

Monumental Architecture at Piedras Negras, Guatemala: Time, History, and Meaning

STEPHEN HOUSTON

Brigham Young University

HÉCTOR ESCOBEDO

Universidad del Valle

MARCK CHILD

Yale University

CHARLES GOLDEN

University of Pennsylvania

RENÉ MUÑOZ

University of Arizona

MÓNICA URQUIZÚ

Universidad de San Carlos

INTRODUCTION

Piedras Negras, Guatemala, is one of the principal ornaments of Classic Maya civilization, rich in hieroglyphic texts and equally endowed with deep and extensive remains of monumental architecture. Along with Uaxactun, this was the city where Mayanists first applied themselves systematically to understanding how Classic buildings functioned, developed, and fell into disuse. Earlier visitors had dug at Piedras Negras. Oliver Ricketson, member of the Carnegie Expedition of 1921, pitted in the K-6 ball courts (Satterthwaite 1944a: 30). Twenty-seven years before, loggers had hauled objects, including a flat slab with patolli-like design, back to their camp near the beach of Piedras Negras¹. But it was the University Museum of the University of Pennsylvania that excavated with the greatest energy, sophistication, and tenacity, in field seasons taking place throughout the 1930s (1931-1937, 1939).

This essay tells a story about scholarly techniques and interests -how they changed, how they stayed the same, how, through refinement, they sharpened views

of Maya architecture and urbanism. The research of the University Museum begins this account. Current investigations by the Proyecto Piedras Negras (PPN), sponsored by Brigham Young University and the Universidad del Valle, form its middle. Field seasons to come, projected through 2001, will complete the process of archaeological reflection, as two perspectives separated by sixty years converge on ancient realities. Here we focus on three themes: *time* (elapsed sequences deduced from stratigraphy, artifacts, and dated monuments), *history* (agents and activities identified by Proskouriakoff [1960] and others [Houston 1983; Stuart 1985]), and *meaning* (ancient intention and use inferred by various means, including guarded speculation and clues from glyphic evidence). An historical introduction explains the University Museum's overall approach. Interest in time, history, and meaning also informs current investigations by the Proyecto Piedras Negras, especially within two buildings of the ancient city: the P-7 sweatbath and the Acropolis (Fig. 1). A comparison between the two projects will express in microcosm the history of Maya archaeology².

¹ The loggers had their camp in and around T-3 and U-2, not far from the beach of Piedras Negras. An L-shaped formation of loose rocks doubtless served as a protective shield for the base of a large *champa* (thatch hut). In Op. 37, near the patolli slab, excavators found a Mexican peso coin from 1890 that had probably been dropped by a logger.

² In the 1980s there were two other attempts to start projects at Piedras Negras. One was to be directed by Michael Coe (Yale), with help from Jeffrey Wilkerson and Mary Miller. It met resistance in Guatemala, and, with the advice of Miller, its considerable private funding went instead to

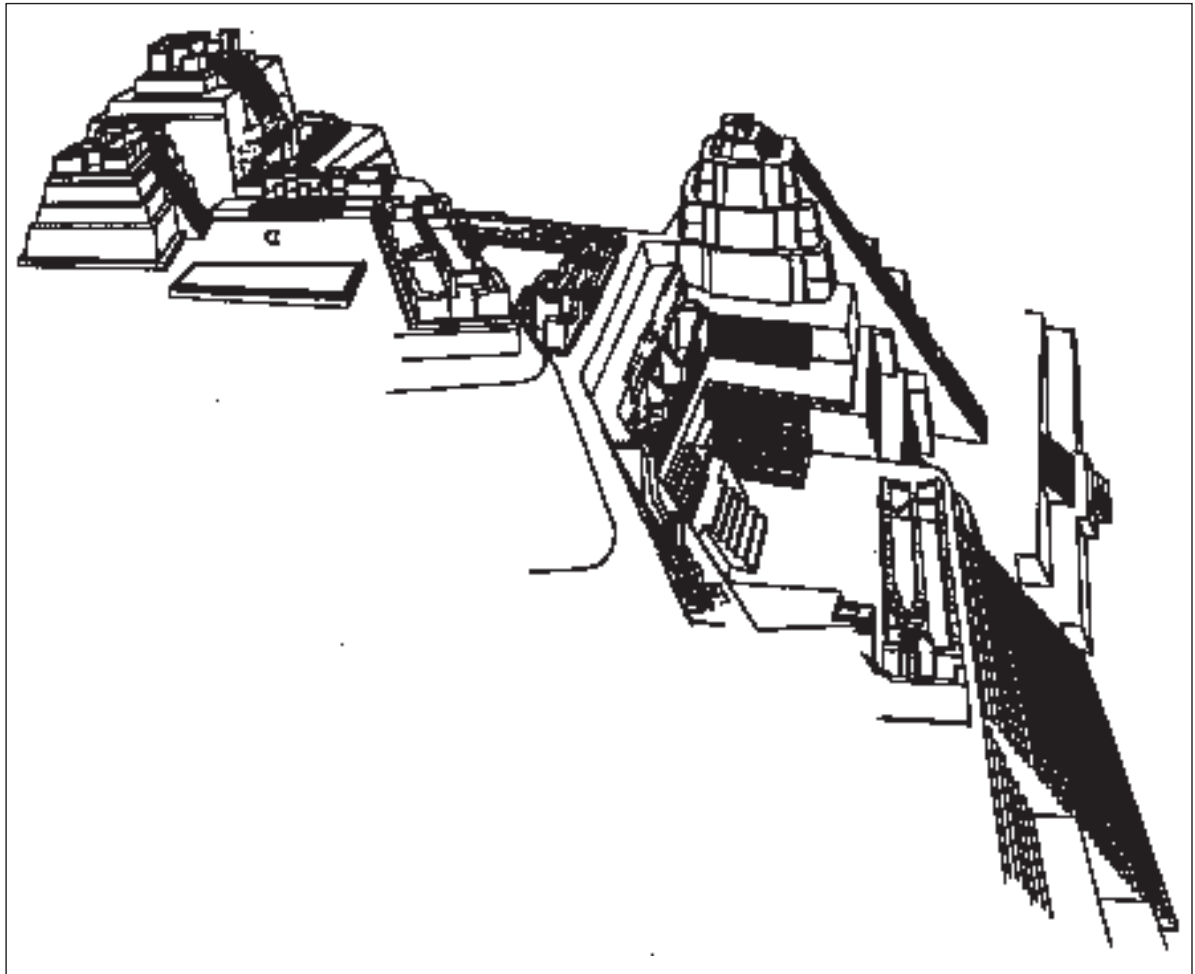


Figure 1. Partial reconstruction of Acropolis (drawing: Heather Hurst).

THE UNIVERSITY MUSEUM AND MONUMENTAL ARCHITECTURE AT PIEDRAS NEGRAS

For most of the 1930s, the University Museum of the University of Pennsylvania undertook dry-season excavations at Piedras Negras. Its work evolved from a primary focus on sculpture (and extraction of such pieces to Philadelphia and Guatemala City) to a keen interest in how buildings changed through time. To

put this another way, the Museum gradually shifted from an almost unseemly interest in transportable objects to a concern with context and chronology. J. Alden Mason, the first director of the project, listed his initial reasons for digging at Piedras Negras: the site was relatively accessible; it had water; its monuments covered a long span of Long Count dates; and most important, it contained monuments of surpassing quality that could be removed for museum display (Ma-

start the Caracol Project in Belize, with which Miller and Houston had an affiliation. The Yale expedition was intended to concentrate on royal tombs. The second project, conceived by the late Miguel Valencia of the Instituto de Antropología e Historia, founded as security deteriorated in the Usumacinta. It was apparently intended to be a «national», government-funded rescue project along the lines of the Proyecto Nacional Tikal.

son 1933a: 3). By a slightly later date, after some seasons of excavation, Mason could discuss something more concrete: «a dated history of the evolution of buildings and ceramics» and the identification of wattle-clay «house sites» that had covered most of the city (Mason 1933b: 93-94). (Apparently, the Museum expedition felt that these «sites» were occupied only by «priests and nobility» - that is, in contrast to Old World cities, Piedras Negras held a permanent population of roughly uniform role and social status [Satterthwaite 1933: 126]). Mason did not guide the project after the conclusion, in 1933, of its first phase of operations. It was left to Linton Satterthwaite, a young man who had abandoned law for archaeology, to finish the Pennsylvania work.

An appealing aspect of Satterthwaite was his absolute candor about personal and project failings. He believed that his inexperience led to an «unnecessary lack of desired information» (Satterthwaite 1944a: 9); his workmen «grubbed around» for artifacts (Satterthwaite 1954: 33); and some operations received «little supervision», for which he admitted principal responsibility (Satterthwaite 1954: 85)³. These remarks, although unusual in archaeological reporting, establish the relative reliability of his publications and, in consequence, assist later investigators. They also reveal his emotional distance from a project that had ended years before, when he was still an archaeological apprentice. An increasingly aimless program of research led in part to the demise of the Museum project. By the final season the drive to excavate in certain kinds of buildings had evaporated: the Museum worked in relatively few locations, rarely with a clear plan of attack. After 1939, with the advent of World War II, responsibility for the final reports fell solely on Satterthwaite's shoulders. The goal of complete publication eluded him at Piedras Negras, as it did at Caracol (Beetz and Satterthwaite 1981) and Tikal (Jones and Satterthwaite 1982), where other scholars concluded what Satterthwaite began. Later research by William Coe, Robert Rands, Anne Schlosser, and George Holley drew on Satterthwaite's stratigraphic knowledge, but only indirectly, through project memos and informal communications (Coe 1959: 8; Holley 1983: 117; Schlosser 1978). To modern readers, the Museum field notes can be incomprehensible. It is often easier to re-excavate buildings than to decipher Mason's scribbles or Satterthwaite's crabbed hand.

To Satterthwaite goes credit for thinking comprehensively about building function at Piedras Negras. Yet his insights were seldom original. Sylvanus Morley was the first to identify sweatbaths at the site (Satterthwaite 1952: 5); ball courts came to Satterthwaite's notice, and to Mason's, through information supplied by Blom and Morley (Satterthwaite 1944a: 9). What Satterthwaite contributed was a diligent and systematic approach. It seemed logical to him that most buildings would eventually conform to a functional classification. «Temples» housed the «*public practice of religious rites and ceremonies*» (Satterthwaite 1944b: 3, emphases in original). Pyramids usually, but not always, supported temples (ibid.: 3). Structures with thrones served as the seats of priests who were «civil or religious administrator(s)» (Satterthwaite 1937: 22). Within these «palaces» were «audience chambers for a considerable number of dignitaries», who perhaps came to hear judgments at such «courthouses» of the Classic period (ibid.: 20). Double galleries were the norm, single galleries became necessary when abutted against steep slopes (Satterthwaite 1935: 4). But Satterthwaite doubted that such buildings served as residences, for they failed to contain the expected «cooking fires» (Satterthwaite 1937: 20). Later, he grew even more tentative about «palaces», stating simply that they were «supposed public buildings other than temples and sweat-houses» (Satterthwaite 1943: 17). Everything else at the site was «unclassified», a default category that included virtually all of the small house-mounds at the site.

In one respect the Museum project was well in advance of its time. By mapping such small buildings, which Satterthwaite thought crucial to understanding Maya cities (1943: 20), the project set a cartographic standard that influenced all subsequent mapping in the Maya Lowlands. Excavation reports, too, reflected Satterthwaite's eye for detail. Isometrics rather than profiles conveyed the substance of excavation results, and terms and labels were defined with the exactness of legal codicils. Unfortunately, Satterthwaite's fondness for complex, prosy description and highly schematic graphics often prevents a clear understanding of what the Museum found.

In matters of time and sequence, Satterthwaite had to rely on the poor comparative chronology of the 1930s and 1940s. This made it difficult to date constructions with ceramics and other artifacts. However,

³ Satterthwaite's honesty even exposes probable violations of his agreement with the Guatemalan government. In 1934 the University Museum was «not permitted» to excavate (Satterthwaite 1943: 7), yet, elsewhere, Satterthwaite describes operations that year in Strs. F-3 and F-4 (Satterthwaite 1944c: 3).

Satterthwaite did understand the nature and urgency of the problem. He proposed to date structures, not by artifacts, but by three other means: associated Long Count dates on sculpture; calculation of so-called «vault-span» indices; and estimation of elapsed time by tabulating phases of construction. By present standards, all of these methods are crude or misleading. Enough is now known of glyphs to determine true «dedicatory dates», showing which dates correspond to building episodes, and who were the people who commissioned such buildings. Working before Proskouriakoff's detection of history in inscriptions (1960), Satterthwaite could only use glyphic dates blindly, as markers of time but without any secure sense of their historical or verbal referents. The vault-span indices were crudely valid, since they accorded with the assumption that the Maya built wider rooms and thinner walls through time (Satterthwaite 1935: 56). Whether they help us order buildings chronologically remains to be seen. This will be evaluated by the Proyecto Piedras Negras.

The final measure -equation of building phases with absolute chronology- is by far the weakest. Satterthwaite suggested that if a building contained, for instance, six phases, these would be of roughly equal duration, 2 to 3 katuns (40-60 years) in length (Coe 1959: 151). Moreover, all buildings at the site would postdate 9.0.0.0.0 in the Maya Long Count; the latest would precede 9.18.5.0.0, the last known hieroglyphic date. Thus, K-5-1st, dating approximately to 9.9.0.0.0, would be separated from K-5-4th by three intervals of 3 katuns, affording a date of 9.0.0.0.0 for the earliest level of construction (Coe 1959: 152). The results are widely off the mark. Satterthwaite was forced to posit an Early Classic date for Santa Rosa Cream polychrome, a type from the Late Classic Yaxche phase (Holley 1983: 483), and a comparable assignment for much of Structure K-5⁴. To the contrary: much of K-5 probably dates to the time of Ruler 2 of Piedras Negras, whose reign corresponds to the florescence of early Yaxche pottery.

If chronology and historical setting were Satterthwaite's weak points, he nonetheless offered perceptive comments about regional trends and architectural use. Vaults arrived halfway through the Classic period, probably from the Peten (Satterthwaite 1933: 122; 1942:

19). Satterthwaite did not know what to make of this influence, but he believed it also affected palace design and stimulated the introduction of side rooms on range structures (see Satterthwaite 1938: 282). The progressive exclusivity of temple rooms, as a pyramid substructures grew higher and higher, might have reflected changes in ritual (Satterthwaite 1942: 18), as did the fact that some column altars lay outside, in full public display, others within small chambers that few could enter (Satterthwaite 1939: 6-7). By the limits of his period, within analytic restrictions that he could not avoid, Satterthwaite had begun to fathom time and function. History, beyond a vague sketch of architectural «influence» and allusions to «priests», would have to wait for Tatiana Proskouriakoff, who little suspected that the site she mapped in 1936 and 1937 would revolutionize Maya archaeology.

MONUMENTAL ARCHITECTURE AND THE PROYECTO PIEDRAS NEGRAS

In 1960, more than two decades after the close of Museum excavations, Piedras Negras entered history. In what was probably the most important article ever published in Maya studies, Proskouriakoff studied the tight series of dates that had attracted Mason to the site—the hotun series so closely correlated with buildings. From these she sketched biographies of rulers at Piedras Negras (Proskouriakoff 1960). As best it could, the Museum team had studied time and function; now history, too, could play a role in interpretation. Over two field seasons (1997-1998) the Proyecto Piedras Negras assembled evidence on all three themes. In this paper we discuss two architectural complexes from the perspective of time, history, and meaning. One complex is a sweatbath (S-2), the other is a set of «palace» buildings and courtyards within the Acropolis.

A Late Classic Sweatbath: Structure S-2

The monumental sweatbaths of Piedras Negras fascinated Mason, Satterthwaite, and their student, Frank Cresson, who was perhaps the most able excavator of

⁴ The discovery of Santa Rosa Cream Polychrome sherds in Str. K-5-3rd, just above the earliest phase of this building, raises a possibility: that the Initial Series date of Panel 7 (9.9.8.0.11), a sculpture found on K-5, accords with an early phase of the structure. Nonetheless, the dedicatory date of this monument, apparently connected to a royal lady of the *Hix Wits* site, comes much later, at 9.12.5.11.5. Another problem is that the Initial Series date is unaccompanied by a legible verb, leaving its referent somewhat mysterious.

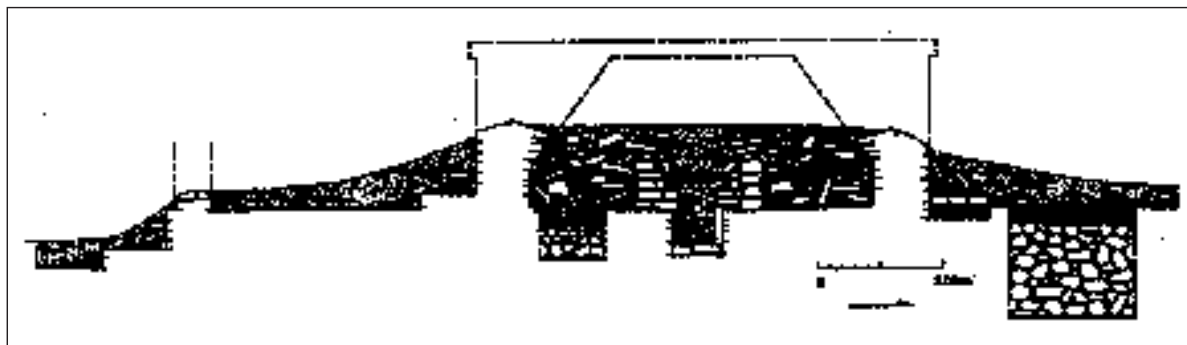


Figure 2. Cross-section through Str. S-2 (drawing: Mark Child).

the Museum team (Mason 1935; Cresson 1938; Satterthwaite 1952: 49). Cresson's field notes shine as models of clarity and individual plotting of artifacts. Regrettably, Satterthwaite's attention to sweatbaths was less productive, since he appears to have shoveled out—and left on the surface—in situ, Terminal Classic ceramics from Sweatbath J-17 (Satterthwaite 1952: 56). He also partly trenched Sweatbath S-2, yet not too deeply, leaving useful information for Mark Child, who excavated this building in 1998 (Fig. 2).

Ample archaeological and ethnographic literature exists on Maya sweatbaths (e.g., Alcina Franch *et al.* 1982; Houston 1996). But the abundance and monumental nature of such structures at Piedras Negras raise distinct questions. Does their ubiquity at the site reflect the presence of new forms of medical treatment and purification? Are the sweatbaths imperishable successors to flimsier buildings that may have preceded them? Does their great quantity at Piedras Negras represent attention to different categories of illness, each sweatbath being reserved for particular kinds of patient? Were they used by different lineages or kings? It was with these questions in mind that excavations began on Str. S-2. By the end of the 1998 field season, the operation succeeded in trenching the building biaxially, removing inside debris (and thus exposing an unusual balk in its water runnel [*desagüe*]), and collecting an unusual concentration of ceramics and lithic tools. Most other sweatbaths were swept relatively clean.

Like most steam houses at Piedras Negras, Str. S-2 had two phases of construction. The initial phase in-

variably involved the central sweatbathing chamber, where heat was generated and contained a Saxche Orange sherd from primary fill records the name of Ruler 3, whose reign, if coeval with the artifact, would date the piece—and, perhaps, the fill—to between AD 687 and ca. 729 (Fig. 3)⁵. A so-called (and inaccura-



Figure 3. Sherd with name of Ruler 3, Str. S-2 (Op. PN36A-5-3), Saxche Orange Polychrome, Yaxche period (drawing: Stephen Houston).

⁵ It is important to note, however, that the sherd comes from a vessel that is at least 26 cm. in diameter, with the possibility of some thirty glyphs around the rim. Conceivably, the name formed part of a parentage statement on a pot from the reign of Ruler 2 or Ruler 4—both had fathers with this name string. We believe both alternatives are doubtful. Ruler 4 is linked with Chacalhaaz, not Yaxche ceramics, and the form of the name is far closer to Ruler 3's than to Ruler 1's.

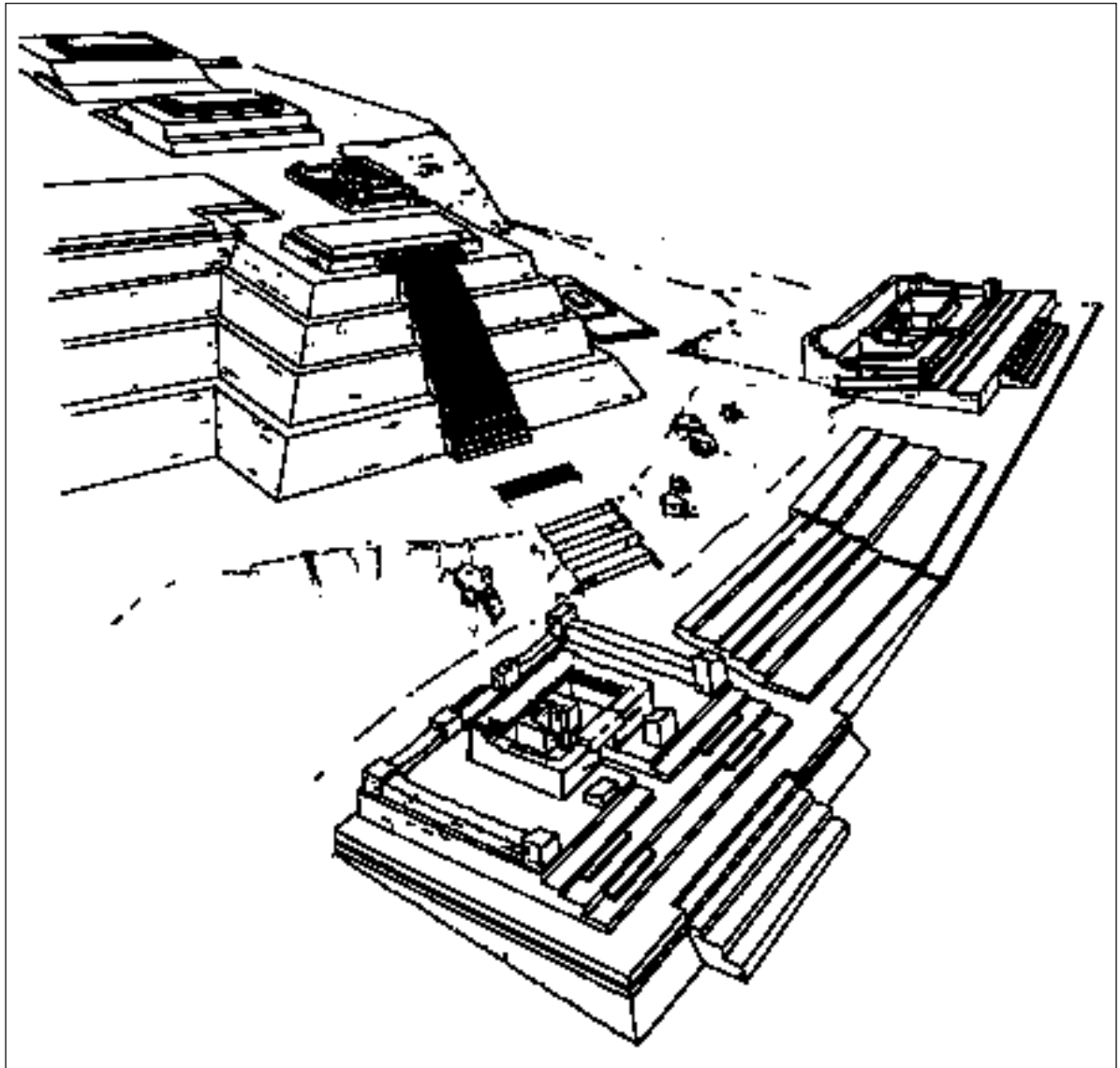


Figure 4. Partial reconstruction Strs. S-2, S-4, and R-13 (drawing: Heather Hurst).

tely named) «fire-box» held cracked stones that had been inserted within a low, internal structure. The «box» was sturdily built, with stone facings and lintel. A few sweatbaths, such as Str. N-1, included a «sherd wall» that deflected heat from the box. Nonetheless, it is most unlikely that the Maya ever kindled fire within

such chambers. In 1998, after partial reconstruction of Sweatbath P-7, project members learned first-hand how such chambers worked. A fire outside the sweatbath heated the rocks, which bathers shoveled into the «fire-box». When splashed with water, the rocks created a heat of astonishing, sinus-clearing intensity.

The benches within sweatbaths clearly held reclining bodies -no person could stand in the chamber without singeing skin and lungs. After crawling out, the bathers felt cool and refreshed.

The second phase of construction created vestibules around the sweathouse (Fig. 4). To judge from sweatbaths elsewhere, these chambers served as a dressing rooms or places for drinking, massage, and relaxation between sessions. Lithic material points to specialized activities taking place in the anterooms and platforms (Zachary Hruby, personal communication, 1998). Long prismatic blades, evidently imported in such shapes, in some instances from Mexico (a rarity at Piedras Negras), showed evidence of grinding and scraping. Activities might have included bone working or attention to personal hygiene, including shaving or scraping the body after exercise or bathing, a practice known from the ancient Mediterranean, among other places. Only one sweatbath, Str. P-7, possessed a vestibule of monumental construction. Pierced through its walls were *ik* or «wind» signs, perhaps hinting at the cool breezes that would envelope bathers when leaving the steam chamber. P-7 also has what may be unique feature: a cistern above the steamhouse. A small tube could be tamped, allowing rainfall to fill the cistern. When removed, water would gush out at relatively high pressure, perhaps for storage in clay *tinajas*. The advantage here is that bathers avoided the necessity of hauling water from 500 m. away, the distance in beeline to the Usumacinta River. It is possible, although probably unprovable, that all sweatbaths at Piedras Negras supported water receptacles of perishable materials.

Figure 5 displays chronological patterns in the sweatbaths. Note that the first phases —steam chamber construction— vary in date. One chamber is securely attributable to the late Early Classic (Naba period), the latest dates to the Yaxche-Chacalhaaz transition. But it is the second phase —vestibule construction— that intrigues. In every case the date can be fixed at the Yaxche-Chacalhaaz transition, ca. AD 731, perhaps the time of Ruler 4 (see below). (Observe, however, that P-7 has two such modifications.) Abandonment —the 3rd and 4th phases— varies as much as the initial phase. Most sweatbaths cease operation in Chacalhaaz or late Chacalhaaz times. Str. S-2 is the last in use, Str. S-4, which lies nearby, is the first to choke with debris, after a comparatively brief span of use. P-7 is probably used the longest, not surprisingly given its sturdy, monumental construction. The implication of these dates is that vestibule building is the most sen-

Sweatbaths of Piedras Negras					
	R-13	P-7	S-4	S-2	S-19
1st Phase	Naba	Naba	Yaxche	Yaxche	Yaxche
2nd Phase	Yaxche-Chac.	Yaxche-Chac.	Yaxche-Chac.	Yaxche-Chac.	Yaxche-Chac.
3rd Phase	Chacalhaaz	Yaxche-Chac.	Yaxche-Chac.	Late Chac.	Chacalhaaz
4th Phase		Chacalhaaz			

Figure 5. Phase of construction and abandonment in sweatbaths (graph: Mark Child).

sitive to centralized commissioning, possibly by Ruler 4. The dates also hint that, at least in the case of sweatbaths, widely distributed monumental architecture was not built on local whim, but at the behest of rulers. Varying dates of abandonment may also suggest a diminished population by the Late Chacalhaaz period, or at least a reduced demand for sweatbathing.

The sweatbaths are instructive in another regard. Satterthwaite and Cresson concentrated on the steamchambers and vestibules. They ignored platforms that adjoin sweathouses. This surely misled them. Str. P-7 neighbors a terraced building to the north that does not appear on the Museum map. Surface inspection reveals multiple terraces and rooms. Similarly, Strs. S-2 and S-4 lie next to two terraced platforms, incorrectly lumped into a single structure (S-44) by the Museum mapper, Fred Parris. Excavations by Child demonstrate that these elaborate terraces are coeval with the sweatbaths, for which they may have contributed ancillary functions: additional dressing rooms or, more speculatively, houses connected with childbirth, a common role of sweatbaths in ethnographic sources (Houston 1996: 138- 141).

The Acropolis

Unlike Satterthwaite, members of the BYU/del Valle project confidently viewed the famed acropolis of Piedras Negras as a «palace» (Fig. 1). A palace is an architectural setting where the royal family lived, discharged courtly obligations, received visitors, stored

treasure and tribute, entertained embassies and local nobles, and reproduced itself culturally and physically. The Acropolis easily fits this definition. It comprises a series of enclosed courtyards and multi-roomed range structures of increasingly difficult access—a remoteness that preserves privacy and helps maintain royal exclusivity. It is monumental, with some of the most finely cut, minutely pointed masonry at Piedras Negras, at the end (or beginning) of a processional way that passes near Str. O-13 and up two monumental staircases. Within it are benches and thrones of the sort depicted in Classic Maya art as the accouterments of palaces. Finally, it is the only visible structure at the site that could have housed the royal family in state and pomp. We may even have the name of buildings within the Acropolis. A throne from J-7, a columned gallery facing Court 1 of the Acropolis, refers to two structures, one explicitly described as a place where tribute was deposited or «offered» (*t'abay*); the other, probably J-7, carries the label of «lightning house» (*chahuk na*, David Stuart, personal communication, 1994), a location associated mythologically with the rain god Chaak⁶. An earlier version of J-7 throne may appear on Panel 3. In this scene Ruler 4 is surrounded by courtiers.

So far, the Proyecto Piedras Negras has excavated in all three courts of the Acropolis. With the exception of Court 1, the Museum researchers tended only to clear rooms within standing architecture, often filling courtyards with ejected material. We resolved to dig into these courtyards, despite the difficulties of loose fill and Museum overburden. Such operations were intended to expose deep sequences and help reevaluate Satterthwaite's chronology for the Acropolis (Holley 1983: 233). In general, both here and elsewhere in Piedras Negras, project members found that Museum results required reconfirmation (or refutation) through new excavation. While useful, prior correlations with ceramics did not always meet current standards of precision. (Worse, given the loose supervision of Museum excavations, some correlations now seem unreliable.) Unfortunately, much information was lost during Museum work in the Acropolis. Particularly heartbreaking was the clearance of Str. J-12, which contained a burned palace with extensive, in situ debris. According to George Holley, one room alone (room-space 10) contained approximately 90

vessels, most with indications of post-fire burning (Holley 1983: 157). Nothing like this is known outside of the burned palace recently discovered by Takeshi Inomata at Aguateca, Guatemala (personal communication, 1998).

Two seasons of research permit a preliminary outline of architectural development in the Acropolis. The story begins, however, not under the Acropolis, but to the south of it, under the West Group Plaza, where excavations exposed at least two platforms buried behind later monumental stairways. One building faced west, the other north. They duplicated the layout, orientation, and dimensions of J-2 and J-7-Sub 3A, structures grouped around Court 1 of the Acropolis. Aside from late material in the humus, virtually all ceramics date to the early/middle years of the Early Classic or Naba period. There is a strong likelihood that these buildings constituted the first palace in this area. Sometime at the end of the Early Classic, probably after AD 500, the buildings under the West Group Plaza were carefully leveled and buried to a depth of about a meter. By dumping fill and dressed stone from their superstructures the Maya brought the Plaza up to within a few centimeters of the present-day surface.

At about this time the Acropolis saw its first constructional activity. A dense, natural clay under Court 1 had Naba artifacts embedded within it, yet far more complex was a series of buildings in Court 3 (Fig. 6). In the center, still exposed in the latest phase of building, was a jagged outcrop of limestone bedrock, apparently shaped by Maya masons into a near-cylindrical form. On a lower outcropping nearby appeared a set of low steps leading up to the chasm between the two masses of living rock. To the northwest lay a low platform of similar date. It would seem that the Maya held the stone in some ritual respect and disposed their buildings around it to facilitate access to the chasm. Unfortunately, the density of fill made it impossible to plumb the depths of this feature. At the end of the Early Classic, at about AD 500-550, the Maya celebrated a termination ritual over at least one of these structures. The building was burned, and complete figurines, dark clay, and dozens of highly fired ceramics were spread over the smoldering surface. The signs of burning were intense: an ashy deposit included a high proportion of organic material: the stench of decomposition was overpowering 1500

⁶ Two scepters were found in royal burials at Piedras Negras (Bu. 5, Bu. 13). Both show the head of Chaak. Their material: the proximal ends of jaguar ulnae. Perhaps the «lightning house» alludes to Chaak ceremonies or to some other feature of this god, such as the place where Chaak struck a mythic mountain and liberated primordial maize (Taube 1993: 66-67).

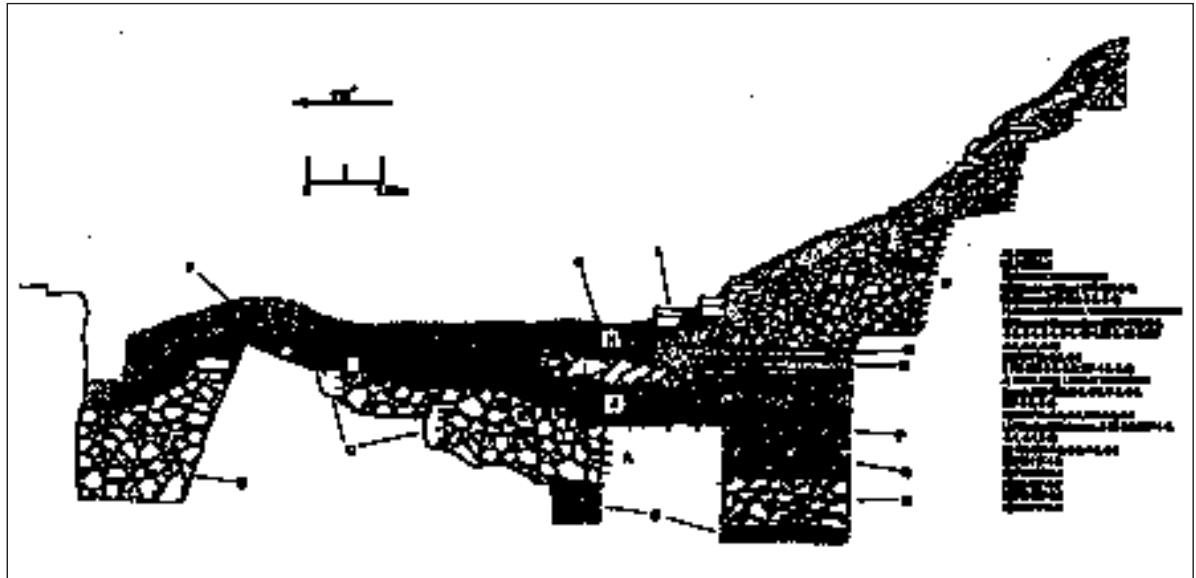


Figure 6. Cross-section through Court 3 (drawing: Charles Golden).

years after disposal. Hereafter, the rock outcrops and chasms were largely obscured by fill, their ritual centrality evidently at an end. One can only speculate about such well-stocked deposits: a ceremonial means of «killing» buildings? An extravagant observance of period-endings or the death of an important individual? a testimony to the destructive consequences of war? All that can be certainly inferred is the special nature of the deposit. The variety and quality of its contents are wholly unlike other middens at Piedras Negras⁷.

It is in late Balche and Yaxche times (ca. AD 600 to 731) that the Acropolis achieves its extraordinary bulk. In Court 3, the patio floor reaches close to its current level. The predecessor of Str. J-20 and possibly, Strs. J-21 and J-23 date to this time. Court 2 has some construction under J-11, but it is Court 1 that witnesses the most activity (Fig. 7). Satterthwaite had tried to label its complex layering, but these tags must be dis-

carded as further information comes to light (e.g., Holley 1983: 233). The Proyecto Piedras Negras employed the «Harris Matrix» system in its excavations of Platform J-7 in Court 1. With time, it will extend the matrix approach to other parts of the site. This system helped delineate no fewer than four major, Precolumbian phases of construction, with 10 sub-phases for finer divisions (Fig. 8 and Appendix 1, see also Fig. 7; Hammond 1993; Harris 1989). Each matrix unit represented a deposit, a floor or facing—a «node» that implies stratigraphic interface—or a destruction event, known colloquially to Mayanists as a «rip-out». The advantage of the matrix is its great subtlety and the ease with which archaeologists can use it to determine phasing. With additional evidence, the project intends to compile a Harris Matrix that joins the entire Acropolis.

At the transition from Early to Late Classic (Balche), Court 1 had a terrace that faced south, on top of which was a long gallery (Str. J-7-Sub 3rdA, or Phase Ia)⁸. Ac-

⁷ Two other termination deposits occur in project excavations: in an area of low-lying mounds to the southwest of the Acropolis (N/O sector), and skirting the base of Structure F-2. The first dates firmly to Yaxche times, the second to Balche. These deposits have singular properties, one of which is that in no instance can complete vessels be reconstructed. This could represent curation of broken vessels from elsewhere, or a reflection of the violence with which they were smashed—pieces may yet occur on the edges of these deposits, far from pot-mates.

⁸ The Proyecto Piedras Negras labels structures according to a variant of the ternary system. Buildings are ordered from top to bottom, latest to earliest. If structures share the same layout, they follow a sequence of «1st, 2nd,» etc. If there is a marked change in orientation or form, they shift to a «sub-series.» A building under Str. J-7-1 may, for example, be termed «Str. J-7-Sub 1.» To distinguish between remodelings within a sub-series, the project adds «Str. J-7-Sub 1-1st.»

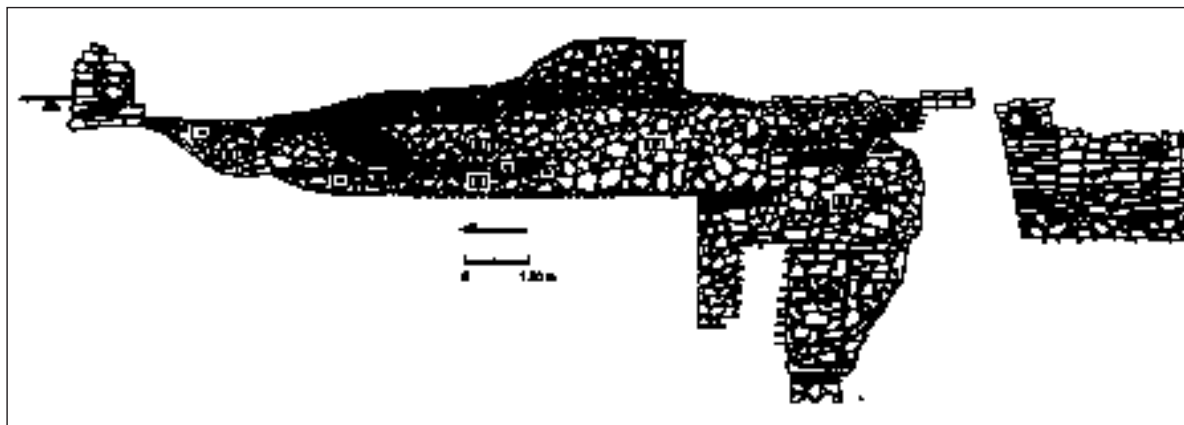


Figure 7. Cross-section through Str. J-7 (to be cross-referenced with Fig. 8 and Appendix 1 (drawing: Mónica Urquizú and Zachary Hruby).

According to Satterthwaite, a stepped series of platforms continued behind this gallery (Satterthwaite 1954: Fig. 35). During the Yaxche period (early Late Classic), many events took place that radically reconfigured the court. A second gallery, Str. J-7-Sub 3rdB, or Phase Ib, was built atop one edge of the sunken court. Behind this lay the western edge of another building, Str. J-7-Sub 3rdC, which probably passed under what is now Pyramid J-4, looking out to the West Group Plaza. In Phase III, also dating to Yaxche times, Court 1 was filled in, and an elevated terrace constructed—this probably held perishable structures of wattle-and-daub. Yet, destruction preceded construction: the buildings of Phase I experienced intense burning, although without the concentration of fine materials recovered from Court 3. Finally, in Phase III, the terraces were elevated and substantially modified with transverse balks and replasterings of a floor in the center of J-7. Large platforms hedged the southern face of the Acropolis (Str. J-1), the west side of Court 1 (Str. J-5). Most important, the Maya sealed off the Court with another gallery (Str. J-2). From a relatively open construction that accorded with natural contours, the Acropolis metamorphosed into a rectilinear, fully artificial form. From open access, as in the early buildings under the West Group Plaza, it proceeded to tight enclosure.

In light of the rough correlations that seem to exist between rulers and ceramics phases, it would appear

that most of these alterations and expansions date to one or two kings, Rulers 2 and 3 (see below). Monuments of Ruler 3 line the front of Str. J-4. It seems likely that this pyramid may prove to be his mortuary structure, although this identification is far from certain. His name, along with a posthumous reference to Ruler 2, also occurs on incised shells from Burial 5, in a platform opposed to J-7. Moreover, excavations within the N/O residential sector (near Str. N-10) uncovered a burned deposit with similarities to the Court 3 termination debris: it contained many nonpareil objects, including new pottery types or combinations of ceramic technologies, portrait figurines, and at least four separate vases referring to Ruler 2 (e.g., Fig. 9). A provisional hypothesis, to be tested in subsequent seasons, is that this sector functioned as a service *barrio* for the Acropolis. From there food could be prepared and taken quickly to the palaces; this is where servants lived, where sumptuary goods could be prepared for consumption and display by dynasts⁹. The sector dates no earlier than Yaxche times, when the Acropolis approximated its monumental, palatial form. Perhaps the deposit represents vessels removed by servitors from the palaces, an old «place service» tossed for unknown reasons. Methodologically, the functional integration of the N/O sector with the Acropolis and buildings under the West Court Group Plaza underscores once again the futility of the Museum ap-

⁹ According to Zachary Hruby, project lithicist, a single test-pit in the N/O sector yielded more obsidian blade fragments than did two seasons of excavation in the Acropolis.

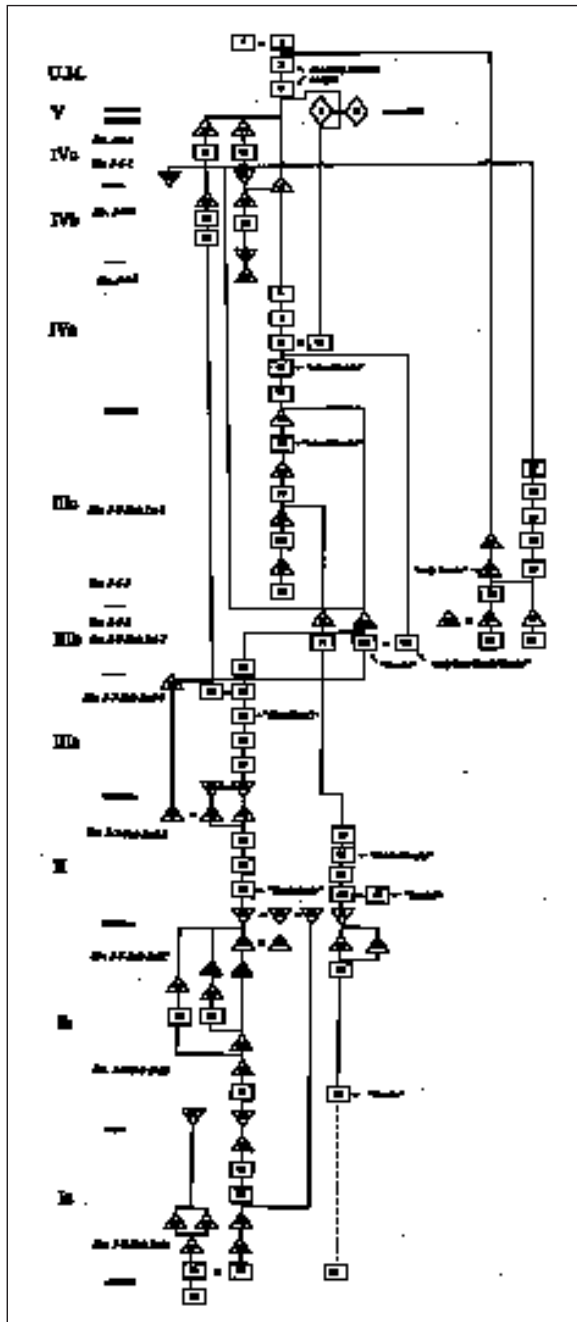


Figure 8. Harris matrix of Court 1 (rectangles signal stratigraphic entities, triangles represent «nodes» or facings, and inverted triangles record episodes of destruction; diamonds correspond to burials (graph: Stephen Houston).

proach to building «types». Linked sectors, not isolated structures such as sweatbaths and palaces, form the most useful units of analysis, their delimitation to be determined on ad hoc, excavational bases.

At this point the chronology becomes imprecise. The Acropolis probably entered the Chacalhaaz period (after ca. AD 750) and attained its present form. The Maya transformed J-7 into a platform (Phase IV), although taking care to leave a gallery of the terraced construction from the previous phase. Most of Court 2 dates to this period, as do the upward-thrust buildings of Court 3, with their high, stacked platforms, elevated sight-lines over the Usumacinta River, and large expanses of exposed wall masonry. Str. J-4, one of the largest pyramids of the site, covers the terraced buildings of J-7. And in Str. J-6, with its hieroglyphic throne, scholars have an example of a building fronted by megalithic stairways of the sort shown in Maya art as platforms for tribute, captive display, feasting, and embassies—close to the information suggested on the throne text. From this one can conjecture that Court 1, at first a vague epigone of an Early Classic form, expanded vertically, on higher bases and with broader areas for interacting with the world outside the Acropolis. As with the West Group Plaza buildings and Court 1, its many galleries were shifted still higher, to Court 2, and with spillover into Court 3. Such distancing and spatial refinement may accord with the elaboration of court protocol, a tendency to heightened exclusivity, and a need to segregate a greater variety of functions. During the Chacalhaaz period, building in the Acropolis was highly active. Some structures, such as Str. J-12, may be unvaulted because resources were inadequate to the press of new building projects, including the massive O-13 pyramid, which was almost twice as large as any earlier building (Holley 1983: 197).

There is mounting evidence that the end of the Acropolis expresses tangibly and directly the demise of Piedras Negras. The glyphic throne in J-6 was viciously hacked into dozens of pieces, some, despite careful search, never recovered by Museum excavators. Structure J-12 and perhaps J-17 experienced intense conflagration, leading to the in-situ debris mentioned before (Holley 1983: 157-160). The recent argument that Yaxchilan captured Ruler 7, the last known king of Piedras Negras (David Stuart, personal communication, 1998), clothes these architectural features in a compelling story. According to this scenario, Yaxchilan specifically razed the Acropolis sometime before AD. 808, when Ruler 7 appears on the latest

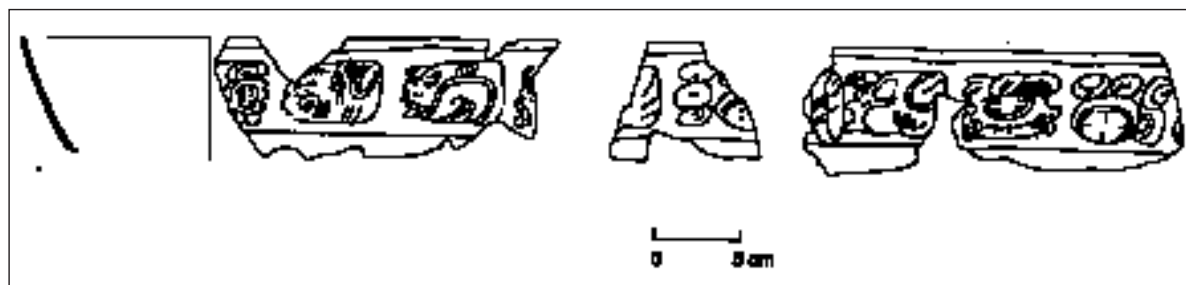


Figure 9. Vessels with name of Ruler 2, near Str. N-10 (Op. PN24B), Paqal Incised, Yaxche period (drawing: Stephen Houston).

sculpture at Yaxchilan. The late deposits of the Tamay sub-complex were among the finer ceramics used by Ruler 7's court.

What is striking at Piedras Negras is the slender amount of material—from the Kumche period—that post-dates Chacalhaaz and Tamay. Other sites, such as Altar de Sacrificios, Seibal, and Punta de Chimino, thrive at this time. But at Piedras Negras such occupations occur only as surface debris near the South Group pyramids, as squatter remains in the R-1 ballcourt, and as enigmatic modifications of Str. 0-7. Twenty-one stone pillars, evidently used for altars for sacrifices and incense burning in other parts of the site and at El Cayo, were probably dragged to 0-7. This may have coincided with the Yaxchilan event, or, alternatively, they were erected here in the Kumche period, as a last vestige of royal ritual in dramatically straitened circumstances (Satterthwaite 1954: 35). Yet, whatever the explanation, war with Yaxchilan plausibly and forcibly demoted Piedras Negras from a city to a small village, perhaps intermittently occupied.

The importance of Proskouriakoff's work, and of her infusion of royal biography, is that it enables us to understand architectural developments within an historical framework, with all of the strengths and the limitations that this connection implies. Properly conceived, history at once illuminates and complicates archaeology, identifying agents who may, or may not, account for material patterns. Disentangling such matters becomes the goal and the challenge of the Maya archeologist. We mentioned before the rough correlations between rulers and ceramics and hence architecture. As a loose guide, Ruler 1 correlates with Balche, Ruler 2 with early Yaxche, Ruler 3 with late Yaxche, Rulers 4, 5, and 7 with Chacalhaaz/Tamay. We harbor no delusions that these correlations deser-

ve rigid devotion. However, they do help suggest history how informs building programs. The focus on palatial construction in the Acropolis would seem a preoccupation of Rulers 2 and 3, whose reigns were of sufficient length to commission works of transcendent grandeur and high energy investment. Ruler 4 and his successors enhanced the exclusivity of the Acropolis and made its standing buildings more monumental.

Beginning as a hill, the Acropolis ended its existence with two cremations in the humus of J-7 (Phase V, perhaps coeval with cist deposits in Str. 0-7), but no other signs of occupation. For the Lacandon Maya, it served for centuries as a pilgrimage spot, just as Yaxchilan and Bonampak did until recently. Str. J-2 was found to contain some of their braziers, of sufficient age that vault collapse had covered them by 1932 (Satterthwaite 1946: 18). In future seasons, so as to complete its story, the Proyecto Piedras Negras will explore buildings on its northern flank, investigate its linkage to the N/O sector through stripping excavations, and dig more deeply into its Courts and two pyramids.

CONCLUSIONS

This tale of comparison draws to a close by remarking on advances since the University Museum expedition. *Time*: The integration of artifacts and architecture, sadly imprecise in the Museum work, today approaches a new level of rigor, although we have yet to include other data, such the results of energetics analysis (Abrams 1994). *History*: Building activity has become «personalized», connected with known historical personages, and explicable in terms of royal behaviors that skirted beyond the interpretive resources of Satterthwaite and his colleagues. *Function and Me-*

aning. Complexes, not single structures, increasingly submit themselves to elucidation. The N/O sector cannot be interpreted apart from the Acropolis that adjoins it, nor the sweatbaths from the terraces to their sides. Nonetheless, what impresses us about excavation in these deposits is not only their richness, but their cost: such operations can utterly consume excavation budget, so the gains reported above come at the expense of work elsewhere. But it is equally im-

possible to find places that more closely reflect history, that more neatly encapsulate crucial layers for dating artifacts, that celebrate intimately the central, organizing world view of the Classic Maya. Awaiting the Proyecto Piedras Negras is a fuller understanding of domestic, modest architecture that parallels the efforts of kings, and a deeper comprehension of how these massive buildings reached to the sky and fell to the earth with their masters.

REFERENCES

- ABRAMS, Elliot M. 1994. *How the Maya Built Their World: Energetics and Ancient Architecture*. University of Texas Press. Austin.
- ALCINA FRANCH, José, Andrés CIUDAD RUIZ, and Josefa IGLESIAS PONCE DE LEÓN. 1982. «El *temazcal* en Mesoamérica: evolución, forma y función», *Revista Española de Antropología Americana* 10: 93-132.
- BEETZ, Carl P. and Linton SATTERTHWAITE. 1981. *The Monuments and Inscriptions of Caracol, Belize*. University Museum Monograph 45. University Museum, University of Pennsylvania. Philadelphia.
- COE, William R. 1959. *Piedras Negras Archaeology: Artifacts, Caches, and Burials*. University Museum, University of Pennsylvania. Philadelphia.
- CRESSON, Frank M. 1938. «Maya and Mexican Sweat Houses», *American Anthropologist* 40 (1): 88-102.
- HAMMOND, Norman. 1993. «Matrices and Maya Archaeology», in *Practices of Archaeological Stratigraphy*, Eds. E. C. Harris, M. R. Brown III, and G. J. Brown, pp. 139-152. Academic Press. London.
- HARRIS, Edward.C. 1989. *Principles of Archaeological Stratigraphy*. 2nd ed. Academic Press. London.
- HOLLEY, George R. 1983. *Ceramic Change at Piedras Negras, Guatemala*. Ph.D. dissertation, Department of Anthropology, Southern Illinois University at Carbondale.
- HOUSTON, Stephen. 1983. «On «Ruler 6» at Piedras Negras, Guatemala», *Mexicon* 3 (3): 84-86.
- . 1996. «Symbolic Sweatbaths of the Maya: Architectural Meaning in the Cross Group at Palenque», *Latin American Antiquity* 7 (2): 132-151.
- JONES, Christopher, and Linton SATTERTHWAITE. 1982. *Tikal Report No. 33, Part A: The Monuments and Inscriptions of Tikal: The Carved Monuments*. University Museum Monograph 44. University Museum, University of Pennsylvania. Philadelphia.
- MASON, J. Alden. 1933a. «Introduction». In *Piedras Negras Preliminary Papers, Number 1*. University Museum, University of Pennsylvania. Philadelphia.
- . 1933b. «The Piedras Negras Expedition», *University Museum Bulletin* 4 (4): 93-94.
- . 1935. «Mexican and Mayan Sweat-Baths», *University Museum Bulletin* 6 (2): 65-69.
- PROSKOURIAKOFF, Tatiana. 1960. «Historical Implications of a Pattern of Dates at Piedras Negras, Guatemala», *American Antiquity* 25: 454-475.
- SATTERTHWAITE, Linton, Jr. 1933. «The Piedras Negras Expedition», *University Museum Bulletin* 4 (5): 121-126.
- . 1935. *Piedras Negras Preliminary Papers, Number 3: Palaces Structures J-2 and J-6*. University Museum, University of Pennsylvania. Philadelphia.
- . 1937. «Thrones at Piedras Negras», *University Museum Bulletin* 7 (1): 18-23.

- . 1938. «Research Report», *American Antiquity* 3: 281-282.
- . 1939. «Evolution of a Maya Temple. Part I», *University Museum Bulletin* 7 (4): 3-14.
- . 1942. «A Maya Temple Grows Up», *Scientific American* (July): 18-19.
- . 1943. *Piedras Negras Archaeology: Architecture, Part I, No. 1, Introduction*. The University Museum, University of Pennsylvania. Philadelphia.
- . 1944a. *Piedras Negras Archaeology: Architecture, Part IV, Ballcourts, Nos. 1-3*. University Museum, University of Pennsylvania. Philadelphia.
- . 1944b. *Piedras Negras Archaeology: Architecture, Part II, Temples, No. 1: Structure R-9 (Temple and Associated Constructions)*. University Museum, University of Pennsylvania. Philadelphia.
- . 1944c. *Piedras Negras Archaeology: Architecture, Part VI, Nos. 1-2. Unclassified Buildings and Substructures*. University Museum, University of Pennsylvania. Philadelphia.
- . 1946. «Incense Burning at Piedras Negras», *University Museum Bulletin* 11 (4): 16-22.
- . 1952. *Piedras Negras Archaeology: Architecture, Part V, Sweathouses*. University Museum, University of Pennsylvania, University of Pennsylvania. Philadelphia.
- . 1954. *Piedras Negras Archaeology: Architecture, Part VI, Nos. 3-12. Unclassified Buildings and Substructures*. University Museum, University of Pennsylvania, University of Pennsylvania. Philadelphia.
- SCHLOSSER, Ann L. 1978. *Classic Maya Lowland Figurine Development with Special Reference to Piedras Negras, Guatemala*. Ph. D. dissertation, Department of Anthropology, Southern Illinois University at Carbondale.
- STUART, David. 1985. «The Inscriptions on Four Shell Plaques from Piedras Negras», In *Fourth Palenque Round Table, 1983*, Eds. V. M. Fields, pp. 175-183. Pre-Columbian Art Research Institute. San Francisco.
- TAUBE, Karl. 1993. *The Legendary Past: Aztec and Maya Myths*. British Museum. London.

APPENDIX 1: Op 34 Matrix

N.B.: Numbers in brackets [] represent stratigraphic entities. Italicized sequences record lot numbers; ceramic information comes from lot analysis by Muñoz and James Fitzsimmons.

University Museum Deposits:

- [1] - humus
- [2] - dark earth
- [3] - rock

Maya Deposits in Str. J-7:

- [4] - humus / 34A-1-1
- [5] - presumed latest floor of Str. J-7-2 / **Node**
- [6] - dark earth / 34A-1-2 / «Late Classic»
- [7] - loose rock in NE profile
- [8] - bone concentration / 34A-1-2 (in-situ cremation)
- [9] - bone concentration / 34A-1-2 (in-situ cremation)
- [10] - dark earth around bone
- [11] - dark earth on platforms / 34A-1-3
- [12] - Str. J-4-2 platform, on alignment with J-4 base / **Node**

- [13] - construction fill, stair abutment against J-4
 [14] - dressed stones of Str. J-4-1, stair against J-4 / **Node**
 [15] - cut-out trench for [12]
 [16] - stone fill for [12]
 [17] - stone fill / 34A-1-4, 34A-1-5 / «mixed (Balche?)»
 [18] - Str. J-7-Sub 2-2, also visible in Str. J-7-Sub 2-1 / **Node**
 [19] - destruction of [12]
 [20] - lower stairway, Str. J-7-1, leading to Patio 1 / **Node**
 [21] - fill of lower stairway, J-7-1 / 34A-9-1
 [22] - faced wall behind [20], [21]
 [23] - Str. J-4-2, face; probably also with Str. J-7-Sub 1 / **Node**[24] - fill of Str. J-7-Sub 2
 [25] - small stones behind [22]
 [26] - support wall
 [27] - massive fill behind [26] / 34A-7-1 / «Balche-Yaxche?»
 [28] - floor of Str. J-7-Sub 3C / 34A-1-13 / **Node**
 [29] - destruction of Str. J-7-Sub 3C / 34A-5-3
 [30] - fill inside Str. J-7-Sub 3C and under adjacent floor/ 34A- 1-14, 34A-8A-2 / «Yaxche»
 [31] - support wall above Str. J-7-Sub 3C
 [32] - fill above Str. J-7-Sub 3C, also above floor to west / 34A-1-11, 34A-8-1 / «Balche/Yaxche»
 [33] - small stone level below 34A-1-2
 [34] - support wall
 [35] - rubble fill / 34A-3-1 / «Chacalhaaz?»
 [36] - well-dressed support walls
 [37] - fill of [36]
 [38] - Str. J-7-Sub 2-2 / **Node**
 [39] - destruction of Str. J-7-Sub 2-2
 [40] - floor adjoining Str. J-7-Sub 2-2 / **Node**
 [41] - destruction of floor
 [42] - rubble under [40] / 34A-3-2
 [43] - destruction of Str. J-7-Sub 3B
 [44] - Str. J-7-Sub 3B / 34A-3-3 / **Node**
 [45] - dark earth abutting back of Str. J-7-Sub 3B / 34A-3-4 / «Yaxche (early)»
 [46] - floor abutting back of Str. J-7-Sub 3B / **Node**
 [47] - plastering on interior of Str. J-7-Sub 3B / **Node**
 [48] - dark earth above interior floor of Str. J-7-Sub 3B
 [49] - floor of interior of Str. J-7-Sub 3B / **Node**
 [50] - packed, small stones below Str. J-7-Sub 3B interior floor
 [51] - loose rubble beneath [50] / 34A-7a-1
 [52] - external basal molding, exterior of Str. J-7-Sub 3B / **Node**
 [53] - floor between Str. J-7-Sub 3B and Str. J-7-Sub 3A / **Node**
 [54] - destruction of Str. J-7-Sub 3A
 [55] - walls of Str. J-7-Sub 3A / **Node**
 [56] - basal platform of Str. J-7-Sub 3A / **Node**
 [57] - basal terrace of Str. J-7-Sub 3A, fronting Patio 1-2 / 34A-10-1, 34B-1-1 / **Node**
 [58] - destruction and rip-out of [57]
 [59] - plaster of [57] / **Node**
 [60] - fill behind [57]
 [61] - floor abutting [57] / **Node**
 [62] - pebble, earthen fill under [61]
 [63] - pebble, earthen fill under [53] / 34A-11-1
 [64] - rough floor under [63] / **Node**

- [65] - thin fill of floor [64]
 [66] - dark earth, pebbles under [65] / 34A-11-2
 [67] - probable destruction event
 [68] - rubble fill under [66]
 [69] - calcified rock atop [32]
 [70] - floor above [69] / 34A-1-10 / **Node**
 [71] - earthen fill above [70]
 [72] - floor above [71] / **Node**
 [73] - earthen, burnt fill above [72] / 34A-1-8
 [74] - floor above [73] / **Node**
 [75] - pebble fill above [74] / 34A-1-7/ «Mixed Yaxche?»
 [76] - floor / **Node**
 [77] - earthen layer / 34A-1-6
 [78] - dark earth, pebbles above [30] / 34A-8A-1
 [79] - floor above [78], abutting Str. J-7-Sub 3C / **Node**
 [80] - ashy lens above [78]
 [81] - floor connected with Str. J-7-Sub 1-2, on west side of Str. J-7-Sub 1-1 (=72) / **Node**
 [82] - earthen, pebble fill below [81]
 [83] - extension of facing stone, Str. J-7-Sub 2-1
 [84] - fill of Str. J-7-Sub 1-1a
 [85] - fill of Str. J-7-Sub 1-1b
 [86] - surface of Str. J-7-Sub 1-1b / **Node**
 [87] - fill of Str. J-7-2, to side of Str. J-7-Sub 1-1 / 34A-4-1 / «Yaxche» (see [90])
 [88] - pebbles and earth above [89]
 [89] - floor / **Node**
 [90] - pebbles and earth below [89]
 [91] - bottom terrace of Str. J-6-2 / **Node**
 [92] - fill behind [91]
 [93] - top terrace of Str. J-6-2, also used for Str. J-6-1 / **Node**
 [94] - destroyed floor of Str. J-6-2, also floor of J-7-2 / **Node**
 [95] - pebble preparation for [94]
 [96] - rubble beneath [95]
 [97] - front pier of Str. J-6-1
 [98] - interior floor of Str. J-6-1
 [99] - fill below [90], above [81]
 [100] - fill under bottom terrace of Str. J-7-Sub 1-2 / 34A-1-9 / «Yaxche»
 [101] - fill under top terrace, Str. J-7-Sub 1-2 / «Early Late Classic (Yaxche?)»
 [102] - surface, Str. J-7-Sub 1-2 / **Node**
 [103] - destruction of top edge of [22]
 [104] - probable destruction episode
 [105] - surface of Str. J-7-Sub 1-1a / **Node**
 [106] - outer terrace facing Patio 1-2, Str. J-7-Sub 3B

ACKNOWLEDGMENTS

The Piedras Negras Project worked under a generous concession awarded by the Instituto de Antropología e Historia (IDAEH) and its director, Dr. Juan Antonio Valdés. The Departamento de Monumentos Prehispánicos (DEMOPRE) of IDAEH, especially its chief, Lic. René Ugarte, supervised our work with great professionalism. Seventy-five laborers from Dolores, Guatemala, were the true excavators of Piedras Negras. Our thanks to them and to Dr. Juan Pedro Laporte for facilitating their presence on our dig. The Consejo Nacional de Áreas Protegidas (CONAP) and officials of the Parque Nacional Sierra del La-

candón allowed us to work in the park. Funds for the 1998 field season came above all from Mr. Kenneth Woolley of Salt Lake City, as well as from the Foundation for the Advancement of Mesoamerican Studies, founded by Mr. Lewis Ranieri and directed by Dr. Sandy Noble. The Ahau Foundation of New Mexico and its President, Dr. Peter Harrison, gave us valuable, supplementary funds, as did the Ashton Family Foundation. Dean Clayne Pope and Prof. John Hawkins helped us in many ways through their thoughtful advice and material support. Heather Hurst graciously donated her time, producing the exceptional reconstruction drawings reproduced in this article. DEMOPRE-IDAIEH authorized publication. Houston wrote this piece; co-authors provided data and figures, along with suggestions about prose, organization, and content.

