FORMATION OF A COMPLEX POLITY ON THE EASTERN PERIPHERY OF THE MAYA LOWLANDS

Keith M. Prufer, Holley Moyes, Brendan J. Culleton, Andrew Kindon, and Douglas J. Kennett

This paper pursues the application of a central tenet of the dual-processual framework, the corporate/network continuum, to the development of Uxbenká, a small monument-bearing polity in the southern Maya Lowlands. During its growth, Uxbenká underwent a transformation from a small farming community to a complex polity with many of the trappings of elite authority that characterizes Classic Maya centers. It was one of the earliest complex polities to develop on the southeastern periphery of the Maya lowlands during the Early Classic period (A.D. 300–600). The polity was founded upon earlier agricultural communities that are now known to extend back to at least A.D. 100. Starting after A.D. 200 the location of the original agricultural village (Group A) was leveled and reorganized to form a public monument garden and the center of political authority throughout much of the Classic period (A.D. 400–800). In this article we present radiocarbon ages from well-defined stratigraphic contexts to establish a site chronology. Based on these data we suggest that by A.D. 450 Uxbenká was the center of a regional political system connected to some of the larger polities in the Maya world (e.g., Tikal). We argue that at this time Uxbenká underwent a significant change from a polity organized by a corporate inclusionary form of rulership to a more networked one marked by exclusionary authority vested in elites who privileged their ancestral relations and network interactions across the geopolitical landscape.

En este artículo se pretende aplicar un principio central de la teoría del doble-procescualismo, el continuo entre un colectivo y una red, al desarrollo de Uxbenká, una pequeña comunidad antigua en las tierras bajas del sur en el área maya. A través de su desarrollo Uxbenká se sometió a una transformación de una pequeña comunidad agrícola a un centro urbano más complejo con muchos de los símbolos de la autoridad élite que caracterizan a los centros del periodo Clásico. Uxbenká fue una de las primeras comunidades en la periferia sureste de las tierras bajas en desarrollar y convertirse en una sociedad con una organización política más compleja durante el período Clásico Temprano (300–600 d.C.). El centro urbano de Uxbenká fue establecido a base de comunidades agrícolas anteriores que fueron ocupadas desde al menos 100 d.C. A partir de 200 d.C. el área de la aldea agrícola original (Grupo A) fue nivelada y reorganizada, formando un espacio público en donde se estableció un jardín de monumentos y el centro de la autoridad política por la mayor parte del período Clásico (400–800 d.C.). Las fechas de radiocarbono de contextos estratigráficos bien definidos que se presentan aquí establecen una cronología del sitio. Estos datos indican que en 450 d.C. Uxbenká fue el centro de un sistema político regional conectado a algunas de las entidades políticas más grandes en el mundo maya (incluyendo por ejemplo a Tikal). Sostenemos que en este periodo, la organización política de Uxbenká cambió apreciablemente, de una soberanía que funcionaba como un colectivo inclusivo a una más conectada marcada por la autoridad exclusiva basada en las élites quienes privilegiaron sus relaciones ancestrales y sus interacciones con la misma red política a través del paisaje geopolítico.

In recent years some archaeologists studying the development of complex polities have expressed dissatisfaction with the rigidity of monolithic evolutionary approaches for describing structural variation and social change in the past (Smith 2003; Yoffee 2005:6). Among alternative approaches proposed for understanding the development of complex polities in Mesoamerica is dual-processual theory, which encompasses aspects of factional competition and within-community heterarchy (Blanton et al. 1996; Feinman 2001).

Dual-processual models emphasize variability in how power is concentrated in the hands of elites and the degree to which relations among actors are

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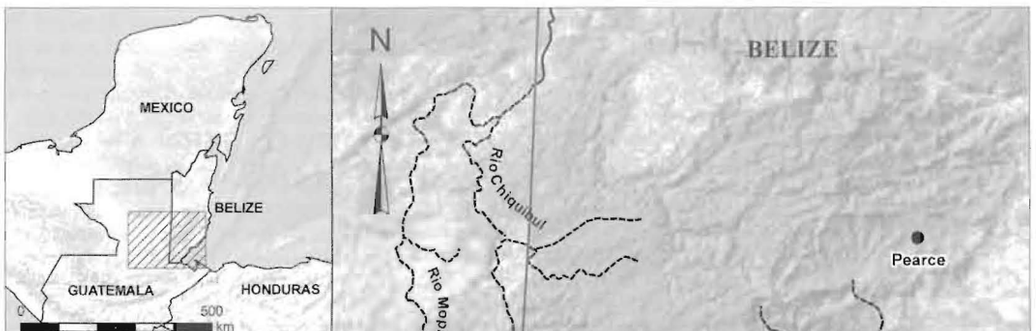

Figure 1. Surface hillshade showing locations of primary centers in southern Belize. Circles represent larger centers while triangles are smaller centers with public architecture (map by C. Ebert, J. Bartruff, K. Prufer, D. Kennett).

hierarchically structured (Blanton et al. 1996; Feinman 2000a). This framework is not considered an alternative to more traditional concerns with hierarchy, or as presenting new typological formulations, but rather as a means to emphasize different forms of hierarchical and heterarchical organization and to "expand our comparative theoretical concepts so that they may better account for more general patterns of societal variation and change" (Feinman 2000b:32).

This paper pursues the application of a central tenet of the dual-processual framework, the corporate/network continuum, to the development of Uxbenká, an ancient complex polity located along the eastern periphery of the Maya Lowlands in an important archaeological region known colloquially as "southern Belize" (Figure 1). We argue that Uxbenká was the first community in southern Belize with the ability to mobilize labor around significant architectural construction and landscape transformations. During its evolution Uxbenká underwent a shift from a small village or hamlet during the Late Preclassic to a complex polity with social differentiation reflected in distinctions between civic-ceremonial and residential spaces, specialized architectural forms, and carved stelae that record statements attesting to the authority and network interactions of individual elites. We argue that this process represents a shift in leadership dynamics at the site from corporate strategies to more network modes of action, with elites reaching out and making economic, social, and political connections with the rulers from larger political centers as sources of local power.

Our discussion of Uxbenká focuses primarily on the period from 50 B.C. to A.D. 600. Before A.D. 200 Uxbenká was a small village or farming community, with no monumental buildings or significant public architecture. Following A.D. 200 the first documented masonry construction appears (in ceremonial buildings), the transformation of residential spaces into public plazas, and

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Dual Processual Frameworks and Corporate/Network Strategies

Theories are sets of general guiding principles "that help us—as researchers and as curious human beings—make sense of specific cases and of the world around us" (Hegmon 2003:213). They provide us with tools to categorize and explain phenomena. Most models of the evolution of political and economic complexity in Mesoamerica have been dominated by theoretical notions linking centralization to hierarchical development (Flannery 1972), with more recent agent-based modifications that emphasize individual self-interest and strategies of accumulation (Clark and Blake 1994; Hayden 1995). Significant criticism has been leveled against models of these kinds in Mesoamerica in that they focus primarily on directional developments of static societal types (Blanton et al. 1996:1) and that they fail to recognize that there can be multiple strategies, pathways, and organizational modes that actors can take in their pursuit of power, many of which will leave different patterns in the archaeological record (Feinman 2001:155). The dual processual framework identifies two distinct strategies employed by politically and economically motivated actors without ignoring the "significant cross cultural implications" of hierarchical complexity for understanding social variations (Feinman 2000b:34).

These organizational strategies occur along a continuum from decentralized/inclusive, or corporate, to highly centralized, or exclusionary, networked configurations. Corporate strategies emphasize collective approaches to group integration, particularly in staple food production, communal ritual, labor tasks, and to some degree the suppression of economic differentiation (Feinman 2000a:214). Archaeological evidence for such a strategy can include communally constructed architecture, few status markers in domestic settings, and general lack of distinction in the distribution of prestige items in both houses and burials. While long-distance trade and craft specialization may be present in corporate configurations, they tend not to be controlled by a centralized administrative hierarchy (Feinman 2001:158).

At the network—or exclusionary—end of the continuum, individual accumulation of power and prestige are favored with personal exchanges of wealth, lineal patterns of inheritance, elaborated burials, and other markers of individualized leadership in greater evidence (Feinman 2000b:38). Archaeological evidence for such strategies includes prestige items from distant locations preferentially found in elite contexts (e.g., chiefly houses or high-status burials), individualized representations on "art" or political monuments, differential size of residential structures, or highly restricted, private, elite spaces. Corporate/network strategies coexist to varying degrees in all social formations (Blanton et al. 1996:2), but to the extent that one is emphasized over the other they represent different modes of political and economic organization.

One advantage of applying the dual-processual approach to the analysis of ancient polities is its flexibility as a model. Representing two extremes of a continuum, corporate/network ideologies suggest that "there is more than one strategy or pathway to power" and that these different ends of the continuum would have different archaeological correlates (Feinman 2001:155). Further, "corporate/network is neither a typology nor a dichotomy since there is a large definable middle ground that can be empirically observed between these polar extremes. Rather, it is an axis of dimension on which modes of political-economic action may be compared and contrasted" (Feinman 2000c:221). Hence, these strategies cannot be conflated with specific cultural formations or "personalities" (Feinman 2001:156). Nor can it be assumed that changes along the continuum will be uniformly directional, or that specific strategies will remain unchanged in a region or a particular temporal sequence. Understanding the corporate/network

mammiform vessel from a Preclassic shell mound (ca. A.D. 100) and radiocarbon-dated Early Classic settlements on Wild Cane Caye, indicating established maritime communities by A.D. 300. However, two decades of work by McKillop (2005, 2006) strongly suggest mercantile seafaring was largely a post A.D. 500 phenomenon, further underscoring the relatively late timeframe for most regional development, albeit one that extended well into the Postclassic.

The early communities closest to Uxbenká were in the southeastern Petén (Guatemala), positioned along the western foothills of the Maya Mountains. Most of these settlements post-date A.D. 600, though there were earlier Preclassic occupations at Sacul, Ixkun, Xutilha, and Ixtonton in the Dolores area (Laporte 1994, 2001; Laporte and Ramos 1998). Throughout the watersheds that drain the western Maya Mountains of Guatemala, including the Rios Machaquilá, San Luis, and Pusilhá, there is continuity between the Preclassic and Early Classic at many locations, marked by what Laporte calls the "Peripheral Chicanel" sphere (2001:17), defined by the continuation of Preclassic ceramic types well into the Early Classic period. Laporte has suggested an A.D. 100 to A.D. 600 geopolitical landscape of competing rural elites autonomous from the larger central Petén polities (Laporte 1996; Laporte and Ramos 1998). Overall, the southeastern Petén, like southern Belize, was most densely populated during the Late and Terminal Classic periods, and evidence for Early Classic occupations is ephemeral (Brady 1989: 207; Laporte 2001).

The only other Preclassic or Early Classic complex polity in the region is Ek Xux, located in the interior of the eastern Maya Mountains along the Bladen Branch of the Monkey River, which is home to a number of sites that have been mapped, but are generally poorly understood (Dunham and Prufer 1998). Nine sites with public architecture are known in the eastern flank of the Maya Mountains, but excavation data only exist for Ek Xux and Muklebal Tzul, both located in adjacent valleys near the headwaters of the Bladen Branch. These suggest that Ek Xux was settled in a small alluvial valley during the Late Preclassic and persisted as a relatively small community for at least four centuries. Muklebal Tzul, located on a series of high ridges 3 km to the west of Ek Xux, appeared rather suddenly on the landscape after A.D. 600 and quickly eclipsed its small neighbor (Prufer 2005).

With the exception of Uxbenká and Ek Xux, Southern Belize remained only sparsely settled until after A.D. 550 when the region rapidly grew to include at least 10 monument-bearing polities and over 100 smaller communities. The best known of these are Lubaantun, Pusilhá, and Nimli Punit. Hammond (1975:52) conducted excavations at Lubaantun and, based primarily on ceramics, suggested the site was founded in A.D. 731 ± 20 years (Maya calendar date 9.15.0.0.0 ± 1 katun). He also noted that the ceramic assemblage was dominated by Tepeu 2/3 Petén styles of the Late Classic (maximally A.D. 700–890). Hammond also argued for links between southern Belize and sites in the Pasion River area of the western Petén (1975:295), which are supported by more recent studies at other Late Classic centers (Braswell et al. 2005; McKillop 2006; Prufer 2005;). Lubaantun lacks epigraphic history from monuments, though two carved ballcourt markers have been stylistically dated to the Late Classic (Wanyerka 2005).

Pusilhá was excavated by the British Museum (Joyce 1929; Joyce et al. 1927), Leventhal (1990, 1992), and Braswell (Bill and Braswell 2005). Hieroglyphic texts suggest that the polity may have been formed as late as A.D. 570 and persisted at least through A.D. 790. Excavations in core and domestic contexts support this chronology (Braswell and Prufer 2009:48), though small amounts of Early Classic materials have been recovered from cave sites in the vicinity of this center. As at Lubaantun, ceramic data suggest Late Classic affiliation closely aligned with Tepeu sphere polities in the Petén, particularly in the Pasion and Petexbatun areas (Bill and Braswell 2005).

Nimli Punit is the least known polity in the region. It is located on a 100 m high ridge overlooking the coastal plain (Hammond et al. 1999). Most of the published chronological material on Nimli Punit comes from 25 carved monuments found in the elite plazas of this highly consolidated center. These have been interpreted to suggest the site was occupied only during the Late Classic, with stelae erected between A.D. 711 and A.D. 830 bracketing a short dynastic history for the polity. The Nimli Punit inscriptions are described as both "unique and idiosyncratic" (Grube et al. 1999: 36)

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with examples of reverse order readings, inverted calendar signs, and evidence that the placement and carving of the monuments may be temporally separated events. Epigraphers have also suggested that Nimli Punit was regularly interacting with sites to the southeast, specifically Copán, based largely on the presence of a possible toponym for this important center (Wanyerka 2009:465).

Artifacts and monuments indicate ties between southern Belize and the central Petén from A.D. 370–500, probably via trade routes through the southeastern Petén (Prufer 2005). During the subsequent period (A.D. 500–900) there may have been a shift in interaction and affiliation within the region, with epigraphic accounts of ties developing between southern Belize and sites located in the southeast periphery, especially Copán and Quirigua (Braswell et al. 2005; Grube et al. 1999; Marcus 1992; Wanyerka 2009:440–477) and Altun Ha (Wanyerka 2009:473), though archaeological correlates of these relationships are wanting. The southern Belize apogee was a time of significant expansion and population growth in the region, and those developments lie outside the scope of this paper. By the ninth century the area was in decline, and there is little evidence of any significant inland Postclassic occupation.

A favorable location and the presence of desirable resources may have played a role in the development of the Uxbenká polity. The landscape around Uxbenká is exceptionally rich for agriculture and also has easy access to coastal and inland trade routes. Soils around Uxbenká derive from decomposing sedimentary sand-, silt-, and mudstones interspersed by limestone outcrops. These are part of a formation of low hills running from Nim Li Punit to several kilometers west of Uxbenká and referred to as the Toledo Uplands (Wright et al. 1959:8). Today, these soils are considered among the most fertile in the region. Within the lands of the ancient Uxbenká polity, modern Mopan Maya farmers plant shifting slash-and-burn corn crops with a short 3–5 year fallow. According to local farmers the same lands have been planted and rotated since the 1950's with no loss of soil productivity. These upland soils are also considered ideal for the cultivation of cacao (Steinberg 2002:59), a practice documented in the region at least since the seventeenth century (Thompson 1972:35–41) and reflected in the modern Mopan cacao economy. Though anecdotal, remnant cacao groves in the Maya Mountains suggest a flourishing regional economy in cacao products (Prufer 2002:186–187), and several cacao beans were found in a mortuary cave 25 km north of Uxbenká dating to ca. A.D. 300 (Prufer and Hurst 2007).

At Uxbenká excavations have focused on chronology-building and the identification of the early components at the site (Figure 3), primarily in the Stela Plaza (Group A), the North Group (Group B), and two settlement complexes near the site core. Group A is the location of three pre-A.D. 500 stela, while Group B contains Late Classic architecture, including a ballcourt complex. In the following section we report on our efforts to develop a reliable chronology for Uxbenká, and relate this chronology to the development of the complex polity.

Chronology and Development at Uxbenká

Radiocarbon Methods

In a region with few absolute dates from archaeological contexts, our AMS radiocarbon dating program allows us to develop an independent chronology for interpreting settlement dynamics and the growth of Uxbenká. Charcoal and other organic samples from well-documented stratigraphic contexts (see below) were prepared along with standards and backgrounds at the University of Oregon Archaeometry Facility and the University of California Irvine Keck Carbon Cycle AMS Facility (UCI KCCAMS) following standard practices.[1] Where possible a single piece of wood or charcoal was selected to avoid the averaging inherent in bulk samples, and pieces likely to be shorter-lived (e.g., twigs) were chosen where possible to reduce any old wood effect (Kennett et al. 2002; Schiffer 1986). All dates are reported in Table 1 as conventional radiocarbon ages corrected for fractionation with measured $\delta^{13}C$ according to Stuiver and Polach (1977). Calendar ages discussed in the text and listed in Table 1 are 2-sigma calibrated ranges (95.4 percent probability; for clarity, discontinuous ranges are simplified in the text). Calibrations in Table 1 and bar plots in Table 2 were produced using OxCal 4.0 (Bronk Ramsey 1995, 2001, 2009), employing the IntCal04 atmospheric curve (Reimer et al. 2004). Calibrated dates are dis-

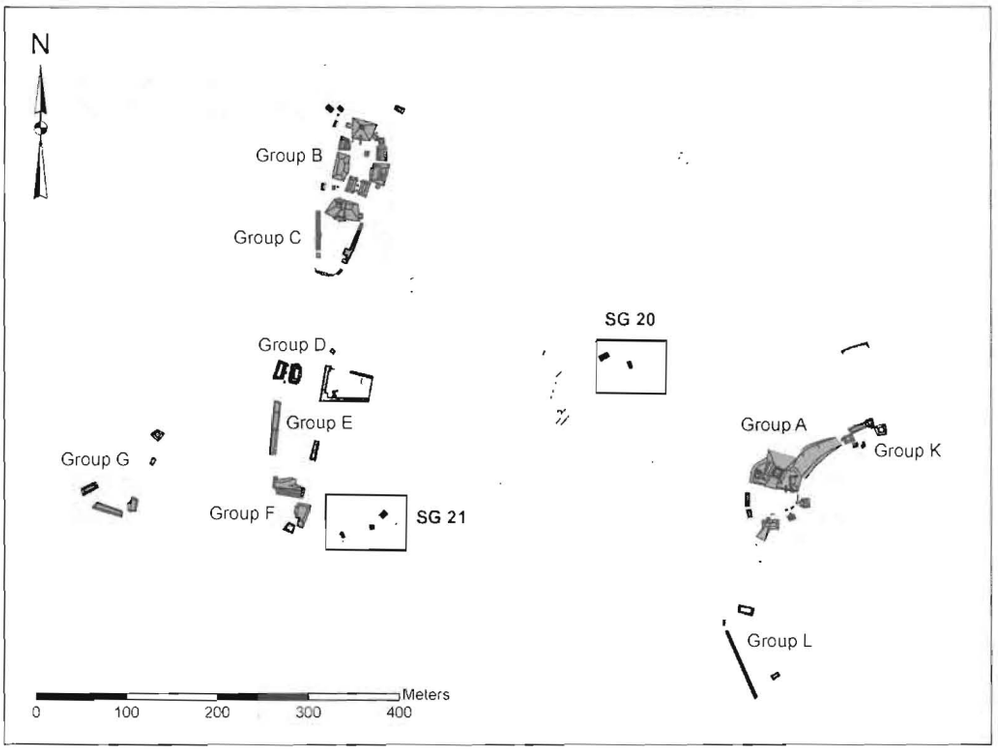

Figure 3. Map of Uxbenká showing core areas and settlements discussed in the text.

Table 1. AMS Radiocarbon Dates from Uxbenká.

UCIAMS#	Operation	Str.	Description	^{14}C Age (BP)	±	95.4 (2σ)[2]	Probability
33404	Grp A		Plaza Op A Sub 4 L4 124cmbd	1775	20	AD 142-152	.011
						AD 168-194	.037
						AD 210-337	.906
33403	Grp A		Plaza Op A Sub 4 L5 151cmbd	1720	25	AD 250-392	.954
33401	Grp A		Plaza Op A Sub 6 Looters profile	1635	20	AD 348-368	.038
						AD 380-442	.778
						AD 454-460	.007
						AD 485-532	.131
33400	Grp A		Plaza Op A Sub 7 L4 under rock	1790	20	AD 136-260	.780
						AD 284-324	.174
42806	Grp A	A4	Op 07-2 Unit 1 L9 265cmbd #10520	1725	15	AD 255-382	.954
46299	Grp A	A4	Op 07-2 Unit 1 L6/7 143cmbd #10516	1675	25	AD 260-284	.076
						AD 322-425	.878
42805	Grp A	A6	Op 07-3 Unit 221N/-6E L5 224cmbd #10723	1700	15	AD 258-295	.188
						AD 321-402	.766
42807	Grp A	A6	Op 07-3 Unit 221N/-6E L5 292cmbd #10727	1720	15	AD 256-385	.954
46297	Grp A	A6	Op 07-3 Unit 221N/-6E L5 367cmbd #10742	1755	25	AD 222-359	.930
						AD 366-381	.024
42808	Grp A	A1	Op 07-5 Unit 238N/-20E 223 cmbd #10752	1725	15	AD 255-382	.954
42809	Grp A	A1	Op 07-5 Unit 236N/-20E, L5 floor #10677	1490	15	AD 544-610	.954
42825	Grp A	A1	Op 07-5 Unit 238N/-20E L7 203 cmbd #10748	1880	15	AD 73-175	.909
						AD 192-211	.045
46298	Grp A	A1	Op 07-5 Unit 236N/-20E L4 floor #10672	1585	25	AD 420-540	.954

UCIAMS#	Operation	Str.
56359	Grp A	A1
56360	Grp A	A1
56367	Grp A	A1
56368	Grp A	A1
56361	Grp B	
56369	Grp B	
56370	Grp B	
56371	Grp B	
57044	Grp B	
56364	Grp B	B1
56362	Grp B	
56365	Grp B	B14
57042	SG 20	2
56358	SG 20	2
56366	SG 20	2
42824	SG 21	1
42810	SG 21	1
42811	SG 21	1
42799	KNT Cave	
42800	KNT Cave	
42801	KNT Cave	
42802	KNT Cave	
42803	KNT Cave	
42804	KNT Cave	
33402	KNT Cave	
46295	KNT Cave	
46296	KNT Cave	

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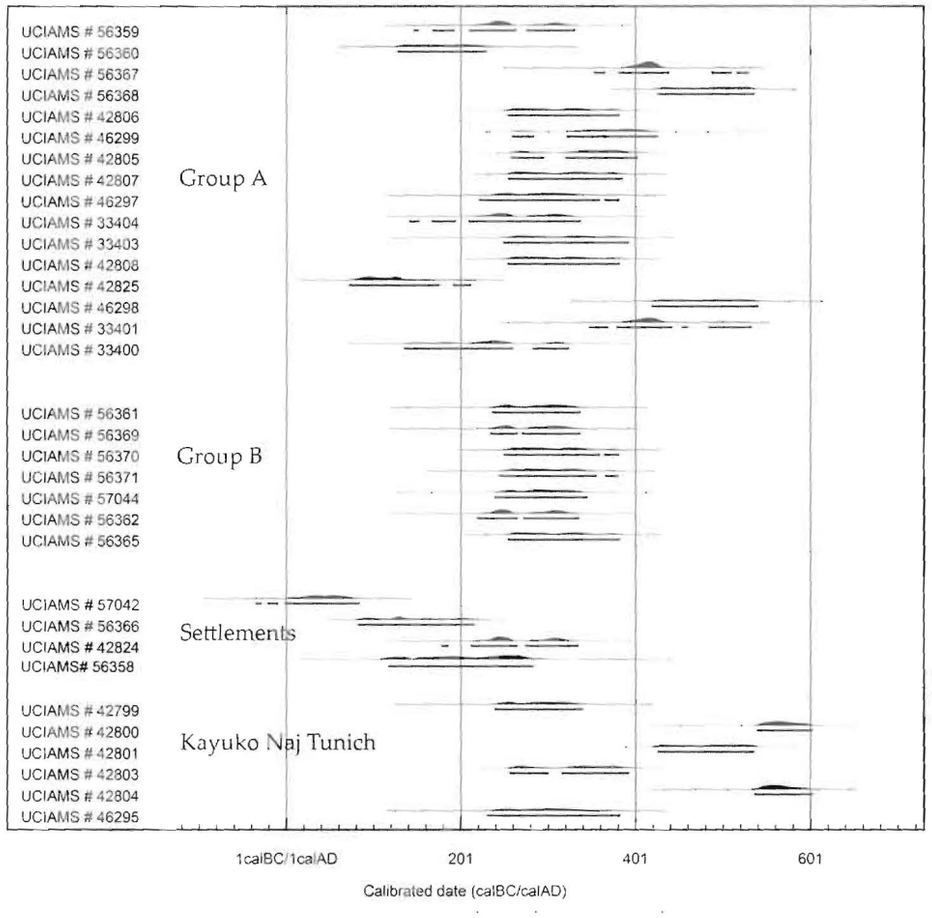
2001, 2009) using the IntCal04 c

Table 1 (continued). AMS Radiocarbon Dates from Uxbenká.

UCIAMS#	Operation	Str.	Description	^{14}C Age (BP)	±	95.4 (2σ)[2]	Probability
56359	Grp A	A1	Op 08-4 Unit 1 L5 169cmbd #13547	1780	15	AD 147-150	.004
						AD 169-192	.034
						AD 210-263	.580
						AD 267-330	.336
56360	Grp A	A1	Op 08-4 Unit 1 L6 198cmbd #13549	1840	15	AD 128-229	.954
56367	Grp A	A1	Op 08-4 Unit 1 L4 108cmbd #13531	1635	15	AD 354-365	.012
						AD 382-438	.883
						AD 488-510	.041
						AD 517-529	.018
56368	Grp A	A1	Op 08-4 Unit 1 L4 120cmbd #13540	1585	15	AD 426-536	.954
56361	Grp B		Op 08-7 Unit 2 L6 204cmbd #13632	1755	15	AD 238-336	.954
56369	Grp B		Op 08-7 Unit 2 L5 121cmbd. #13634	1760	15	AD 235-265	.326
						AD 271-336	.628
56370	Grp B		Op 08-7 Unit 2 L5 139cmbd #13627	1730	15	AD 250-359	.895
						AD 365-381	.059
56371	Grp B		Op 08-7 Unit 2 L6 143cmbd #13635	1735	15	AD 245-355	.919
						AD 366-380	.035
57044	Grp B		Op 08-7 Unit 2 L4 100cmbd #13588	1745	15	AD 240-344	.954
56364	Grp B	B1	Op 08-8 Unit 3 L3 unknown depth #13854	1315	15	AD 658-710	.783
						AD 746-766	.171
56362	Grp B		Op 08-9 Unit 2 L8 275cmbd #13786	1770	15	AD 220-264	.452
						AD 273-335	.502
56365	Grp B	B14	Op 08-10 Unit 1 L5A 156cmbd #13682	1725	15	AD 255-382	.954
57042	SG 20	2	Op 08-2 Units 2-6 L3 154cmbd #13507	1960	20	BC 35-30	.007
						BC 22-11	.021
						BC 2 - AD 84	.926
56358	SG 20	2	Op 08-2 Units2-6 L3 154 cmbd #13507	1810	15	AD 135-244	.954
56366	SG 20	2	Op 08-2 Units 2-6 L3 160cmbd #13510	1865	15	AD 84-215	.954
42824	SG 21	1	Op 07-7 Unit 204N/-468E 70cmbd #12034	1775	15	AD 179-185	.006
						AD 213-264	.523
						AD 275-334	.425
42810	SG 21	1	Op 07-16 Unit 185N/-515E East profile #12051	1365	15	AD 646-672	.954
42811	SG 21	1	Op 07-16 Unit 185N/-51E 63 cmbd #12059	1275	15	AD 680-772	.954
42799	KNT Cave		Wood beam 1.42 mbd	1750	15	AD 240-339	.954
42800	KNT Cave		Post 8, contact w/ floor.	1505	15	AD 540-602	.954
42801	KNT Cave		Post 1, above plaster floor.	1585	15	AD 426-536	.954
42802	KNT Cave		Charcoal from step	1785	15	AD 230-264	.384
						AD 273-335	.570
42803	KNT Cave		Post 5.	1710	15	AD 257-300	.306
						AD 317-392	.648
42804	KNT Cave		Copal cake fragment.	1510	15	AD 537-602	.954
33402	KNT Cave		Wooden Canoe inside edge	1845	20	AD 90-100	.023
						AD 124-235	.931
46295	KNT Cave		Canoe wood, outside edge	1750	25	AD 231-382	.954
46296	KNT Cave		Canoe wood, inside edge	1855	25	AD 85-230	.954

All results are reported as conventional radiocarbon ages corrected for isotopic fractionation with measured $\delta^{13}C$ values according to the conventions of Stuiver and Polach (1977). Calibrations were made with OxCal 4.0 (Bronk Ramsey 1995, 2001, 2009) using the IntCal04 curve (Reimer et al. 2004).

Table 2. Plot of Calibrated Age-ranges (2σ) from Late Preclassic and Early Classic Contexts at Groups A, B, SG 20, SG 21, and Kayuko Naj Tunich Cave.



Note: These are reported in calendar years and suggest that the early dates from across the site are contemporary. Calibrations were made with OxCal 4.0 (Bronk Ramsey 1995, 2001, 2009) using the IntCal04 curve (Reimer et al 2004).

cussed in terms of "cal A.D." or "cal B.C." as distinct from dates derived from epigraphic and typological methods.

Group A: Stela Plaza

AMS radiocarbon assays suggest that the Uxbenká was a settled community by the first century A.D. Excavations in Group A, the Stela Plaza (Figure 4), have produced radiocarbon dates as early as cal A.D. 73–211 (UCIAMS–42825). Some of the pre-cal A.D. 300 dates come from surfaces associated with three low, earthen and plaster-surfaced mounds that lack masonry stone construction and that were buried under later constructions. We suggest that when initially settled Uxbenká may have been a small village with residential structures constructed of marl and dirt and capped with thin (now highly degraded) plaster floors.

Group A underwent significant modification between the Late Preclassic and the Early Classic. Excavations in the plaza reveal that what was once an uneven and likely conically shaped hilltop was significantly modified to create the flat, open stela plaza. The central, southwestern, and northern portions of the plaza have shallow fill, ranging from 15 to 50 cm in depth. The eastern and southern edges of the plaza are built on over 3.5 m of fill that expanded and leveled the plaza floor. Modification of bedrock was evident in excavations of a 1-x-5-m trench that revealed two thick (>15 cm) plaster floors sitting on bedrock. The soft underlying mudstone bedrock would have been rela-

Figure 4. Group A Stela F carved stela.

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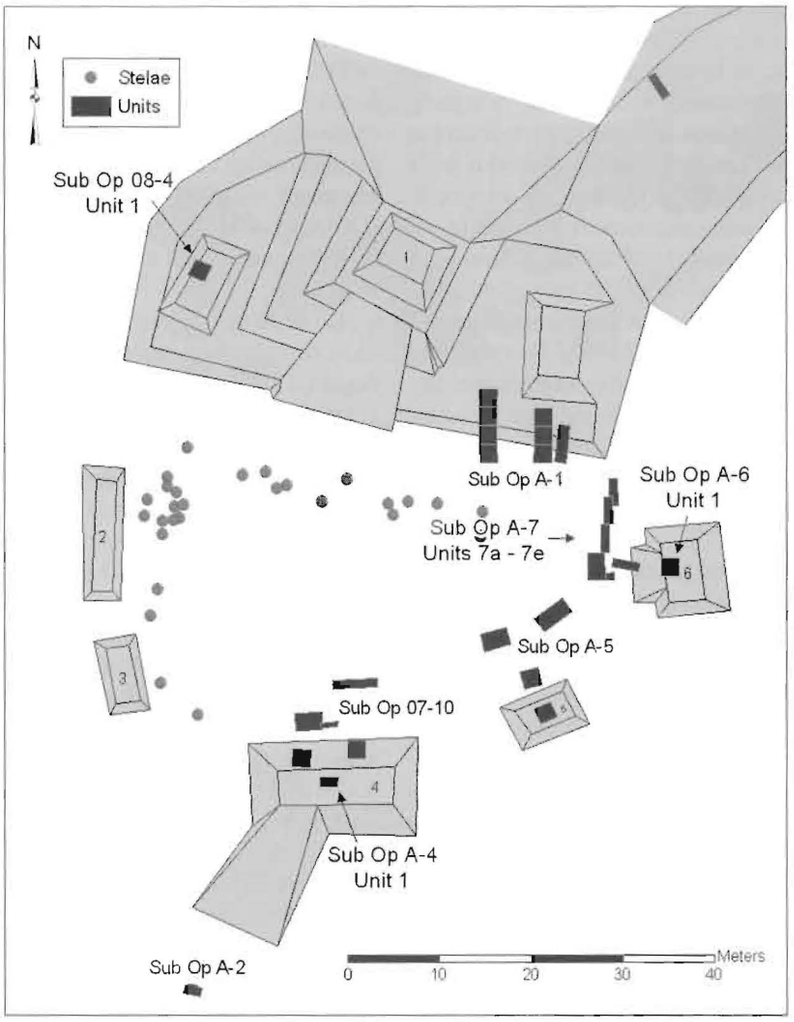

Figure 4. Group A Stela Plaza showing locations of on- and off-structure excavations and the original locations of carved stela.

tively easy to modify and its high clay content renders it relatively impermeable to water, but there is little pooling of water during torrential rainy season deluges. One clue as to how this plaza drains has emerged from several test units and trenches excavated into the plaza that reveal possible drainage channels cut along a N–S axis into the bedrock plaza floor. Though not datable, these features likely coincide with the transformation of space into an open plaza.

The early buildings in Group A may have been situated around the perimeter of the hilltop (Group A), inside what was eventually modified into the stela plaza. In Str. A-5 constructions using cut stone blocks date to after cal A.D. 300, based on profiles from looters' pits (Op. 06-6). A carbon sample removed from between the early plaster floor capping a dirt platform and masonry construction blocks dated to cal A.D. 348–532 (UCIAMS-33401). This single date is consistent with two others from a test unit excavated adjacent to Str. A-5 (Op. 06-5) where charcoal samples from stratigraphic layers between plaster floors produced two dates. The first (UCIAMS–33403) dates to cal A.D. 250–392 and the second (UCIAMS-33404) to cal A.D. 142–337. These dates all support the presence of an earlier dirt platform or floor below the stone constructions. In the upper levels of this unit diag-

The Str. A-1 radiocarbon dates are generally consistent with dates from excavations in structures A-4 and A-6. In both buildings excavation units were placed into the summits and continued to bedrock, and in both the stratigraphy suggests that the Early Classic single-phase structures were placed over earlier, plaster-topped, dirt and rubble mounds. In the lowest levels of each excavation we encountered burned soil horizons, perhaps indicating clearing in preparation for the initial building events or dedicatory activities. Generally, few artifacts were found in lower levels of these excavations. Eroded censer fragments as well as diagnostic Late Classic Fine Orange wares were found in upper levels within the stone construction and collapse debris, suggesting use after A.D. 600. In Str. A-4 a rim-to-base fragment of an orange- slipped basal flange bowl characteristic of the Early Classic central Petén Tzakol phase gloss wares was found *in situ* below the stone construction layers but above the early degraded floors, indicating an A.D. 300 *terminus post quem* for the later construction.

In Str. A-4 (Op. 07-2) an AMS date from charcoal recovered from 260 cm below the building summit, at the interface of degraded bedrock, and dated the earliest construction phase. The sample came from a 1–2 cm thick charcoal and ash layer that extended across the entire 1-x-2-m unit. The layer dates to cal A.D. 255–382 (UCIAMS–42806), statistically indistinguishable from the date from Str. A-1 (UCIAMS-42808). In Str. A-6 (Op 07-3, Figure 6) two AMS samples date the interface between the earliest plaster floors and fill from later stone construction. Those dates suggest that the earliest stone building was constructed sometime between cal A.D. 256 and cal A.D. 402 (UCIAMS-42805, -42807). This early floor was likely the surface of a small structure, but no ceramics were recovered, and organic material for dating was not recovered.

North Group: Group B

Excavation and dating of targeted contexts in Group B (Figure 7) produced a somewhat later chronology than Group A with no evidence of Preclassic dirt platforms below later constructions. All of the extant structures appear to be post-A.D. 500 constructions. These include a temple (Str. B-1), ballcourt (Strs. B-6 and B-7) and three patio structures (Strs. B-3, B-5, and B-11). Excavations of the front stairway of Str. B-1 (Op 08-8) produced a Late Classic assemblage consistent with elite ritual use. Artifacts include numerous effigy censer fragments and polychrome ceramics, suggesting the stairway was an area of ritual activity. A single AMS assay from under a slumped step produced a date of cal A.D. 658–766 (UCIAMS-56364).

Group B does appear to have a significant Early Classic component, though much of it was buried during later site reorganization. Excavations placed between Strs. B-2 and B-3 (Subop 08-9) uncovered a section of a 1.6 m high masonry building or wall buried below the visible structures. A single radiocarbon assay from the base of the wall dated to cal A.D. 220–335 (UCIAMS-56362), suggesting construction in Group B consistent with the Early Classic reorganization of Group A.

Further evidence of a Early Classic reorganization of Group B comes from excavations in front of Str. B-9, a low platform on the southwestern edge of Group B (Op 08-7, Figure 8). These revealed at least three Early Classic construction phases marked by plaster floors and partially intact construction blocks. At the base of the unit, 2 m below the surface, large cut limestone and sandstone blocks were encountered on bedrock, apparently transported there to level the naturally northwest-sloping mudstone hill. Five calibrated dates from this excavation suggest that modification of the hilltop and construction of the Early Classic surface was carried out between A.D. 238 and A.D. 381 (UCIAMS-56361, -56369, -56370, -56371, -57044). Because two plaster floors separate the dates from this excavation, we modeled, using OxCal (Bronk Ramsey 2009), a series of construction episodes every 40–50 years through this period.

Settlement Groups

We also have limited data on early settlements on hilltops adjacent to Groups A and B. Excavations in a small residential group (SG21, Figure 3) recovered charcoal accompanying a crypt burial that dated to cal A.D. 179–334 (UCIAMS-42824). The simple crypt was in a dirt mound faced with a single course of stone and contained simple ceramic grave goods with degraded waxy reddish slips. This same settlement group was also occupied during the seventh century based on dates from a burial in an adjacent residential structure (cal A.D. 680–772,

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Figure 6. Profile of excavations taken for radiocarbon assays al

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UCIAMS-42810).

A 6-x-3-m excavation
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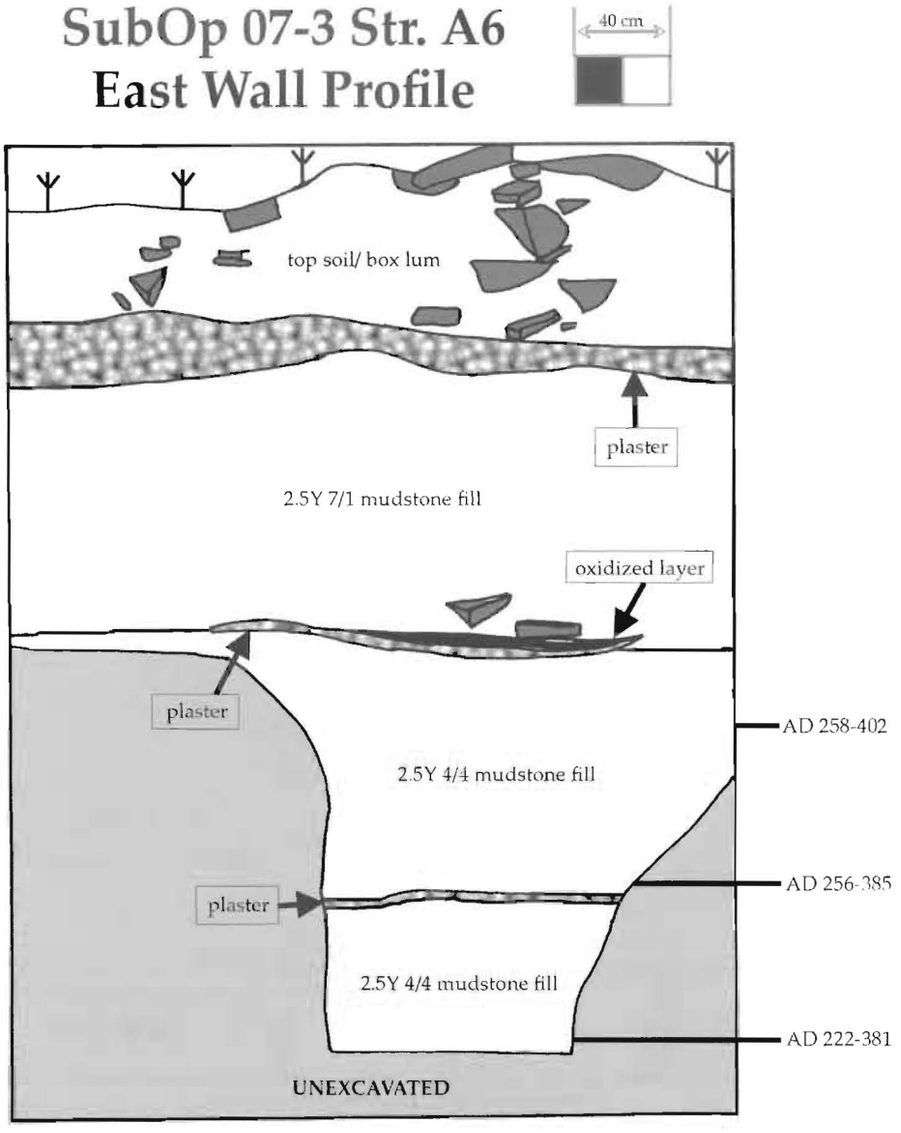

Figure 6. Profile of excavations in structure A-6 (subop 07-3) showing plaster floors and locations where samples were taken for radiocarbon assays along with subsequent dates.

UCIAMS-42811) and a midden (cal A.D. 646–672, UCIAMS-42810).

A 6-x-3-m excavation on a hilltop between Group A and Group B (SG20, Figure 9) uncovered the remains of an early residential compound buried under 1.3 m of unconsolidated crushed mudstone fill that covered the entire hilltop. At 1.3 m below the modern surface a thin plaster floor was documented in plan and profile covering a small badly decomposed dirt mound. At the base of the mound the partial remains of a small Late Preclassic Chicanel complex Sierra Red jar were found under a rock, possibly a cache commemorating the building (see Rosenswig and Kennett 2008 for a similar example). Residue from inside the vessel produced two dates of cal 35 B.C.–A.D. 84 (UCIAMS-57042) and cal A.D. 135–244 (UCIAMS-56358). Charcoal from sediments directly below the cache dated to cal A.D. 84–215 (UCIAMS-56366).

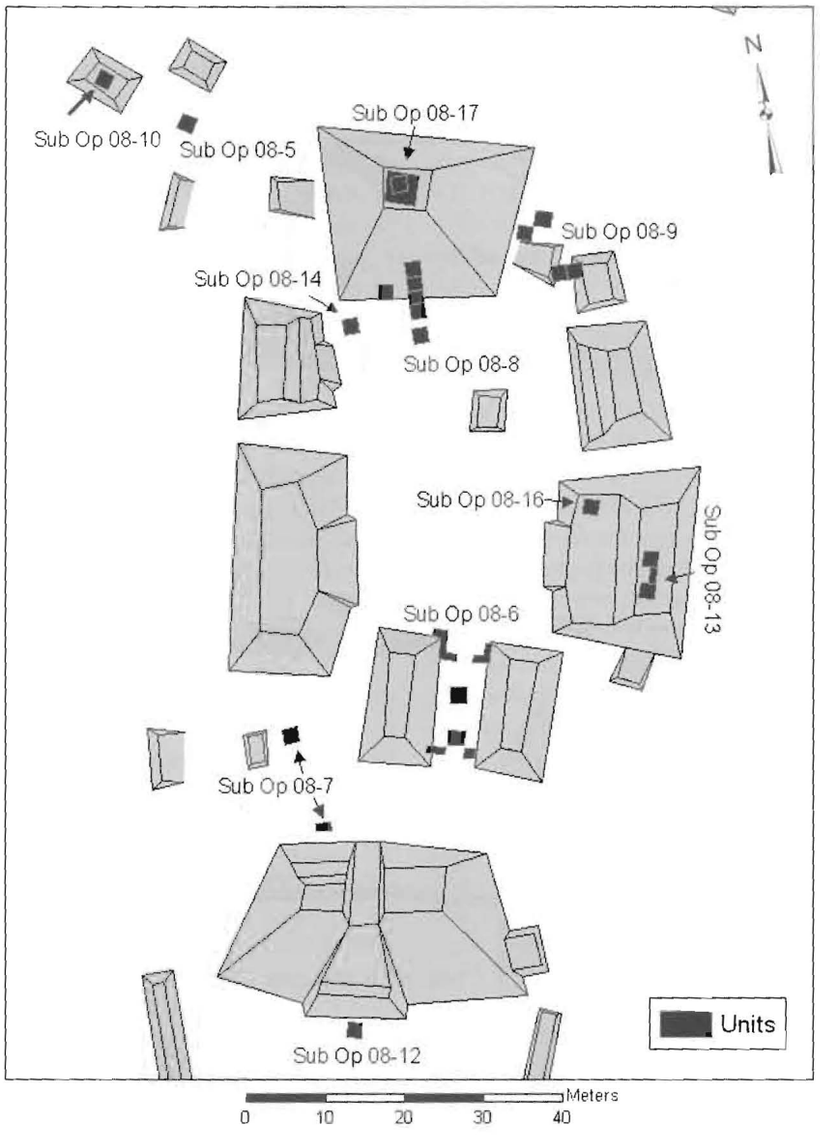

Figure 7. Group B Plaza showing locations of on- and off-structure excavations.

These dates suggest that the building was abandoned and covered with fill no earlier than A.D. 134. We interpret this as being the remains of a Preclassic structure that was buried during the reorganization of the site. The presence of landscape modification outside the core architectural groups may be an indication that these reorganizations resulted in other early buildings being abandoned and effectively erased from the site core area, underscoring the difficulty of determining how this early settlement was organized.

Kayuko Naj Tunich Cave

Chronologies from Uxbenká are also informed by excavations conducted at Kayuko Naj Tunich Cave (Kayuko Cave), a small (19 m long x 2.5 m wide, maximum) cave located 2.3 km due south of the Uxbenká site core and 200 m above the valley floor (Figure 10). All the public architectural groups at Uxbenká open towards the 100 m high white cliff face where the mouth of this cave is located. Elsewhere, we (Moyes and Prufer 2009) have suggested that Kayuko Cave and the *Witz* (mountain) were

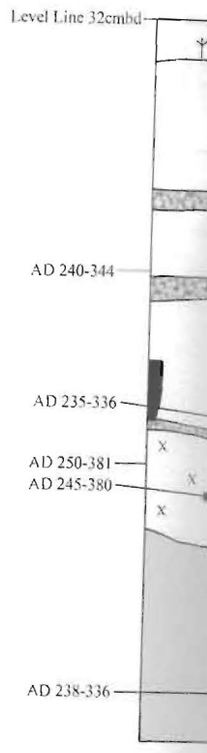

Figure 8. Profile of excavations in f were taken for radiocarbon assays

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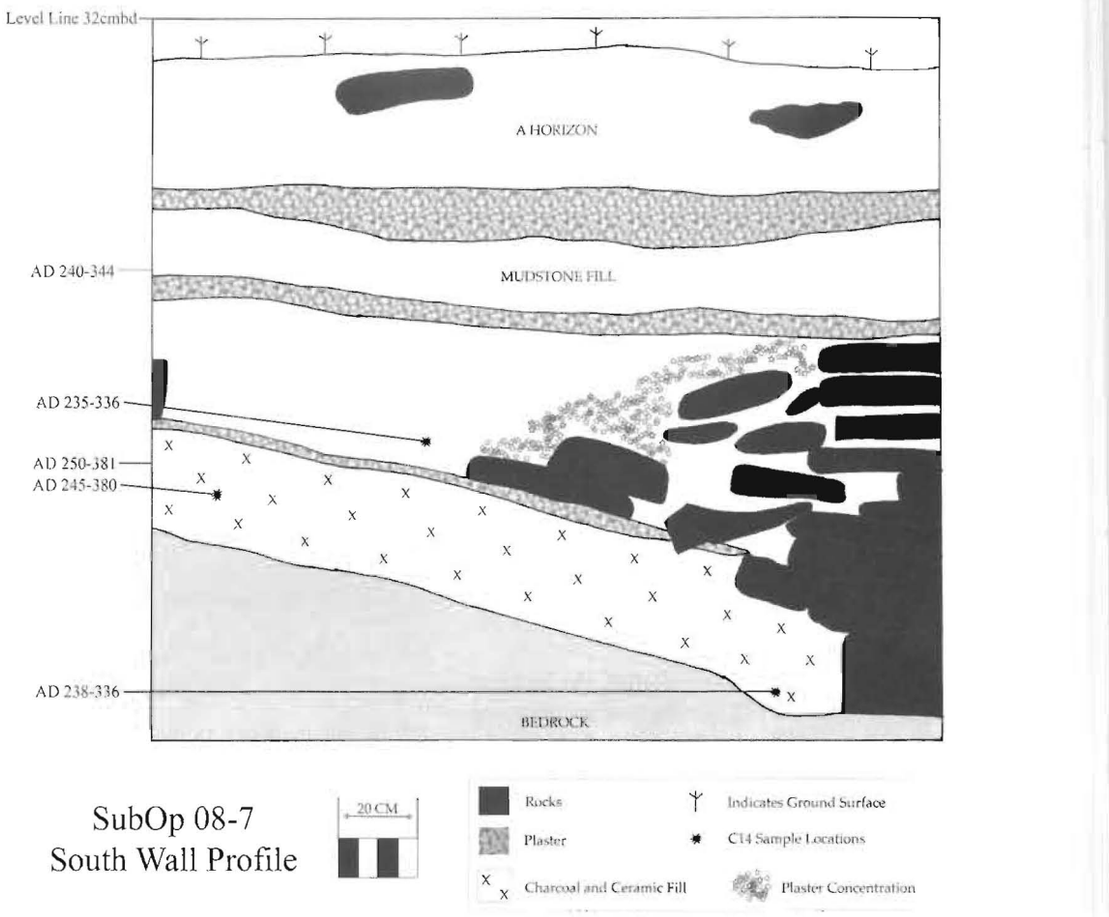

Figure 8. Profile of excavations in front of structure B-9 (subop 08-7) showing plaster floors and locations where samples were taken for radiocarbon assays along with subsequent dates.

ideologically charged landscape features for the early residents of Uxbenká. Based on previous studies demonstrating that caves and mountains were critical elements in settlement planning and elite claims to legitimacy (Brady 1997; Prufer and Kindon 2005; Vogt and Stuart 2005), Moyes and Prufer (2009) have proposed that Kayuko Naj Tunich may have been a "foundational" shrine established by elites when Uxbenká was reorganized in the Early Classic, a transformational time in the history of the polity. We base our assessment of this being an "elite" space in part on the scale of architectural modifications to the cave, which would have required an organized labor force to transport cut stone blocks and plaster a significant distance. During the time that the cave modifications were constructed, the only parts of Uxbenká using masonry construction were in Group A. In addition, a significant body of archaeological literature on caves points to the construction of architectural modifications in subterranean spaces being a component of elite appropriation of powerful features in the sacred landscape (e.g., Brady and Prufer 2005; Prufer 2005). Further, ethnohistoric sources indicate that, across Mesoamerica, founding and centering of communities, which are elite activities, are frequently focused on caves and sacred mountains (Garcia-Zambrano 1994).

Accessing the cave requires scaling a 20 m high cliff face to the entrance, which has significant architectural modifications, including a cut stone stairway leading 5 m to a masonry doorway, behind

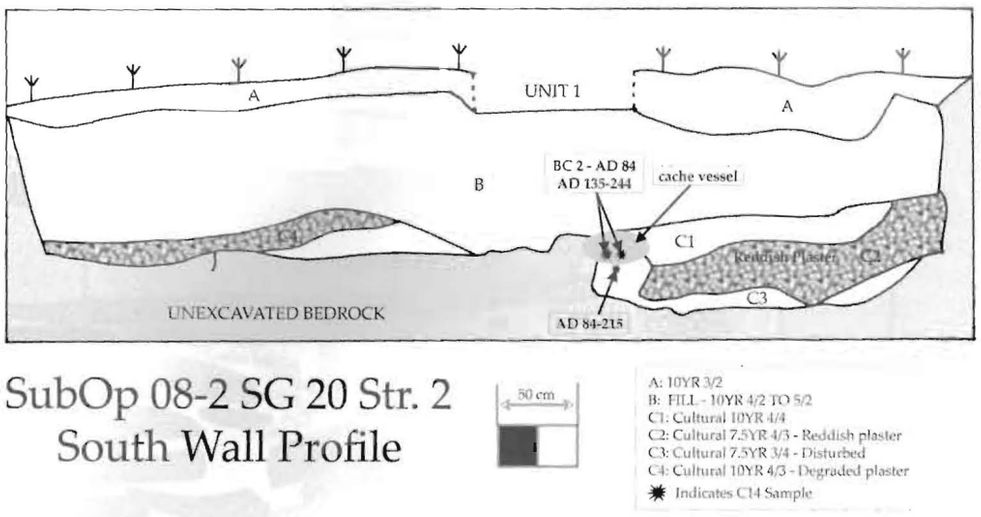

Figure 9. Profile of excavations in settlement group SG-20, structure 2 (subop 08-2) showing plaster floors, cache vessel, and locations where samples were taken for radiocarbon assays along with subsequent dates.

which stood a large sandstone altar. The hundreds of tabular construction blocks used in these constructions were clearly chosen for their flat surfaces and likely came from the Río Blanco, located in the valley 1 km from the cave. All the architecture in the cave and some sections of cave wall were plastered. A carved wooden canoe or basin was positioned on an altar-like feature; the outer growth edge of this wooden object dated to between cal A.D. 231–382 (UCIAMS-46295).

Wooden beams once supported additional constructions in the cave. These are evidenced by postmolds in the constructed cave floor and plaster molds in the walls, as well as intact sections of a supporting beam placed into the elevated floor. The beam dated to cal A.D. 240–339 (UCIAMS-42799) while a post fragment dated to cal A.D. 257–392 (UCIAMS-42803). A charcoal sample collected from the base of a pile of crystals (spar) associated with the stairway dated to cal A.D. 230–335 (UCIAMS-42802). Several additional dates indicate repeated remodeling of the wooden apparatus in the cave and burning of incense during the Early Classic Period, cal A.D. 427–601 (UCIAMS-42800, -42801, -42804). The founding and use of Kayuko Naj Tunich correlates with the establishment of monumental architecture at Uxbenká, and its use is likely linked to early elites from the site.

Discussion

All of our evidence points to Uxbenká being a small, likely farming, community during the Late Preclassic. While the exact size and age of the founding community remains under investigation, one of the primary loci of settlement was positioned on the hill that later developed as the stela plaza (Group A) of the Classic Period center. Excavations have revealed and dated Preclassic contexts that suggest the early occupants of the site built dirt mounds capped with thin, tamped marl or plaster floors containing postholes, consistent with perishable structures that date elsewhere in Mesoamerica to the Middle Preclassic (Flannery 1976; Willey 1977). Prior to our research project, a Middle Preclassic jade spoon was found by a caretaker in Group A near to a looted Classic Period tomb, but it lacks more specific provenience (Healy and Awe 2001). Our excavations produced no evidence of significant status differences (e.g., differing house sizes or elite burials) in these contexts, and no evidence of public architecture dates to this early time.

The Group A hilltop is an ideal location for initial settlements in the region; it is defensible (though we have no evidence of conflict), commands a view over the Río Blanco Valley, is located adjacent to lands that are fertile and desirable for agriculture, and is close to year-round water supplies. Today,

Figure 10. Hillshade map sho of the core plaza groups face t Uxbenká Archaeological Proj

local farmers vie for acces ately surrounding the site, v milpa (slash and burn) an agriculture, allowing for year without faltering. In Groups A, B, and F, some of corn in a single year a with an indigenous land-u location of most agricultu

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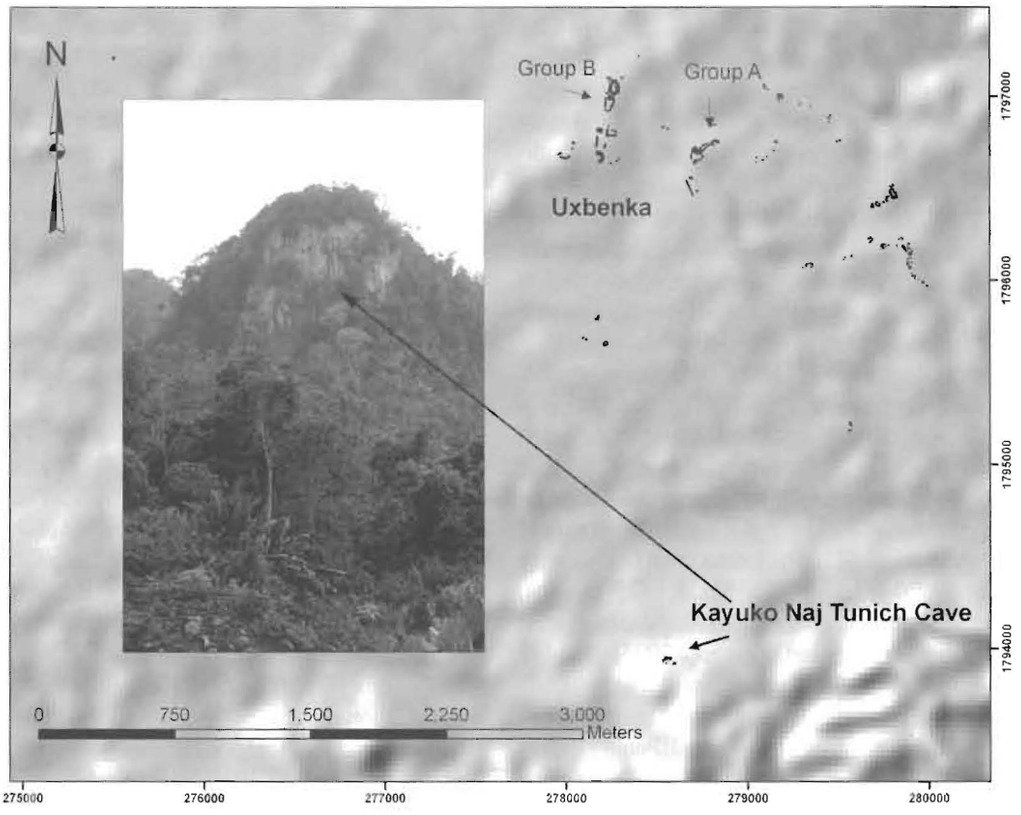

Figure 10. Hillshade map showing the location of Kayuko Naj Tunich Cave relative to surveyed areas of Uxbenká. All of the core plaza groups face towards the cave. Inset aerial image of the cliff face housing the cave (photo by Jack Sulak, Uxbenká Archaeological Project)

local farmers vie for access to these lands immediately surrounding the site, which are favored for both milpa (slash and burn) and matambre (mulching) agriculture, allowing for crops to be grown every year without faltering. In the small valley below Groups A, B, and F, some farmers grow two crops of corn in a single year and have marked this area with an indigenous land-use mapping project as the location of most agricultural lands (TMCC 1997).

The same criteria that made this region favorable for early settlements would have continued to make it an ideal location for later development. After A.D. 200, Group A underwent a major reorganization and Group B was integrated into the built environment. The process may have taken more than a century. Significant changes included landscape modification in the form of leveling hilltops and filling hillslopes. It also involved the transport of hundreds of thousands of cut sandstone blocks from nearby creeks and outcrops for monumental buildings. At least three of these buildings were constructed over earlier dirt structures. In addition, at least one settlement compound was buried under several tons of crushed bedrock, effectively erasing it from the landscape. This time period marks a radical shift in elite strategies reflected in the ability to mobilize labor for construction projects. While it remains possible that this expansion represents an intrusive force entering the region, we have no evidence of disjunction or abandonment, and the continuity of use in Group A suggests indigenous development rather than some kind of intrusive population. Regardless, it seems likely that local populations would have been directly involved in the labor-intensive reconfiguration of Group A. This time period also represents a fundamental shift in the Group A plaza from a village settlement to a public ceremonial space.

Texts and iconography from carved monuments also serve as another source of information on the development of the Uxbenká polity. The production of monuments glorifying the actions of individual rulers and elaborating their exclusionary relationships with supernatural forces is an indicator of a shift toward highly exclusionary, or network, strategies being employed by elites (Blanton et al. 1996:12; Feinman 2001:170). At Uxbenká the first carved monuments do not appear until at least 100 years after the Early Classic construction began in Groups A and B and monuments continued to be erected into the eighth century. All of the known stelae are located in the Group A plaza, suggesting it became a monument garden glorifying living rulers and their linkage to the ancestral founders of the community and, ultimately, the land. The earliest dated monument fragment is Stela 23, which records an Initial Series date of 9.1.0.0.0 6 Ajaw 13 Yaxkin, or 25th August, A.D. 455, and is carved in a decidedly central Petén style (Prufer and Wanyerka 2005). Another monument, Stela 11, does not record a specific calendar age, but is stylistically similar to Early Classic monuments from the central Petén. It also contains the personal moniker of Chak Tok Ich'aak I or "Jaguar Paw" the fourteenth king of the Tikal royal dynasty, who ascended to rulership in A.D. 360 and was recorded as having died following a major political upheaval at Tikal in A.D. 378 (Stuart 2000:479–481). The stela has been interpreted as containing information about an event contemporaneous to its creation, as opposed to a retrospective event, and also contains several specific references to the Tikal royal dynasty (Wanyerka 2009:270–275).

Several questions surround the nature of Tikal's relationship with Uxbenká during the Early Classic. Was Tikal involved in the shift at Uxbenká from a village to a complex polity? Was the relationship a form of economic hegemony? Did the Uxbenká rulers maintain political and economic independence, or were they a tributary state under Tikal's direct rule? Our data suggest that Uxbenká's initial shift from a village to a hierarchically-organized polity occurred at least a century prior to Tikal's hegemonic southward expansion recorded elsewhere. Tikal was an expansionist polity during the latter part of the Early Classic and appears to have played a role in founding the Copán dynasty in A.D. 426 (Sharer 2003:322). While it has been proposed that Uxbenká was an Early Classic vassal of Tikal, and may have been utilized by Tikal for access to trade routes or extraction of local resources (Wanyerka 2009:224), there is little archaeological evidence for such a relationship. Ceramics from dated Early Classic contexts generally resemble those found during the Late Preclassic period, consistent with Laporte's observations that, in the southeastern Petén, Preclassic forms persist well into the Early Classic in what he calls the "Peripheral Chicanel" sphere (2001:17). We suggest that local production of ceramics with brownish-red slips and waxy surface textures generally characteristic of the Late Preclassic continued well beyond A.D. 300 in southern Belize, and we see no evidence of Makin Phase ceramics from Tikal and very little evidence of central Petén Tzakol 1 sphere materials in Early Classic contexts.

Nevertheless, the epigraphic data clearly refer to a relationship between Tikal and Uxbenká. Whether this was an economically driven hegemonic relationship remains to be tested, and archaeological evidence of economic ties between the two polities is limited. It is also important to consider alternatives. Small monument-bearing polities might have periodically formed alliances with larger states, but were essentially autonomous centers of political development, perhaps emulating their larger neighbors. Similarly, larger polities may have fluctuated between attempts at centralization and expansion (occasionally successful) and somewhat weaker political interactions, as has been proposed in Marcus's "Dynamic Model" (Marcus 1993:133–137, 1998:92). Adam Smith (2003: 136–139) suggests that, within a given system, three non-exclusive external processes can be seen as contributing to the rise of new political centers (also see M. Smith 2003: 18): *authorization*, the direct control by a larger and prior polity; *memorialization*, which can be triumphal or attest to symbolic subjugation; or, *emulation*, the competitive and potentially imitative production of social forms and symbols derived from more prestigious and powerful centers. At Uxbenká we see no material evidence of authorization by larger polities at any point in its early history and instead suggest a combination of emulation and memorializing may have played a role in the site's early development.

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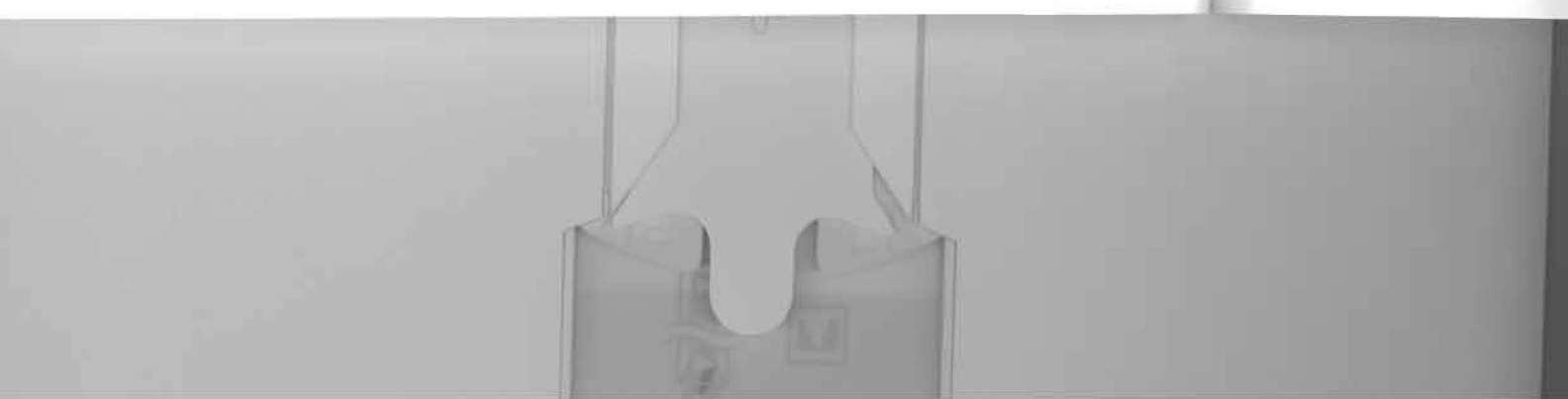


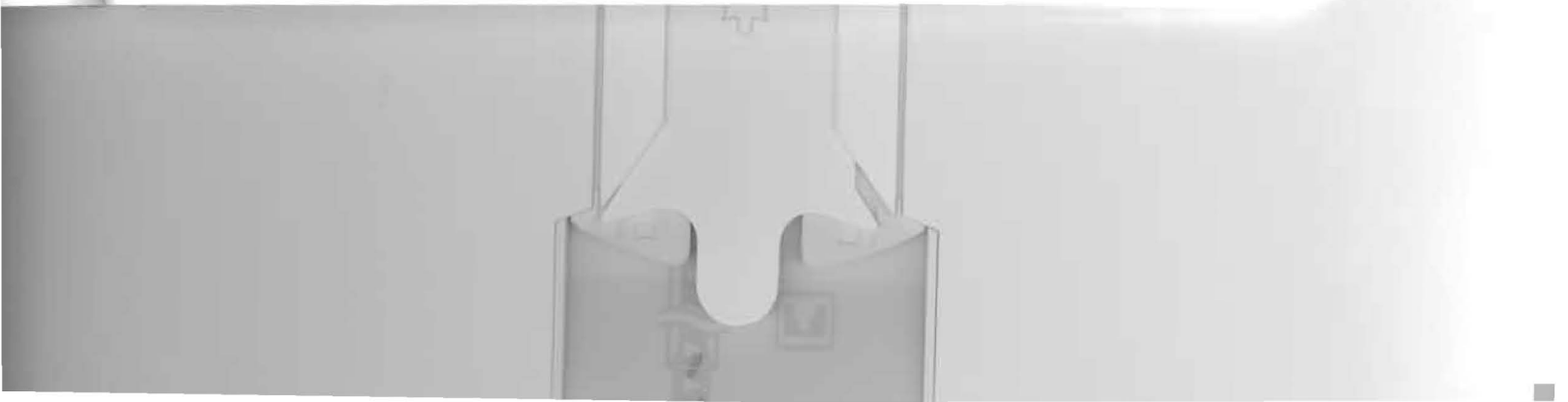
Conclusions

The data presented here suggest that Uxbenká had humble beginnings as a hilltop village community, founded on some of the most productive agricultural lands in the region, with easy access to coastal and montane resources. During the Late Preclassic period an absence of significant status-differentiating goods or architecture indicates that early leadership may have been kin-based and inclusionary, existing on the corporate end of a corporate-network continuum of elite strategies. Starting around A.D. 200 Uxbenká began a significant transformation centered on what was likely the core area of the village. This was marked by the construction of public architecture and modification of the landscape to accommodate a new community design. Whether these changes were entirely internal or they represent the appearance of an intrusive force remains unknown, though continuity with ceramic assemblages from earlier contexts suggests it may have been at least partially locally based. Regardless, these changes represent a new political strategy for the region reflected in the ability of elites to mobilize significant labor around capital projects. While the construction of the public plaza and the mobilization of labor certainly reflect hierarchical differentiation, during this time period we see no evidence of exclusionary strategies being exercised by elites; there is no evidence of elaborate residential structures, large accumulations of status marking goods, or iconography that is self-aggrandizing.

By no later than the middle of the fifth century, Uxbenká started participating in the Classic Period monument-building tradition, erecting stelae in Group A attesting to the individual prowess of named elites and their connections with powerful rulers elsewhere in other larger city centers (e.g., Tikal). The transformation of the Group A hilltop from a residential space to a public monument garden celebrating revered ancestors suggests both continuity of occupation and the memorialization of ancestral space as an elite strategy. Hence, the transformation of the hilltop space may have had as much to do with legitimizing the authority of emergent elites as with their ability to monopolize choice patches of land. While this memorialization may have begun earlier, during the centuries when Uxbenká changed from a small farming community to a more complex political center the adoption of the monument tradition represents a clear shift in elite strategies to one in which individual named rulers asserted their legitimacy on publically visible media.

The establishment of Kayuko Naj Tunich Cave is contemporaneous with Early Classic developments in the site core. Transporting raw materials and the construction of architectural modifications in the cave would have required a considerable labor force. The construction and use of the cave, perched on a cliff on a prominent mountain and visible from all the public spaces in the community, would have been a powerful sign of elite ability to manipulate powerful and ancient symbols representing forces in the universe responsible for human welfare and success (Brady and Prufer 2005). The cave was remodeled several times during the Early Classic, and, along with the monuments in Group A, would have served as a constant reminder of the ancestral connections and supernatural powers claimed by ruling elites (Moyes and Prufer 2009).

Research currently underway at Uxbenká suggests that the Late Classic reorganization of the polity was at least as dramatic as the Early Classic. Massive landscape modification characterized changes as the public areas of the site grew to their final configuration. Data suggest that growing numbers of elites established settlements away from the site core, while smaller household groups were pushed further into the hinterlands, possibly onto more marginal lands in terms of access to soils, year-round water sources, and proximity to the community center. Kayuko Naj Tunich shows no evidence of use after A.D. 600, suggesting changes in elite strategies for appropriating symbolic capital. The stela plaza continued to be used for erecting monuments at least through the middle of the eighth century, but no new construction programs were undertaken after A.D. 500. Instead, it appears to have served as a monument garden dedicated to the founding ancestors, while the focus of political power shifted to Group B. The Late Classic landscape would have been markedly different, with at least six other monument-bearing sites within 30 km of Uxbenká, and over 40 smaller communities with public architecture crowding the landscape. Uxbenká would have continued to dominate the Río Blanco drainage and the most expedient trade route from the Caribbean Sea and the



eastern Maya Mountains into the Petén, and economic demands of that core area may have driven the rapid Late Classic growth in southern Belize. By the middle of the ninth century the region was in decline. It remains to be determined if this decline was in response to tumultuous events and waning fortunes in neighboring regions or the consequences of local population growth, resource exhaustion, and general failure of elites to withstand the pressures of their highly networked geopolitical and social landscapes.

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Note

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Note

1. After removing adhering sediment, samples were subject to acid/base/acid washes in 1N HCl and 1N NaOH (70°C; 30 min). The initial acid wash dissolved any carbonate contamination and repeated base washes extracted humates accumulated from soil organic matter. A final acid wash removed secondary carbonates formed during the base treatment. Samples were then returned to neutral pH with two 15 min baths in DI water at 70°C to remove chlorides and dried. Sample CO_2 was produced by combustion at 900°C for 6 hours in sealed evacuated quartz tubes using CuO powder and Ag wire. Sample CO_2 was graphitized at UCI KCCAMS by reduction at 550°C using H_2 and a Fe catalyst, with reaction water drawn off with $Mg(ClO_4)_2$ (Santos et al. 2004). Solid graphite samples were pressed into targets in Al boats and loaded on the target wheel with standards and backgrounds for AMS analysis.

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