments of Early Classic buildings. Unfortunately, almost nothing is known of their ground plans, since the Maya shaved off their surfaces, leaving only patio floors and sloping bases.

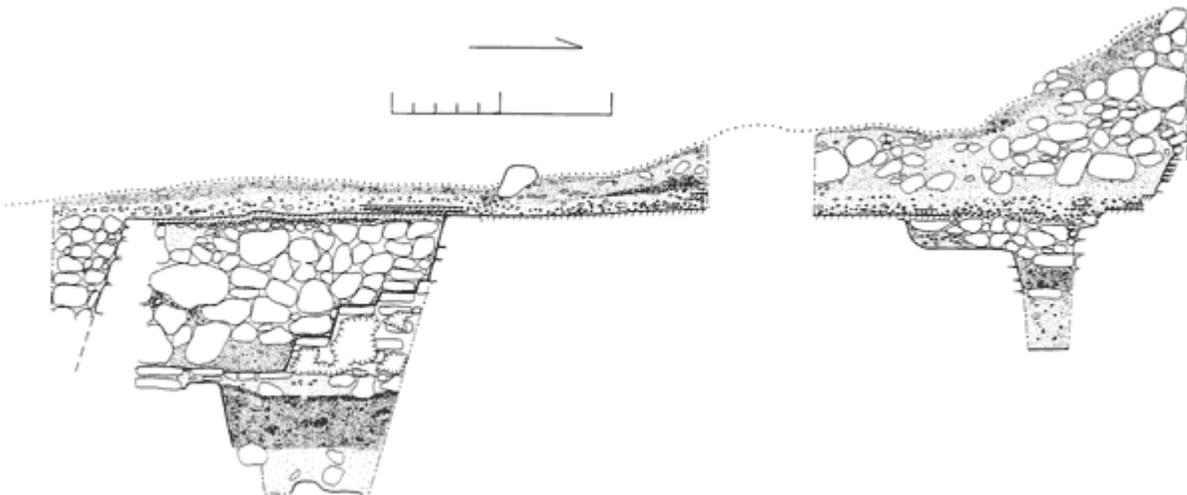


Figure 4. Section through Platform J-1, 2 m. scale (Drawing: Ernesto Arredondo; Inking: Zachary Hruby).

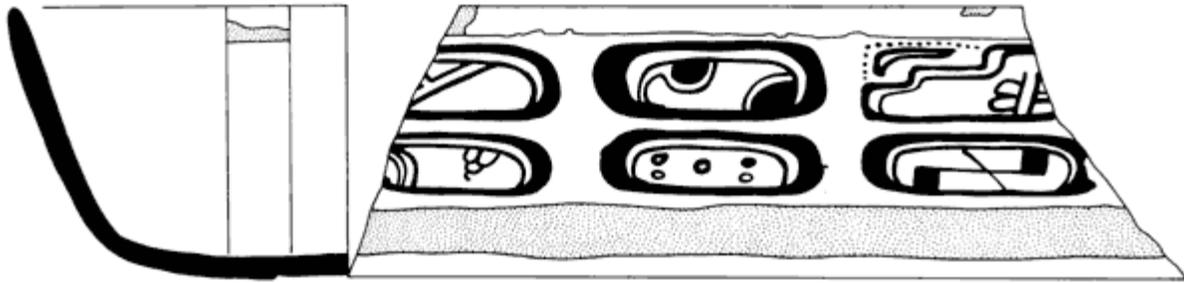


Figure 5. Stuccoed sherd with hieroglyphic texts, Platform J-1, PN48A-3-3, rolled-out sherd 22.5 cm. long (Drawing: Stephen Houston).

At this point, J-1 came into existence as part of the great mass of the Acropolis. We believe this event represents part of something far larger, a great conceptual leap involving new, more ambitious acts of large-scale planning. Consider the Acropolis. What had been a series of distinct buildings and small terraces interspersed among outcrops of bedrock transformed itself into a single mass, a wholesale modification of landscape. Elevated and restricted courtyards came into existence with huge effort, as rubble was hauled up from probable quarry sites along the Usumacinta to fill and level the uneven surfaces of bedrock. The scale of such renovations and expansions must have involved both a new aesthetic—one that did not so strongly desire the display of natural forms—and a profound shift in organizational abilities and access to labor (Houston *et al.*, 1999:14). We call this transformation the "Great Shift". (An earlier one would be the explosion of population half-way through the Early Classic period.)

The Great Shift is still problematic in many ways, especially in matters of chronology. Just as architecture changes, there seems to be, in contrast, remarkable continuity in ceramics, with unbroken sequences during this period in places such as Structure J-24. But the architectural shift is unequivocal. Platform J-1 went from a single building on bedrock to a way-station, a means of accessing the buildings and courtyards rising behind it. Similarly, the raising of the East Group Plaza and, at a slightly earlier date, the West Group Plaza, created new, broad routes for processions as well as unrestricted views of architecture (Barrientos, 1997:134). Structure P-6 came into existence to define the southern terminus of one of these routes. The Acropolis was covered with dressed stone on many of its slopes, a pattern insufficiently registered on the Penn map, which shows these inclines as purely natural. At this time masons devised a system of conduits—stone-lined ditches covered with thin slabs—to conduct water away from the new pile of buildings. A later set of ditches, probably dating to the final years of the Late Classic, carried this water over the outermost layers of the J-1 platform. It is intriguing to speculate that the Great Shift caused society to change, and not the other way around. Rather than having the necessary institutions in place, the process of constructing these gargantuan plazas, platforms, and buildings may have led to the innovations that eventually coalesced into what we know as Late Classic society. A mission, a directive to build, would compel adjustments in the organization of labor.

The same process of envelopment—the Great Shift—characterizes Court 3. Excavations in 1997 and 1998 revealed Early Classic buildings on the summit of a natural hill, along with, in 1999 the first evidence of Late Preclassic (Chicanel) pottery that had been compressed into natural hollows in the bedrock. By the end of the Early Classic period these constructions had grown to cover all visible vestiges of the knoll, supporting what may have been a free-standing building. A stairway, later removed by the Maya, faced southeast. As was true in other parts of the Acropolis, the Shift then took place. Buildings that looked outward were superseded by more complex, enclosed spaces, with many more courtyards, corridors, and levels. In the middle years of the Late Classic period long and deep retaining walls replaced small walls and minor building adjustments. The use of bajareque in monumental architecture diminished dramatically, although this technology continued in the form of walls and internal building supports in Structure J-12. In place of more delicate and ephemeral buildings, Late Classic masons shifted to permanent structures with doorways spanned by wooden lintels. The broad openings helped enlarge doors and introduce more light to inner chambers. But they were also an unwise choice: not a single, external doorway survives intact at Piedras Negras. In a cascade of damage, the collapse of doorways led inevitably to the destruction of vaults and the shearing of colored, stucco ornaments. Volutes and balls, some in sections as much as a meter long, were recovered this season from slumps in front of Structure J-18. This stucco had almost certainly fallen from the upper facade of the building.

A prominent goal of the 1999 field season was the further exploration of an area presumed to contain the servant's quarters of the Acropolis (Houston *et al.*, 1999; Arredondo, 1998:137). Two buildings were excavated completely, Structures N-7 and N-10, in part because of high phosphate and heavy metal readings nearby, and because of the presence of a spectacular dump of royal ceramics found in 1998. Structure N-10 formed part of an Early Classic platform, with Late Classic (Yaxche and Chacalhaaz) additions. Structure N-7 was equally complicated, consisting of an unusual C-shaped layout with restricted inner room that was later expanded by the addition of higher and wider walls. These walls may have functioned as open benches. Structure N-10 also had wide benches, albeit of cruder form, that were deployed in an E-shaped pattern; the open spaces served as narrow corridors. Unfortunately, these buildings did not yield any unambiguous evidence in favor of our initial hypothesis: that is, there were no elaborate cooking facilities, no obvious signs of storage, no barracks-like residences, if such could even be expected in a Classic site. But the deposits were complex, with signs of incensario rituals (Structure N-7) and densely packed middens near buried staircases under the courtyard in front of N-10. The only way of resolving our interpretive problem is further excavation in other mound groups, so as to understand the sector as a whole.

Another elite residence came into focus as a result of test-pitting. This group comprised Structures C10-C14, to the northeast of the Northwest Group Plaza. The courtyard of this mound group proved to have a cemetery rather like that excavated in and around Structure R-20 during the 1998 field season (Monterroso, 1998:112). An Early Classic platform and burial demonstrated long occupation. During the Yaxche phase, other burials were inserted, still others robbed, and two caches placed within a series of low,

single-riser terraces ([Figure 6](#)). The complexity of these deposits has yet to be satisfactorily plumbed, and at least two burials covered by slabs await further excavation. In the middle of the courtyard, lying face-up on the surface, was an eroded hieroglyphic panel ([Figure 7](#)). Although the panel is utterly illegible—one can make out at least forty glyph blocks and a central scene, but no more—a comparison with other panels in the area, including some from Piedras Negras, make it likely that the text concluded with a reference to a burial. This supposition was strengthened by the discovery of a well-furnished burial directly to the east, in Structure C-13 ([Figure 8](#)). This building consisted essentially of one phase, the burial itself and its subsequent interment under a terraced building. The narrowness of C-13 pointed to the conclusion that it was never roofed, but rather consisted of terraces with cylindrical altars. The final modification involved the addition of a stairway and, we believe, the placement of the panel in an outset balk directly above the burial. It is possible, given what we know of other panels, that this is the first burial ever recovered of a noble of *sajal* rank.

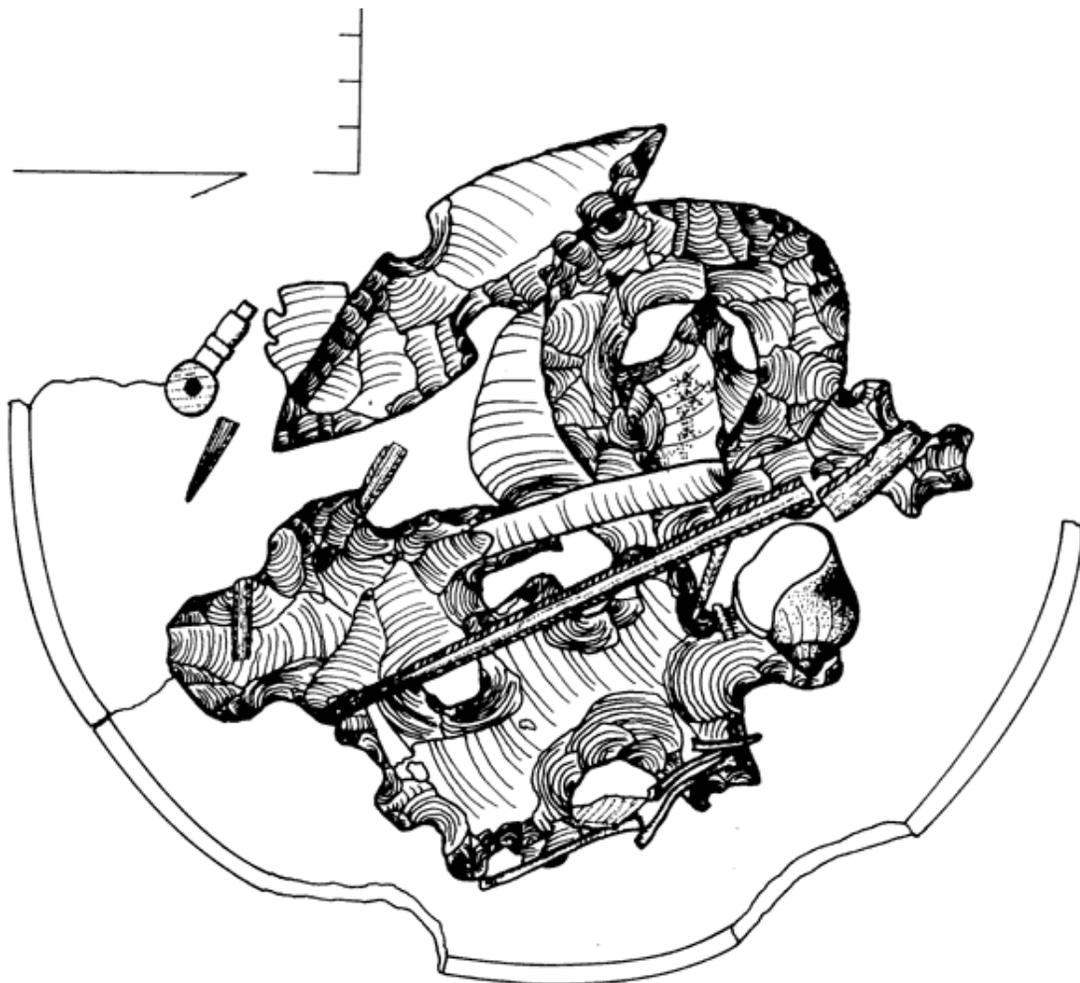


Figure 6. Cache C-13-2, scale in cm., arrow points to magnetic north (Drawing: Stephen Houston and Zachary Hruby; inking: Zachary Hruby).

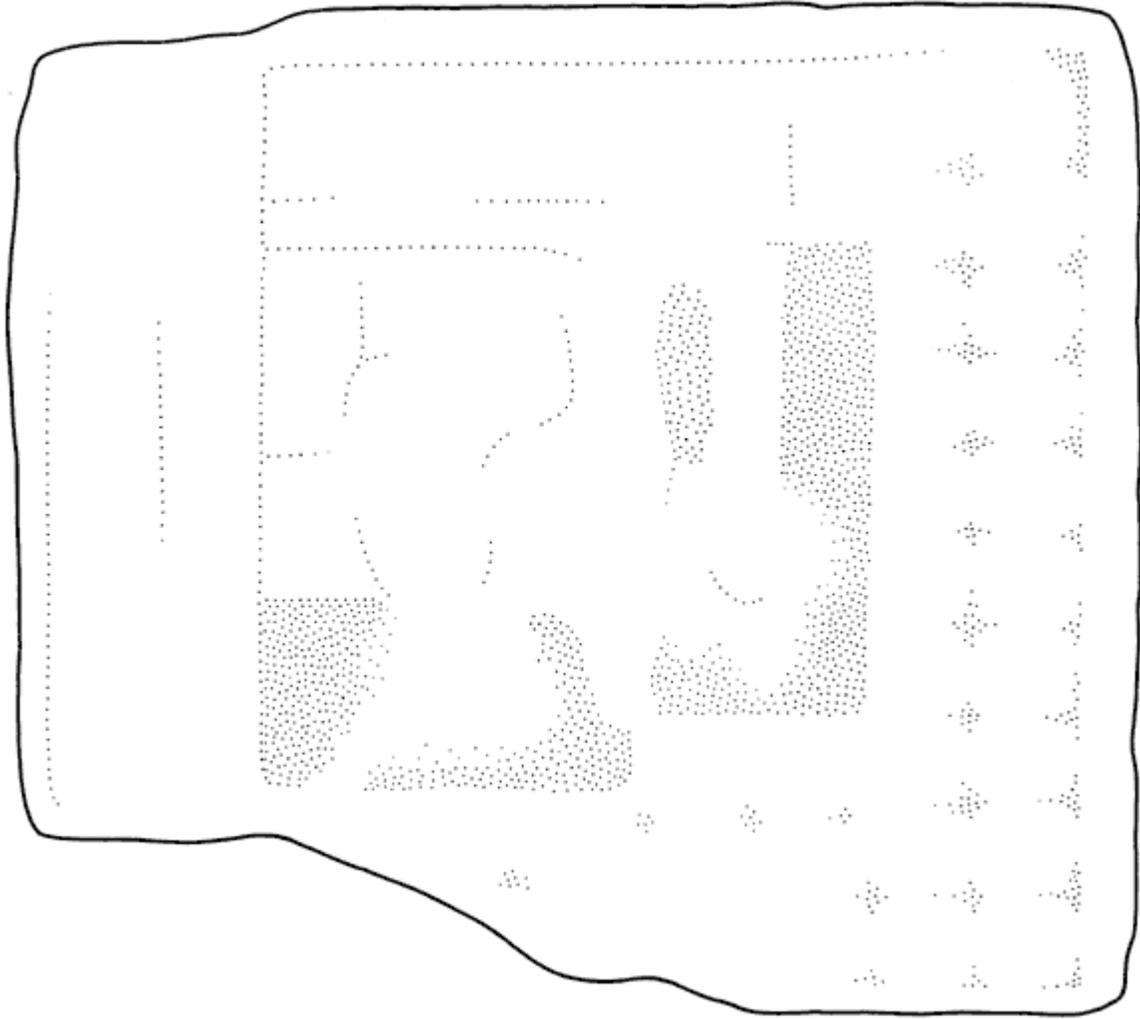


Figure 7. Eroded panel, found on surface of patio in front of Structure C-13, width 57 cm.
(Drawing: Stephen Houston).

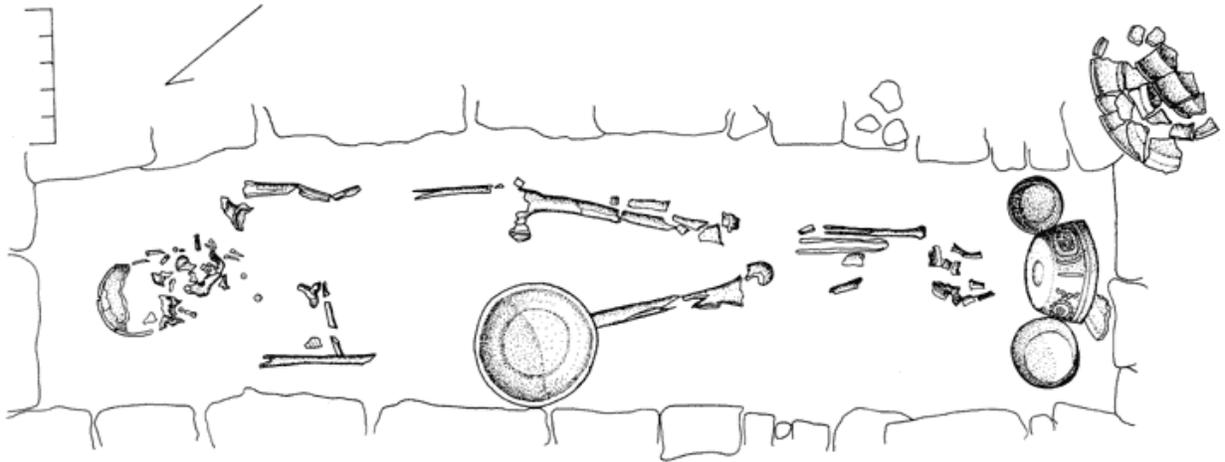


Figure 8. Burial 77, Structure C-13, maximum width of crypt 1.10 m. (Drawing: Zachary Hruby).

In 1999 the project continued work in the sweatbaths of Piedras Negras (Houston *et al.*, 1998b:43-46; Child, 1998). A new emphasis was on ancillary buildings, those structures that might have had some functional relationship with sweatbaths by reason of their proximity. Three sweatbaths were excavated: Structures J-17, N-1, and O-4. Preliminary analysis of their dating demonstrates a consistent pattern noted in previous years, namely, that all vestibules and new construction appear to date to the early years of the Chacalhaaz phase (ca. A.D. 730±30 years). Our present suspicion is that most date to the reigns of Rulers 4 or 5, although it is unclear what that might mean in terms of royal commissioning: Does the fact that a certain structural modification takes place more-or-less simultaneously indicate that royal fiat is involved, or simply that a new fashion has swept through the site? The apparent uniformity of the changes lends weight to the possibility of royal patronage as an explanation for this change.

Structure J-17 proved to be important for its larger number of rooms (eight in total), human burial (unique at Piedras Negras) in front of the water channel, and extraordinary quantity of late ceramics, all of late Chacalhaaz date. The ceramics in J-17 provide crucial evidence of two things: the nature of late ceramics in use by occupants of the royal palace; and the final years of Piedras Negras as a city. Along with artifacts found by Penn *in situ* within J-12, a building directly to the west of J-17, the sherds from J-17 compose the most complete sample of the problematic late facet of Chacalhaaz (Holley, 1983:202-207). Other sherds are scattered on floors of buildings in the palace (Holley, 1983:Tables 29-31). Since J-17 lies below J-12 and Court 2, and far above any settlement below, it is virtually certain that these ceramics result from palace disposal. More hypothetically, they represent the residue of palace life as it existed at the end of, or even after, Ruler 7's reign (Houston *et al.*, 1999:14).

The accumulation of trash on J-17 indicates substantial changes in royal existence at this time. Clearly, J-17 no longer functioned as anything other than a convenient dump. This raises disturbing questions about the end of Piedras Negras. Late Chacalhaaz

ceramics and their clustering in the palace and a few pyramids point to a counterintuitive pattern. If these deposits do truly come from the reign of Ruler 7, then the palace and royal court would appear to *postdate* the collapse of Piedras Negras as a city—that is, the dynasty survived Piedras Negras itself, a small island in the midst of desolation (Holley, 1983:160)². Supporting evidence may come from the periphery, which has only one identifiable sherd of probable late facet Chacalhaaz date, from the Cueva de Alberto, a rock shelter 2 km. to the southeast of the city (Figure 9). These data would seem to indicate that the demographic collapse at Piedras Negras took place within an exceedingly short period of 5-10 years. Future research may resolve some of these issues. The 1999 field season did uncover strong evidence of late, unfinished buildings at the site, such as Structure 0-17, inside of which was the fragment of a probable throne with the name of Ruler 2 (Figure 10).

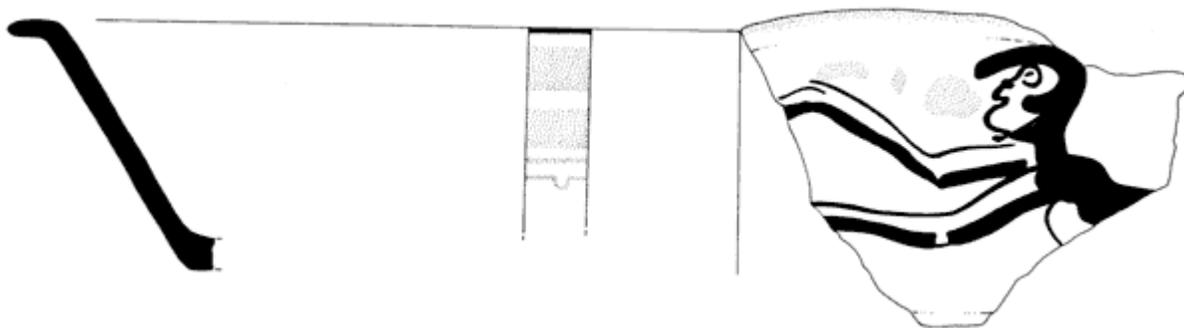


Figure 9. Late facet Chacalhaaz sherd, Hutzijan Polychrome, Cueva de Alberto, CS1A-1-1, length of sherd 14.5 cm. (Drawing: Stephen Houston).

² Our project is still grappling with the problems of defining and confirming late facet Chacalhaaz at Piedras Negras. Reporting on the Penn results, George Holley admits to the weak and uncertain definition of the material (Holley, 1983:160). At present, late facet Chacalhaaz consists of a scattering of ceramics from floors of the Acropolis and the rich, burnt deposit of 177 vessels from Structure J-12, which included many fine gray types that were doubtless of non-local origin (Holley, 1983:157, 165). As Holley notes, the facet seems exceedingly brief and entirely limited to surface materials (Holley, 1983:160). We are concerned that the material is more widespread than previously thought, with numbers and distribution artificially depressed by the eroded and fragmentary nature of surface finds.

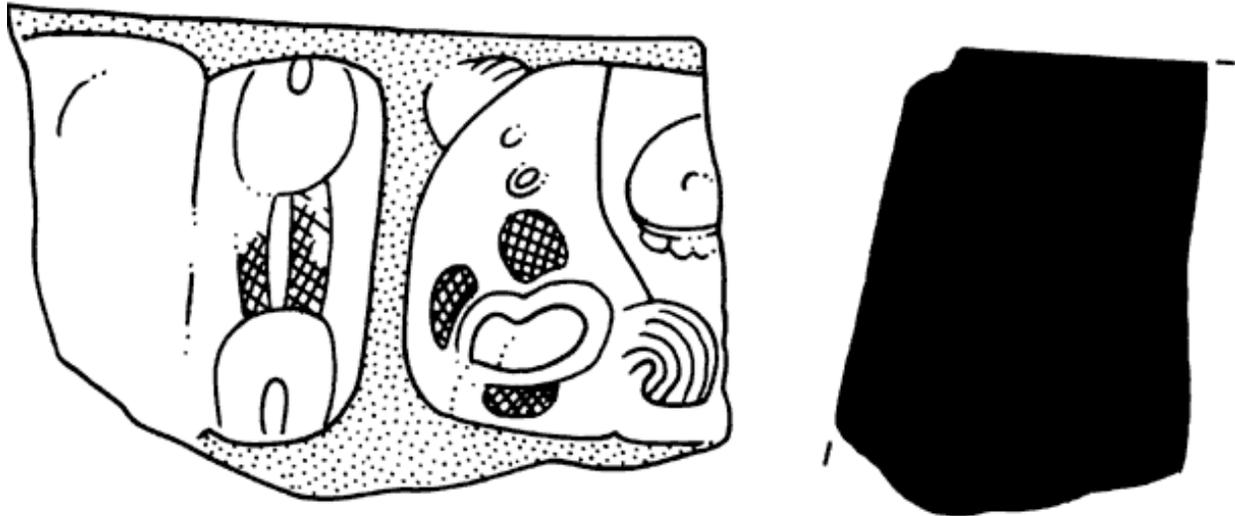


Figure 10. Throne or altar fragment, Structure O-17, width 14 cm. (Drawing: Stephen Houston).

The other sweatbaths reveal the most useful data on ancillary buildings. At a later stage, O-4 contained a number of crudely fashioned rooms with benches. Nearby, in Structure O-3, were other benches positioned for maximum privacy, with access through angled entrances. It is probable that these benches relate to the sweatbath. But what might that connection be? In the first place, we suspect that the increased quantity of benches offers evidence of opened access and increased use by inhabitants of the city. Whether this reflects a "democratization" of use is uncertain. The benches themselves may have been used for rest between lengthy baths and for feasting or enema rituals, which require a supine position. Nor can a more salacious function be discounted. At least one Classic Maya vessel probably shows what amounts to an orgy in a sweatbath (Coe, 1978: plate 11).

Residential architecture, too, came into clearer focus. Structure U-16 was completely excavated, in complement to the full stripping of other mounds in this group (U-8 and U-17) during the 1998 field season (Wells, 1999:220-221). To our knowledge, this is one of the first residential patios to be thoroughly excavated in the western Maya Lowlands. U-8 and U-17 had shown a subtle pattern of shifts through time, with more-or-less similar layouts in buildings, but with gradual expansion. A large platform elevated on all sides and resting on bedrock, U-16 contained a formal entrance that faced its patio; large flagstones probably demarcated areas left exposed to the elements, since they would have reduced muddy traffic in the rainy season. Three benches were disposed against the back and side walls of a central room on axis with the formal entrance. A wide trench through the middle of this building revealed earlier stages of these benches and a burial crypt. Here, as in more monumental architecture, the Maya had cut into, and ripped out, early deposits. To the east was a grouping of what may have been masonry storage cells. Additional trenching in U-17, first cleared in 1998, revealed more burials. The fill in U-16 yielded a fragmented animal bone, masterfully and minutely incised with the image of a winged, agnathous god with headdress ([Figure 11a](#)); there

was also a remarkable if fragmentary incised text, reading **U-ba/u-?-lu**/"Ruler 7," "his head carver (?), Ruler 7," of which a similar construction occurs on a subsidiary text on Panel 3, perhaps with assimilation of the agentive **a** ([Figure 11b](#))³. Nearby, in Structures U-18 and U-31, excavations cleaned off a long range structure (U-18) and a poorly preserved extension (U-31). At their intersection was the earliest phase of these buildings, which lay atop a thick layer of *caliza* and an Early Classic building covered by a ceramic dump. A surprising find was a cruciform arrangement of partially crypted burials in the center of the building.

³ There is some circumstantial evidence that this group may have housed one of Piedras Negras' renowned sculptors: (1) the evidence of the sherd; (2) its proximity to a finely carved bone that is unique at Piedras Negras for its quality of design and execution (Figure 11a); (3) a suggestion that eccentrics were made at this group (Hruby, 1998:378). We have a suspicion that the techniques and skills employed in carving stone monuments were also held by the master knappers who shaped the abundant eccentrics of Piedras Negras (Hruby, 1998:378).

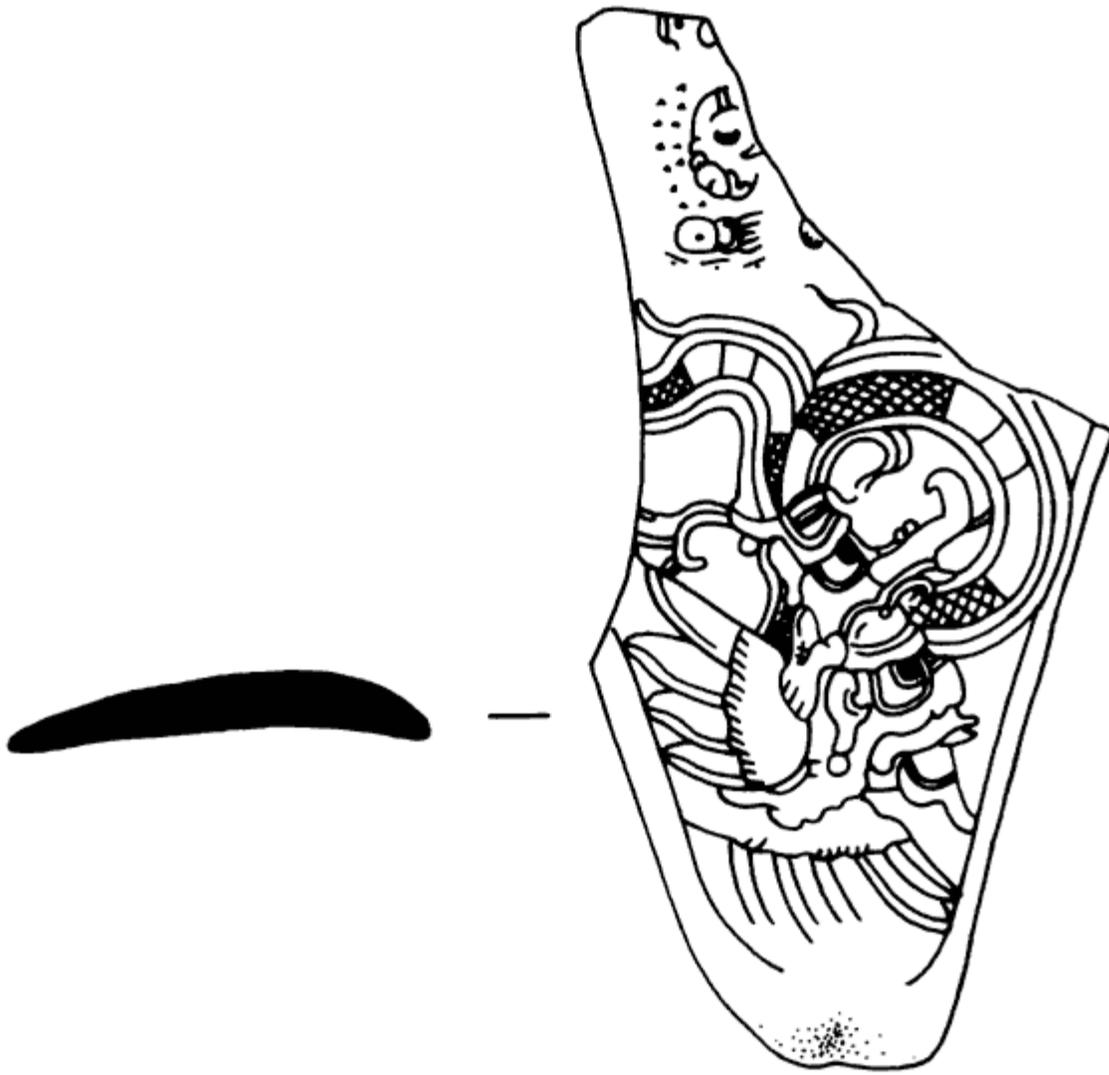


Figure 11a. Finds from Operation 33: Incised animal bone, PN33E-25-3, length 4.5 cm.; (Drawings: Stephen Houston).



Figure 11b. Finds from Operation 33: incised sherd, Ortiz Orange Incised, PN33E-19-5, width of sherd 6.5 cm.; (Drawings: Stephen Houston).

Mapping recorded no fewer than 68 buildings, many of them missed by Penn mappers in the 1930s ([Figure 12](#)). Typically, these lay in irregular groupings in areas of dense *güaymil* (second growth) and on low ridges in the seasonal bajo below the South Group. To our regret, it seems likely that considerable errors (20 m.+) existed in parts of Penn's survey of this zone. In all candor, had we known of such errors in the first and second season, we would have resurveyed, rather than simply extended, the Penn map (Houston *et al.*, 1999:11). Future investigators at Piedras Negras should proceed with caution when relying on horizontal distances in this earlier survey. Our mapping did, however, have a more positive result, by tying in excavations within the near-periphery of Piedras Negras.

The two excavations in the periphery followed a more intensive strategy than the far-flung reconnaissance of the first two seasons. Our focus was a small valley girded and defined by hillocks and ridges—clearly a principal path of access into Piedras Negras. The long-term objective of the Periphery Sub-Project will be to examine this sector completely, with excavation in all or most of the groups within the natural drainage. The intent: to undertake the analogy of a "community" or "neighborhood" study. One such group BS-23 (Brecha Sur) was excavated in 1998 (Webster and Kovak, 1998). The two under study in 1999 represented the most modest buildings in this sector, and thus, hypothetically, the easiest to dig and understand. However, excavations in BS-25, a single terrace, quickly demonstrated their complexity. A massive terrace had been constructed of fieldstone and repeatedly modified, often in alignments that proved difficult to disentangle. The plan of the mound, which began in the Yaxche phase, but largely dated to Chacalhaaz, corresponded to a two-structure mound group that had been arranged in linear fashion because of the steep slope. Large numbers of broken metates lay on the surface, and debris on flattened areas continued up to, and beyond, the excavated area, suggesting a more extensive, elongated occupation, with work or discard zones to either side of the buildings. The other site, BS-27, straddled a knoll

some 20 m. in elevation above BS 25. Disposed in L-shaped form, the mound group was first tested for phosphate concentrations, which duly appeared in high quantities near the benches on the larger mound, Structure 1. Ceramics were striking in their crudeness and poor firing, with an inventory far poorer than the larger site of BS-23.

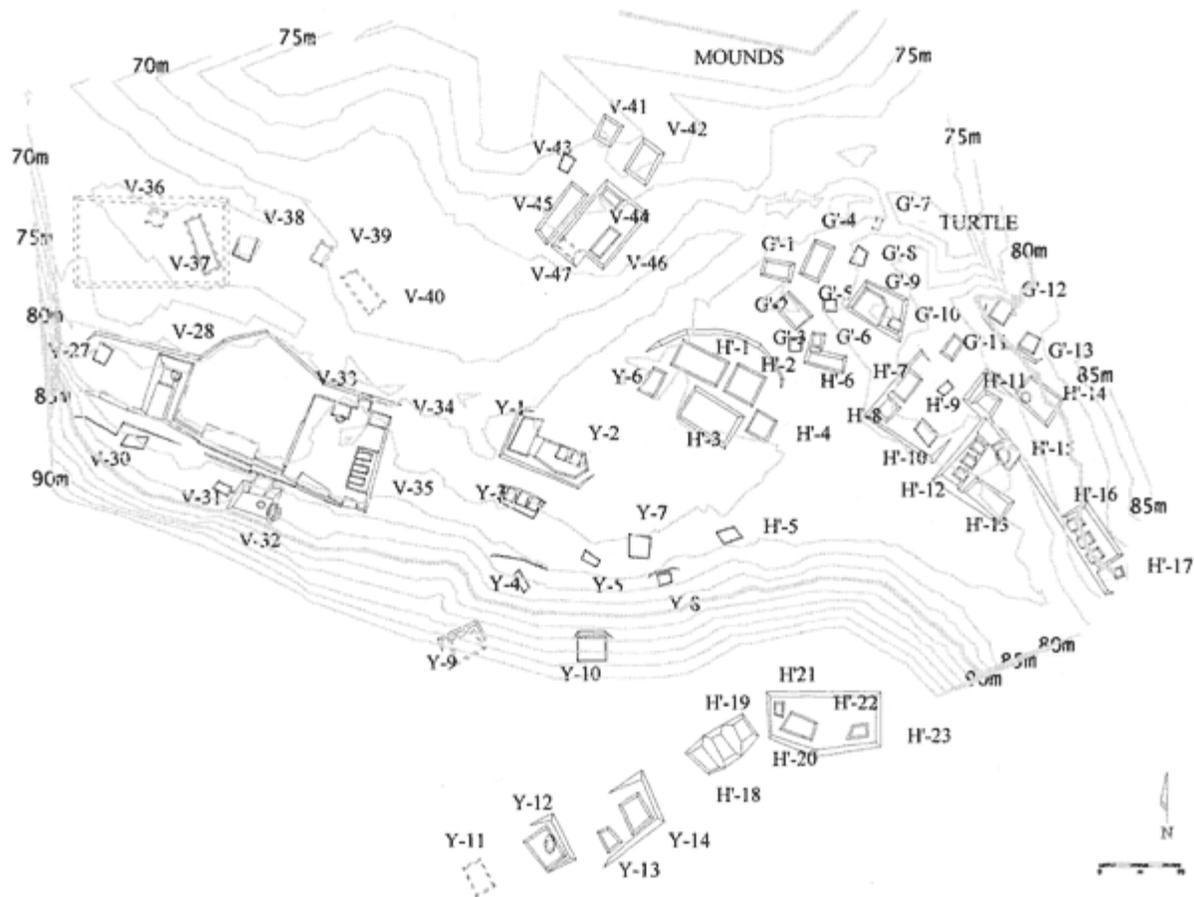


Figure 12. New mounds in southern sector of Piedras Negras (map: Zachary Nelson).

A fascinating component of settlement history around Piedras Negras was the discovery of an abandoned guerilla camp (Fuerzas Armadas Rebeldes/Comunidades del Pueblo en Resistencia, El Petén) about an hour's walk (ca. 5 km.) southeast of the project headquarters. The site consisted of over ten terraces measuring approximately 5 x 10 m., clustered tightly together, parallel to a seasonal stream bed that still contained, in sections, over 50 cm. of water. Low-lying foliage had been cut, but not the trees that provided protection against aerial surveillance and bombing. The camp was evidently selected because of this water source—one bed had been blocked off and excavated to a depth of 2 m. as a perennial water supply—and the site's strategic location at the confluence of three valleys. Sloping hillsides marked areas to the north and south, a

dramatic cliff face defined the hollow to the west. Apparently, attack by Guatemalan army units was expected from the south, so that the stream beds served as natural moats. Exploration 100 m. to the north of the camp revealed the existence of extensive bunker systems with gun ports facing above the camp to the south. Many of these holes were still covered by logs, tarp, and earth, and extended to a depth of 1.5 m. below the surface. Another safeguard were sentry posts set at a distance of 2 km. from the camp in narrow defiles leading to the guerilla settlement. A banana plantation of ca. 2-3 ha. and a milpa of the same size lay within one km. of the camp, again for protective reasons, since they would have been easily visible from the air.

The camp itself merits detailed ethnoarchaeological work as an important historical artifact of Guatemala's troubled past. Abundant Mexican trade goods carried expiration dates in the mid-1990s. One dilapidated building covered with zinc roofing had a crucifix nailed to its western end, a surprising relic for such an orthodox Marxist-Leninist movement. Equally surprising was the large quantity of individual cooking hearths and maize-grinders, since we had expected more collective arrangements. Caches raided by our workers contained mud boots and rotting military clothing; ammunition boxes and saddle supports attested to an uncertain and peripatetic way of life. The ancient Maya paid relatively little attention to a site that suited the needs of modern, clandestine conflict: a single set of two mounds with Late Classic sherds could be found on a hill to the south of the stream.

For the first time the Project was able to glean geological information, other than the sketchy but useful data available in Aliphath (1994). The city's location was determined by a geologically favorable placement along the Usumacinta River, on a low-relief platform above seasonally flooded valleys, and as part of an arch across a regional syncline. Black chert exposed along the river provided the community with a rich deposit of tool-making material. Staining of these rocks by manganese dioxide led to the site's modern name. During reconnaissance, Zachary Hruby determined that the greatest concentration of fine, large-noduled chert occurred on the river bank below the Acropolis and the N-1 sweatbath, a probable lure for early settlement. The lack of erosion on beds near the ruins confirmed that large amounts of architectural fill almost certainly came from the river bank during the Classic period. Three distinctive rock units were found and correlated with use in structures. The first was a honeycombed limestone that was employed principally in fill. The second was a thick-bedded limestone shaped into facing stones and carved monuments. The third consisted of a dolomite to dolomitic limestone that served as an ideal material for wall construction, being readily fractured into relatively regular blocks. The first two rock units crop out along the river; the third occurs at the elevation of the main site and higher hilltops.

Piedras Negras is within a cone-karst setting. Cockpits are not associated with the cones, and there is little evident internal drainage. However, one pit is possibly the largest in Guatemala at 100 m. in diameter by 66-120 m. deep (Houston *et al.*, 1999:16). Shovel tests quickly showed that little cultural material would be found without deep excavation—the slopes of the sinkhole are so unstable as to be continuously crumbling into the bottom. The origins of this pit, as well as those of many others nearby, stem from the late Cretaceous and Paleocene units underlying the site. The

uppermost unit is a cliff-forming dolomite to dolomitic limestone that supports little solutional enlargement for caves. It is underlain by an easily eroded carbonate chalk which forms no caves. Karst cones are partly created by solution of the dolomitic limestone and partly from weathering of the chalk, undercutting and disintegrating the dolomitic limestone⁴. The pit was formed by the collapse of both units into a deeper limestone, where large, water-filled conduits are apparently present, removing collapsed rock by dissolution. Moreover, the valleys to the southeast and northwest probably occur because of solution to this deeper stratum. Whatever water may be flowing through this system breaks into many small rivulets that dribble into the Usumacinta at low water level during the dry season. Caves are few, small, limited to dolomitic rocks, and mostly deriving from collapse rather than dissolution. Some contain Late Classic vessels and occasional fissures of moderate depth. To judge from finds within them, these features were used by the Maya as places for burial. Preservation of one such individual, a 12-year old, was extraordinarily good.

A detailed analysis of animal remains from deposits with clear ceremonial and ritual functions—caves, burials, and caches—suggests that the three contexts contain very different assemblages. In the case of the cave remains, it is likely that, despite the presence of human remains in all deposits, the faunal remains are predominantly those of resident and therefore intrusive animals. The exceptions are species that might easily have been brought to the cave either by humans or by large carnivorous predators such as weasels, foxes, and cats.

The caches and burials tell a different story. The bird remains found in the cache deposits include both whole skeletons and large body portions, a distribution that generally indicates intrusive species. However, in this case the presence of other, more definitively ritual species, indicates that these are in fact ceremonial offerings and not intrusive animals. The predominance of either whole skeletons or bird wing elements suggests that the feathers of small bright birds were an important part of the cache assemblages. In both cases the assemblages combined marine (rare and expensive) and riverine (common and local) aquatic animals, suggesting that the importance of these cache species lay in their emphasis on a watery environment, not in their focus on either marine exotics or elite goods. Perhaps the association between the birds (as sky elements) and the aquatic species (often underworld elements) suggests a bridging role for these caches placed between heavens and underworld.

The animal remains found in association with human burials at Piedras Negras are more difficult to interpret. While some species are easily defined as intrusive (rodents and lizards), and others are clearly ritual (marine shell decorations), our understanding of the role of other species must be based on the distribution of the remains themselves. The fact that deer limb elements are both ubiquitous and numerous suggests that these are not intrusive, but are the remains of foods interred with the corpse. Further quantitative and distributional analysis of burial remains will provide further proof of this suggestion.

⁴ It is possible that the high degree of ancient tooth wear (Lori Wright, personal communication, 1999) comes from the use of soft limestone in manos and metates.

Conclusion and Prospect

In large part, the 1999 field season confirmed and extended patterns perceived in earlier seasons. Chronology was refined considerably by the recovery of stratified sequences in solid architectural context. The beginnings of Piedras Negras, and its ending, appeared as abrupt as ever, with little evidence of gradual development or steady decline. As a city, Piedras Negras came into existence with astonishing rapidity, and in evident break from the villages that had formerly occupied the site. During the Preclassic, the rule seemed to have been discontinuity and episodic settlement. During the Classic there existed an unbroken ceramic sequence unruffled by the so-called hiatus, although, strangely, the evidence for breaks in architecture was strong and marked by burning events. At present, we do not believe that these events, seemingly varied in their precise dating, resulted from warfare: the destruction was too thorough and deliberate, with complete leveling of structures. Nonetheless, one does wonder whether these events arose from a profound dynastic shift, in studied break with earlier rulers of Piedras Negras. To a notable extent, the Early Classic kings are opaque in biographical terms, a problem we hope to address by concentrating on the South Group in our next season. As for the Collapse, at Piedras Negras this event—a more apt label than "process," which connotes time depth—took place with extraordinary speed. What is counterintuitive is the evidence, still to be tested in future work, that occupation in the palace outlived the city itself, perhaps an example of rulers without anyone to rule. The paradoxes of this pattern may be elucidated by more test-pitting or shovel-testing in the periphery of Piedras Negras. The Kings of the River, the lords of Piedras Negras, have spoken through their ruins, and it is up to us to discern, with all available tools, what they had to say.

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