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The Growth of Piedras Negras, Guatemala



Research Year: 2002

Culture: Maya

Chronology: Late Classic

Location: Northeast Guatemala

Site: Piedras Negras

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Summary

This project examines the growth and development of Piedras Negras, Guatemala through its residential groups. This center developed from a small village to a primary political center in a sudden Late Classic growth spurt. The development of the polity is paralleled by its residences. Two residential patio groups in the U sector developed along similar trajectories but with clear economic differences. These differences reflect the heterogeneity in the center in terms of artifact distribution.

Sumario

Este proyecto tiene como objeto el estudio del crecimiento y desarrollo de Piedras Negras, Guatemala, a través de sus grupos residenciales. Este centro pasó de ser una pequeña aldea a un centro político de primer orden, en un rápido e intenso esfuerzo de crecimiento que se dio durante el Clásico Tardío. El desarrollo del centro corre paralelo al de sus residencias. Dos grupos residenciales de patios en el sector U se desarrollaron siguiendo una trayectoria similar, aunque con diferencias económicas muy evidentes. Dichas referencias reflejan la heterogeneidad del centro en términos de la distribución de sus artefactos.

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Introduction and Background

This project examines the development of Piedras Negras as a center by examining the remains of its residential groups. In particular, the life cycle of two residential plaza groups will serve as a microcosm of the larger processes at work within the polity. Piedras Negras lies on the Usumacinta River in northwestern Guatemala within the Lacandón jungle preserve ([Figure 1](#)). Its landscape has not been heavily used by subsistence farmers since the ancient Maya abandoned it so its structures have not been disturbed or removed to make way for modern use, thereby facilitating household archaeology. The topography of the area consists of rugged limestone hills overlaid by shallow soil deposits and covered by forest (Aliphath 1994).



Figure 1: Map of Mesoamerica showing Piedras Negras and Obsidian Sources.

Piedras Negras has been investigated by Maler (1901) and more extensively by the University of Pennsylvania (1931-1939). William Coe (1959) and George Holley (1983) both published on the artifacts and chronology of the site, while Tatiana Proskouriakoff discovered its history (1960). Work resumed at the site with the advent of the Proyecto Piedras Negras, under the leadership of Stephen Houston (Brigham Young University) and Héctor Escobedo (Universidad del Valle). Field work, conducted from 1997 through 2000, concentrated on monumental architecture and on the house mounds scattered throughout the center. The residential excavations consist of more than 230 testpits and 10 large-scale excavations from all areas of the center's core (Figure 2). They were excavated using several different techniques. One method was large-scale excavation with an emphasis on horizontal exposure. House mounds within the R and U groups were completely exposed and excavated to bedrock where feasible. Testpits were also placed within other sectors of the center in places where midden deposits were suspected, ie, along walls and the back of structures, and in the middle of patios to determine the nature of the artificial construction. In addition, some mounds had trenches placed along their axis to identify caches, architectural stages, and burials. Through these techniques, 29 of the mapped 71 (41%) non-royal house groups had some type of excavation associated with the group (for a full report on each operation see Escobedo and Houston 1997, 1998, 1999, 2000; Nelson n.d.).



Compiled from mapping done by:
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Figure 2: Piedras Negras Map.

Chronology: History of Piedras Negras

Preclassic and Protoclassic settlement in the region of Piedras Negras (prior to 600 B.C.) was quite modest with little in the way of permanent structures, and probably consisted of a small village with ready access to riverine resources and space to grow crops (Houston *et al*, n.d.). Middle Preclassic ceramics (ca 600-400 B.C.) are rare within the center, often located as pockets on the bedrock in the South Group. Architecture from this period includes the first known public buildings with the erection of a modest platform (R-32) and a small public building on it with squared facing stones and a polished stucco floor (R-3-3rd). Late Preclassic (400 B.C.-100 A.D.) material is also sparse within the center, and in the regions round about (Webster and Kirker 1997:190; Lee and Hayden 1988:71). This gives the impression of the continuance of a modest village with little growth. R-3 continues as a public structure and is elevated to a height of 3 meters, showing that there was some concern at Piedras Negras with constructing public buildings, and perhaps a forerunner to monumental display. The difficulty with reconstructing life during this period corresponds to the paucity of remains as only a few areas within the center have ceramics from Preclassic periods.

Early Classic (ca. A.D. 250-550) settlement began with the same village feel, but ends with monumental architecture already in place. Monumental architecture during the end of this period takes advantage of natural hillsides to provide structure behind the façades of buildings faced with large regular stones and well-plastered floors. Most buildings show a single large construction episode with a few subsequent minor additions. The end of this period also marks the emergence of history at Piedras Negras with the advent of named lords in the inscriptions (ignoring anachronistic references to even earlier rulers and events).

Their emergence may reflect a new dynamic within the village—a reconstructing of social ties evidenced by sufficient power to erect large public buildings and monuments. This shift may have been fueled by a population explosion represented by new patio groups being built across the landscape.

Late Classic (A.D. 600-800) continues the overall prosperous growth of Piedras Negras. The population peaks (probably around 3,000 inhabitants) and conflicts with neighboring polities escalate, perhaps as patio groups expand into "empty" territory. The southern end of the center penetrated into the dry arroyo that had previously marked its southern boundary, and a plaza and ritual complex developed across the arroyo (Nelson 1999). Upstream, multi-component patio groups were placed along the arroyo, thereby becoming the first settlement a visitor would have seen upon entering the center under the newly erected turtle petroglyph.

Table 1: Tentative correlation of King's Reign to Ceramic Phase			
A.D.	Piedras Negras King	A.D.	Ceramic Phase*
460-478	Ruler A		
478-510	Ruler B	? - 500	Early Naba
510-514	Turtle Tooth	500-550	Late Naba
514-518	Ruler C		
519-603	Unknown	550-610	Balché
603-639	K'inich Yo'nal Ahk I	610-680	Early Yaxché
639-686	Ruler 2		
687-729	Ruler 3	680-740	Late Yaxché
729-757	Ruler 4	740-800	Early Chacalhaaz
758-767	Ruler 5		
767-781	Ha' K'in Xook		
781-808?	Ruler 7	800-840	Late Chacalhaaz
		840 - ?	Kumché
*Ceramic Phases were developed by Holley (1983) and are being further refined by René Muñoz at the University of Arizona (Muñoz 1999a, 1999b, 1999c, 2000, 2001)			

In the northern end of the center, the minor noble complex in the C-group which had marked the northern boundary of the center since Early Classic times, expanded and is associated with a small settlement or lookout placed on top of a nearby hill, thereby more efficiently controlling ingress into the site core. A series of minor residences was built in the area between the C-group and the rest of the center to the south, linking both areas with a sparse settlement through a wet-season marsh. Additional settlement also appeared within the K-sector, perhaps linked to the majestic pyramid K-5.

The S-group which was once a hub of Early Classic settlement, also received an influx of settlement around the tomb of an Early Classic leader (R-8, Child and Child 2001). Nearby settlement spilled down the hill into the bajo region below. Closer to the Usumacinta River, the R-group also grew as Early Classic buildings gave way or were remodeled to accommodate the growing pains of this Late Classic metropolis. In the U-group two households came into being. One appears to be the residence of the master carver under Ruler 7; and the other, a small household that might have specialized in the production of lithic tools and bark paper.

All of this activity came at a cost. The center which had survived for several hundred years collapsed within a hundred years, beginning around A.D. 808 with the capture of Ruler 7 by Yaxchilán. The final ceramic phase (Kumché, A.D. 840-?) are rare within Piedras Negras, perhaps unrecognized due to weathering and erosion on their surfaces or perhaps simply because few people were left in the region.

Household Growth Mimics the Center's Growth

Piedras Negras itself can be seen as a macrocosm to the events on the household level. As the center grew and declined, so did the trajectory of its households. Two residential groups from the U sector in particular serve to highlight the rise and fall of the center ([Figure 3](#)). Both groups have been excavated with an emphasis on horizontal exposure and time depth.

Two patio groups in the U group have been extensively excavated. The patio group with U-16 as its main building represents the remains of an elite residence ([Figure 4](#)). In its final form, this patio group consisted of U-16 with three main rooms, possible storage rooms, and a large staircase / entrance; U-17 an ancillary structure; and U-8, thought to be an ancestor shrine by the excavator (Wells 1998). Its construction began during the Early Yaxché phase with the beginning of U-16-sub-2. Late Yaxché saw renovation of U-16-sub-2 and its transformation into U-16-sub-1 and the construction of U-8-sub and U-17-sub. Early Chacalhaaz activity included the destruction of U-16-sub-1, U-8-sub, and U-17-sub and the construction of U-16, U-8-2nd, and U-17-2nd and Patio C-2nd. Late Chacalhaaz involved the destruction of U-8-2nd, and the renovation of U-17-2nd to U-17-1st and Patio C-2nd to Patio C-1st (Wells 1999).

The building phases included the use of cut stone, mainly as a façade, and uneven stones for the interior and non-exposed surfaces. Thus, the architect saved energy by using lower quality stone in areas that were not visible, like wall interiors, and saved the better stone for the visible areas, such as the sides of stairways and platforms. The buildings were mainly of stone with walls probably made of bajareque (wattle and daub).

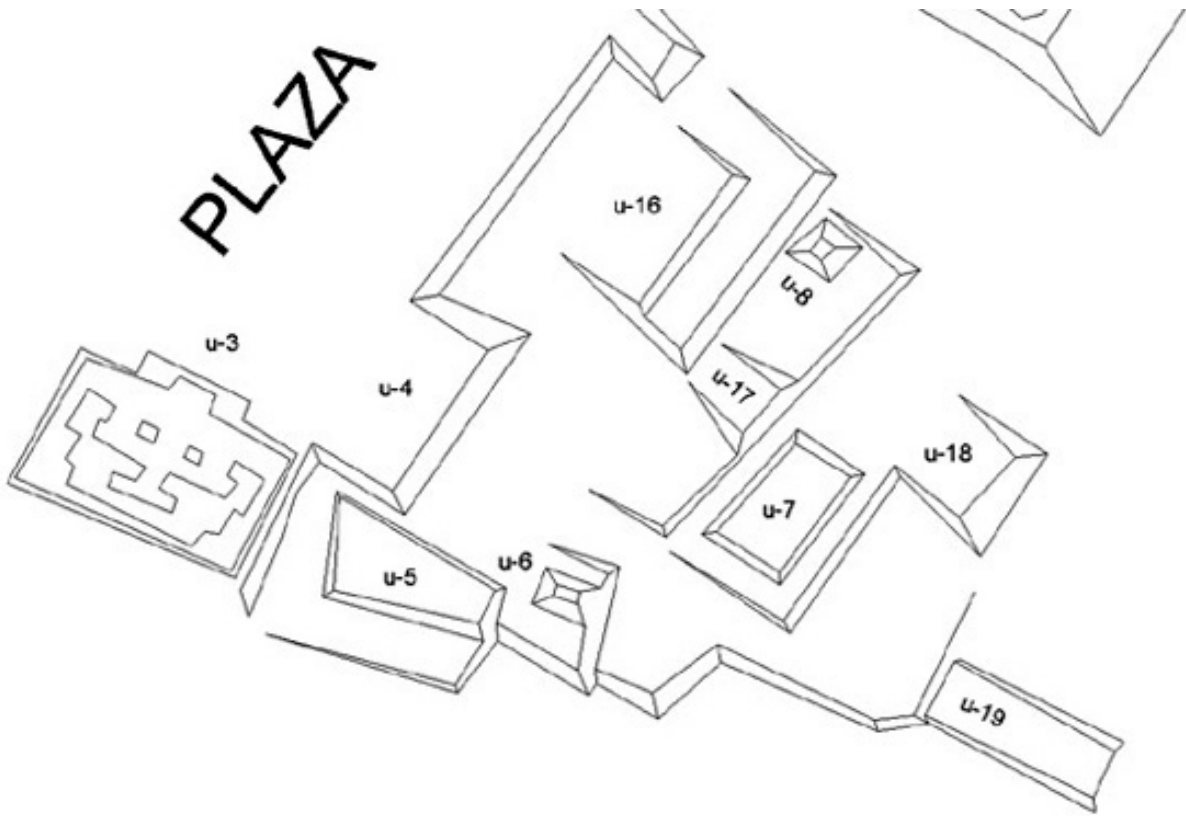


Figure 3: U sector.

The other extensively excavated patio group consists of U-5, U-6, and U-20 (not excavated). These buildings were generally lower-quality than the U-16 group (Figure 5). The building material was rougher in shape and generally uncut. Additionally, large quantities of bajareque (wattle and daub) were found throughout the structures. So these buildings had a lower energetic construction cost compared to U-16. The U-5 patio group terminated with U-5 as the dominant structure and U-6 serving as an ancillary building. U-5 in its final form had three rooms while U-6 remained a single room structure. This group went through four separate remodeling activities, mainly centered on U-5. During the Late Yaxché phase, U-5 began as a single room structure with a low bench. It was subsequently remodeled through the Late Chalchaaaz period first with a slight orientation change, then with the addition of a larger platform, then a second room and enlarged platform, and finally a third room and enlarged platform. U-6 which was initially built at the same time as U-5 was not amplified to the same extent. Its remodeling consisted of a slight orientation change, then higher-grade facing stones and amplified bench areas, then an enlarged platform connecting it to U-5's platform. Then a final enlargement of its platform area (Nelson 2000).

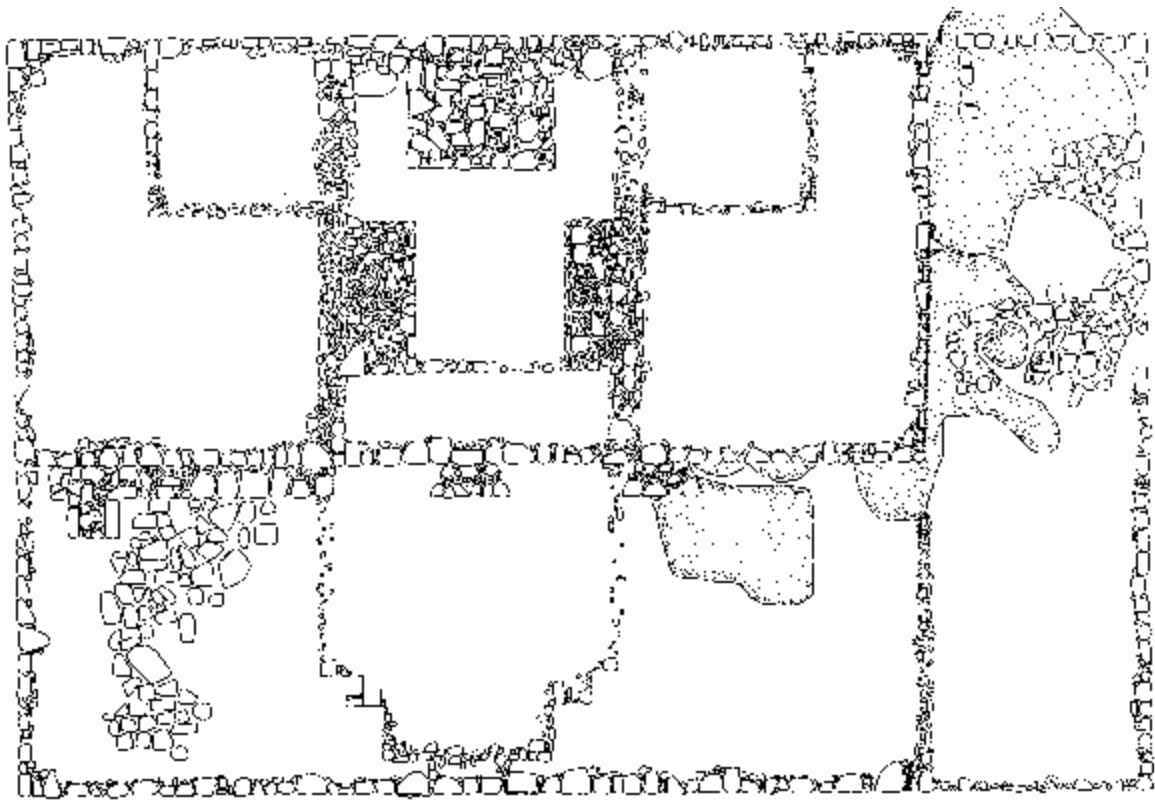


Figure 4: U-16 (from Wells 1999).

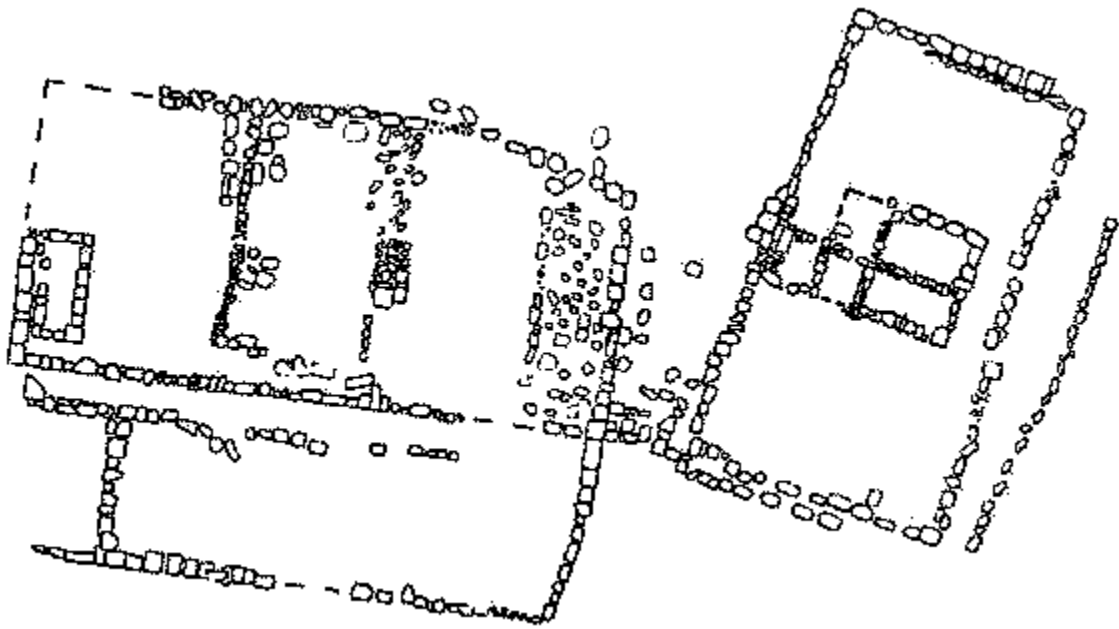


Figure 5: U-5 and U-6.

The building material generally consists of rough shaped stone in the final building episode for facing material, such as the edges of the platform, and for a retaining wall on the east side of U-5, where the ground abruptly slopes. Most of the other stones are not shaped. Again, there is evidence that an attempt was made to create the illusion of well-cut stones by using them in the last construction period, on top of rough, uncut stones that would have been hidden from sight.

The artifacts recovered from these two groups are also indicative of their respective architecture. The recovered U-16 patio group material has larger quantities of ceramic dishes (including shards bearing the inscription of "head carver to Ruler 7"; [Figure 6](#)), figurines, and animal bone fragments compared to U-5. These items emphasize sumptuary eating (see Smith 1987). In contrast, U-5 has more service orientated artifacts. This group had large quantities of chert tools and debris (including production debitage), obsidian blades, and metates. On a comparison level, U-16 represents the elite household while U-5 represents the non-elite worker's residence; which could be tied both socially and economically into the household of U-5.

While both of these households were established during the beginning of the Late Classic, the household represented by U-16 had achieved a greater economic presence and social standing within the community than that of U-5. Both patio groups were renovated with the same frequency, both had a similar range in artifacts, but there were quantitative differences between them in measures of kinds (and quality) of artifacts and architecture. These households represent the boom period of the Late Classic with its definite differences between households.

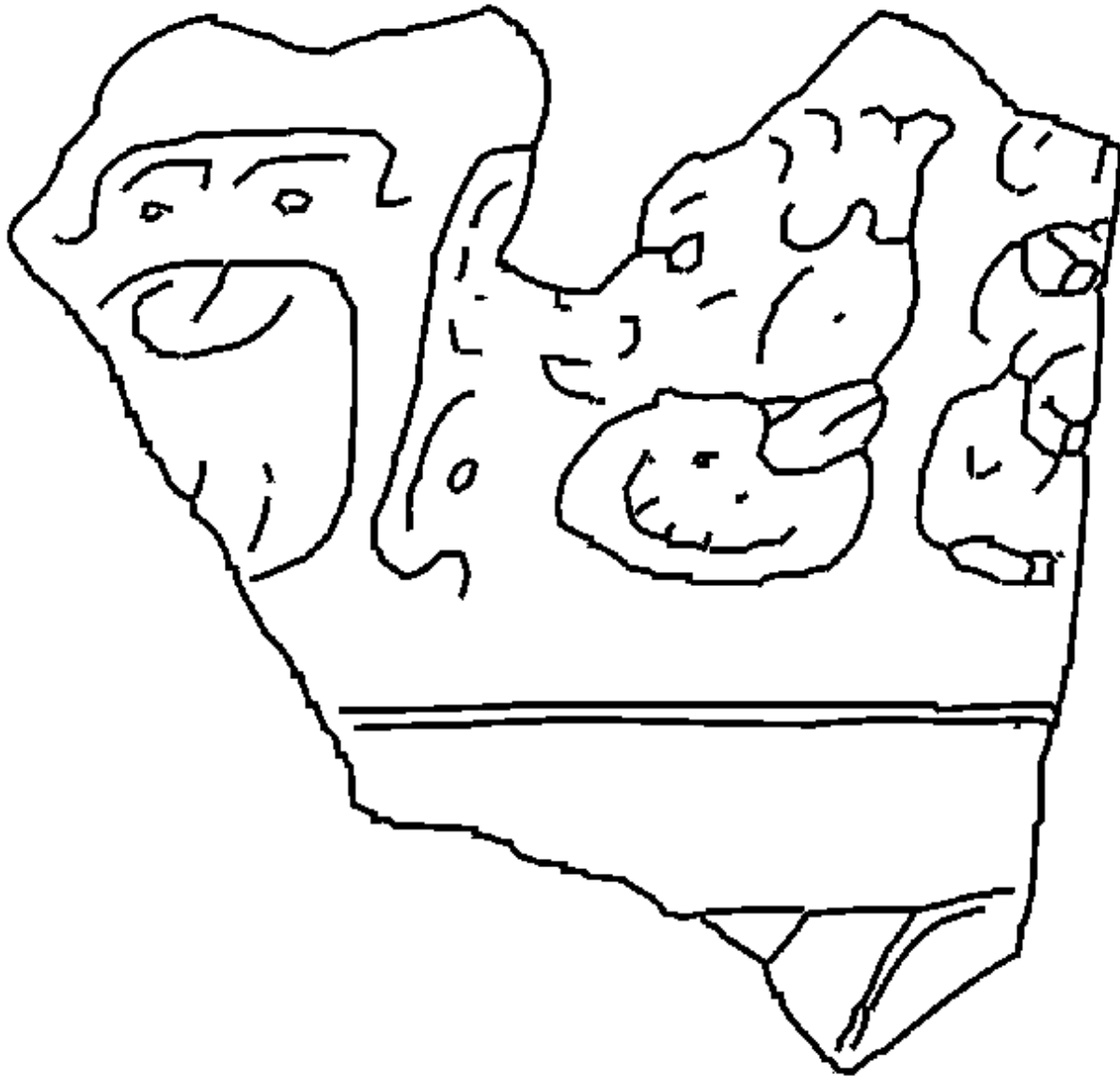


Figure 6: Ceramic sherd (Drawing: Stephen Houston).

Interhousehold Differences

The above example of households highlights some of the differences between what has been considered as homogenous units lying on the landscape. But households are not homogenous in their distribution across the landscape, and even less so in the remains of their physical wealth. The interplay between artifacts and household wealth has long been difficult to reconstruct, but through the distribution of artifacts between patio groups, it may be possible to reconstruct some of the intricacies of wealth differences between households. While not all of the data has been analyzed, two artifact

categories in particular can highlight the range of artifact differences between household groups at Piedras Negras.

Lithics

The lithic artifacts recovered from residential contexts show specialization in some tool categories. Lithic artifacts were manufactured from chert (bifaces, axes, scrapers), obsidian (blades), limestone (metates), and other rarer material (quartzite, basalt, pumice). The quantities suggest that chert dominated the local economy with imported obsidian second. While each residence had some chert and obsidian tools, in particular the U group residences provide the most evidence of obsidian (and chert) reduction.

The majority of the chert tools recovered were made from local material likely obtained from outcrops found along the banks of the Usumacinta (Hruby 1998). Common chert tools like bifaces were recovered from all over the center in varying quantities ([Figure 7](#)). Hammerstones, manos, scrapers and axes were also common in and around the center. Agricultural celts were discovered around the R group residences (in the middle of the center) and to the south in the V group. Laurel leaf bifaces were found in the R, U and E groups. Chert was an available material and probably facilitated the growth of Piedras Negras – with its location on chert bearing strata. Although tools were recovered from all over the site, few areas actually have evidence of chert tool production. One such place is the U group residences, mentioned previously.

Obsidian had to be imported into the center. The main source of obsidian for Piedras Negras was El Chayal, but other sources have been identified such as Ixtepeque, San Martín Jilotepeque, Zaragoza, and Pachuca (Hruby 1998:373, [Figure 1](#)). Obsidian arrived at Piedras Negras in the form of prepared polyhedral cores (Hruby 1998). These cores were then reduced into prismatic blades near the residences of the U group. Although most of the cores were destined to become blades, some of the cores were also turned into obsidian eccentrics (*ibid*). Most of the residential areas excavated had obsidian blades, but one group in particular had double the amount of blades than any other group, the U-5 patio group.

Limestone was a common building and metate material. Most metates discovered were made of limestone. A frequent metate form is the shallow basin, fashioned from a round boulder or outcrop of limestone. Metates are generally ground until the metate breaks. Limestone metates are believed to be softer than other stones, and would need to be replaced more frequently, hence around a single group the remains of 32 different metates were discovered. Additionally, a few limestone columns were discovered which may relate to household ritual.



Figure 7: Chert bifaces and debitage.

Some miscellaneous lithics were also recovered. A bark-beater was found in the U group. This quartzite tool is one of two found within Piedras Negras, indicating that bark-cloth was not a dominant activity within the center (Nelson 2002). Metates were also made from a blue-green schist and basalt. Likewise, small quartzite cobbles were used as hammerstones and expedient tools. Pumice was found throughout the center possibly for use in sweatbaths. Stalactites were also discovered in small quantities within the center. A few jade ornaments were found in residential contexts, consisting of necklace beads or tooth inlays. These are quite rare overall.

The preceding observations on the lithic material from Piedras Negras indicate the variety of materials and tools that the Maya used within residential contexts. Chert and limestone occurred locally around the center and were the most used. Obsidian blades are common at the center, despite the possible difficulty in procuring the material from El Chayal, located near Kaminaljuyú, Guatemala. In addition to obsidian, some metates,

fine cherts, jade and other lithic materials were imported into the center in small quantities. Thus, some trading occurred with other regions and cities round about.

Figurines

Figurines are also common residential artifacts. Figurines are often associated with household ritual and women's space so their distribution and forms offer insights into the workings of domestic life and activities. At Piedras Negras, figurines are primarily recovered from residential contexts rather than monumental architecture (Ivic 2002). They are also not associated with burials, but are found in secondary contexts especially incorporated into the fill of buildings and platforms.

Residential excavations recovered 2,708 figurine fragments. Identifiable pieces, such as heads or torso fragments with good detail, comprise 1,049 fragments or 39% of the total. Some figurine types were recovered from all over the center, such as whistles in the form of men, animal figurines, corn god motifs and female figurine forms. The predominance of these forms likely represent the use of special figurines types in ritual and modes that the entire community shared.

The fully excavated structures, such as in the U and R groups have a wider range of figurines, so the diversity found in these households may better reflect the range of figurine types throughout the center of Piedras Negras. The excavated households in the U group yielded 1300 figurine fragments. Humanesque heads and torsos number 356, while animal pieces equal 112. The remaining 832 pieces (64%) are largely unidentifiable, consisting of hard fragments of the figurines, such as legs, supports, back or side fragments that cannot be readily matched to an existing figurine. There are approximately 70 different human (and god) types in this sample defined mainly on the characteristics of the head ([Figure 8](#)). The types include gods, like the sun god and maiz god, elite men with elaborate headdresses, masked men, men with deer headdresses, war serpent headdress, k'in sign ornaments, pregnant women, women wearing huipiles of various kinds, simply decorated men and women, warriors, and dwarves.

Animal representations include monkeys, jaguars, coatimudi, dogs, various rodents, bats, reptiles, turtles, owls, vultures, eagles, and other birds. The animal representations reflect the diversity of animal life found in the jungle surrounding Piedras Negras. They may also symbolize the life forces of the Maya, including the were-animal component of shamanistic practice. Some of the figurine fragments are at the same time animal and men form, suggesting the WAY concept of night-time pilgrimages of shaman in their animal form. Monkeys and jaguars are often portrayed in ceramics due to their associations with nimbleness (for scribes and record-keepers) and for their bravery (for warriors).



Figure 8: Figurine.

Many of the animal figurines were also whistles or ocarinas, especially the birds. Music can imitate nature, and single-note whistles in the shape of owls and other birds probably added to musical celebrations invoking the songs of the jungle. Additionally, the call of humanoid whistles or multi-tone ocarinas would have had special significance depending on the type of celebration.

Figurines bring us closer to the ancients than many other artifact categories. Because figurines are representations of people and animals fashioned by artisans within the culture, they provide tangible evidence of those elements that were important to society, namely gods, elite fashions, animals, and other details of material life that are impossible to reconstruct in other ways.

Conclusions

The growth and development of Piedras Negras occurred on many different levels. Historically, its growth is one of building accretion from a simple village in Preclassic times to a Maya center with monumental architecture under the rule of a hereditary lord. On another level, growth can be modeled by the trajectories of individual households. U-16 and U-5 were contemporary households thriving in the Late Classic period that had simple beginnings and ended with more complex architectural settings. Both began small and ended abruptly with the close of the Late Classic. Yet its development involves more than architecture. It is people making daily decisions and living their lives as best they can. U-5 was contemporary with U-16, but its residents were not equal to U-16 in economic and social terms. The far more elusive concept of wealth, measured on many different scales, is harder to reconstruct than the architecture of a household. The development cycle of the center encompasses how its citizens gathered material resources and distributed them. The lithic and figurine data presented here shows that there are more subtle differences in and between households still to be discovered. Some households have large quantities of obsidian or chert in particular forms, while others did not. Figurines are also unevenly distributed on the landscape with diverse forms and functions. A future goal of this work will be to incorporate all the artifact categories into a coherent picture of development at Piedras Negras.

Acknowledgments

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